NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A' GRADE

# ISCBC-NIPiCON-2020

## 26th Indian Society for Chemists and Biologists Conference jointly organized with 5th Nirma Institute of Pharmacy International Conference

## 22nd-24th January, 2020

*"Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care"*





# Souvenir

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# HOW CAN SCIFINDER$^n$ REDUCE RESEARCH TIME BY 18%?


**AUTHOR INFORMATION:**

Scientific Information Solution made by CAS, a division of the American Chemical Society



**ABSTRACT:**

The sheer volume and complexity of available information makes it almost impossible to discover the connections and insights that may be available to the unassisted human mind. This certainly holds true in the world of scientific discovery where the corpus of chemical and biological innovation is astronomical.


**INTRODUCTION:**

Poorly managed scientific information can have serious consequences:

1. It reduces your speed of innovation, putting your product portfolio at risk. Insufficient new products and innovations in your portfolio erodes profitability
2. It can take your research down a wrong or less efficient path, costing millions in lost time and effort
3. It can lead to serious IP or even regulatory consequences. This could mean millions due to loss of exclusivity or in damages and legal fees as well as reputational risks.

**COST OF MISSING SCIENTIFIC INFORMATION IS HIGH**

- **Lost Profitability**
- **R&D Spend Inefficiency**
- **Reputational Risk**

**COST TO MANAGE SCIENTIFIC INFORMATION CONTINUES TO ESCALATE**

- Volume
- Complexity
- Interconnectedness


**METHODOLOGY:**

How can we effectively harness computer intelligence to best serve the human scientist in creating novel, safe and cost effective molecular innovations? CAS has invested >$1B in scientific information solutions over the last 5 years. SciFinder$^n$ connects you in new ways to the unmatched collection of CAS content you know and trust.

**THE MOST ADVANCED SCIENTIFIC INFORMATION SOLUTION IN THE WORLD**

- **DIRECT ACCESS** to the unmatched CAS content collection, patent documents and step-by-step synthetic procedures and methods
- The most advanced Chemical **RELEVANCE SEARCH ENGINE** shows you where to start and what to focus on
- Platform for machine learning & **AI, COMPUTER-AIDED SYNTHETIC DESIGN**, patent search and workflow enhancement

SCIFINDER$^n$

These additional capabilities

**COMING SOON**

- More Formulations Content
- Boolean Operator
- Wildcard Search
- Export Enhancement

**RESULTS:**

Industry leaders across R&D organizations rely on CAS Solutions like SciFinder$^n$.

**COMMERCIAL**

- PHARMA: 48 OF TOP 50
- BIOTECH: 20 OF TOP 25
- CHEMICAL: 48 OF TOP 50

**PATENT OFFICES**

10 OF TOP 10

**UNIVERSITIES**

10 OF TOP 10

**CONCLUSION:**

## Insights

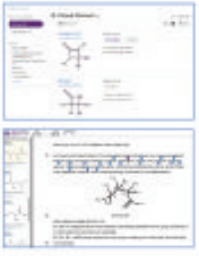
In today's competitive landscape, your research team needs to quickly gain knowledge and insights from relevant discoveries. You can't afford to spend hours sifting through extraneous content in patents and journals. That's why we designed SciFinder$^n$ with the most chemistry-aware relevance engine in the industry. It doesn't just search faster, it helps you search smarter, anticipates your information needs and accelerates your work.

## Synthetic Planning

Being efficient in the lab requires a great synthetic plan. Chemists are juggling many variables in their synthetic planning, from the cost of materials, to the complexity of the procedure, to the final yield. For any known molecule, SciFinder$^n$ will perform a full retrosynthetic analysis utilizing the renowned CAS collection of reactions, presenting results in a highly intuitive retrosynthesis plan. The plan is easily navigated to evaluate alternative routes and also offers quick access to information on material suppliers, step by step methods curated by experts, product yields, and more. Synthesis planning has never been easier.

## IP Strategy

In order to successfully manage your research portfolio and bring your innovation to market, it's essential to first understand the technology landscape. SciFinder$^n$ can help answer a host of IP-related questions such as: Where are the opportunities for innovation? Are there infringement risks? Who else is working in this space? SciFinder$^n$ gives you access to industry leading capabilities like patent Markush searching and content such as chemically annotated patents, so you can stay on top of the technological landscape.



**IN SUMMARY:**

1. **Scientific information is vital to your research productivity.**
2. **Not managing your information well can have serious financial and reputational consequences.**
3. **Compared to most R&D budgets, the investment in SciFinder$^n$ is small but makes a huge impact on R&D productivity.**


**For more details feel free to contact -**

**ACS International India Pvt Ltd, Pune**

**Email - info@acs-i.org**


WWW.CAS.ORG/SCIFINDER

# OUR MOTTO

From darkness, lead me to light

## VISION

Shaping a better future for mankind by developing effective and socially responsible individuals and organizations

## MISSION

Nirma University emphasizes the all-round development of its students. It aims at producing not only good professionals, but also good and worthy citizens of a great country, aiding in its overall progress and development.

It endeavors to treat every student as an individual, to recognize their potential and to ensure that they receive the best preparation and training for achieving their career ambitions and life goals.

## QUALITY STATEMENT

To develop high quality professionals who reflect and demonstrate values that the University stands for, through innovation and continuous improvement in facilitation of learning, research and extension activities.

**Acharya Devvrat**
Governor, Gujarat

Acharya Devvrat
Governor, Gujarat
Gandhinagar-382021

आचार्य देवव्रत
राज्यपाल, गुजरात
गांधीनगर-३८२०२१

17 JAN 2020

## MESSAGE

I am pleased to know that the Indian Society of Chemists and Biologists (ISCB) is celebrating the Silver Jubilee Year of its establishment. On this occasion the 26th ISCB International Conference is jointly organized with Nirma Institute of Pharmacy International Conference as ISCBC-NIPiCON2020 from 22nd – 24th January, 2020 at Nirma University, Ahmedabad.

It is also a matter of pleasure that the main theme of the conference is "Integrating Chemical, Biological and Pharmaceutical sciences for innovations in Health Care".

I am sure that renowned scientists from all around the globe, people from industries and academia who are a part of this conference, will be able to articulate their insight and suggest suitable innovations for the betterment of mankind.

I convey my warm regards to the Institute of pharmacy, Nirma University for organizing such a conference.

I wish every success to this event.

(Acharya Devvrat)

**Shri Nitinbhai Patel**
Dy. Chief Minister of Gujarat

**NITIN PATEL**
**Deputy Chief Minister,**
**Gujarat State**

No. : Finance/R.&B./H.&F.W./M.E./N.,K./C.P.
57/042/20

**Finance, Roads and Building,**
**Health and Family Welfare,**
**Medical Education,**
**Narmada, Kalpasar,**
**Capital Project**
Government of Gujarat,
Swarnim Sankul-1, 2nd Floor,
Sardar Bhavan, Sachivalaya,
Gandhinagar-382010
Date : 10.01.2020

## Message

I am glad to know that Indian Society of Chemists and Biologists (ISCB) is celebrating the Silver Jubilee Year of its establishment. With great pleasure, ISCB announces the 26th ISCB International Conference (ISCBC-2020) jointly organized with Nirma Institute of Pharmacy International Conference (NIPiCON-2020) as ISCBC-NIPiCON 2020 from 22nd - 24th January, 2020 at Nirma University, Ahmedabad, Gujarat, India. The main theme of the conference is "Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care".

The research horizons are broadening and we can no longer restrict ourselves to the traditional way of working and instead require an integrated approach from various disciplines of chemical, biological and pharmaceutical sciences. The theme of the conference addresses this aspect and will be able to provide the much-needed insight required for innovation in the healthcare sector. I am happy to know that a large number of eminent scientists and technologists from all over the world will be participating in the conference and discuss their valuable research innovations in various disciplines of chemical, biological and pharmaceutical sciences.

I extend my warm regards to the Institute of Pharmacy for organizing such a conference on a relevant theme which is the need of the hour.

I wish a grand success to this event.

NZPatel
**(Nitin Patel)**

To,
**Prof. Manjunath D. Ghate,**
Director, Institute of Pharmacy, Nirma University,
Sarkhej-Gandhinagar Highway,
Ahmedabad

**Resi.** : Minister's Bunglows No. 20, Sector-20, Gandhinagar-382020
**Ph.** : 23259706, 23232491, 23221891 **Vidhansabha** : 079-23253194/23251058
**Office** : 079-23250106 to 23250110, 23238072-23248007 Fax : 079-23257616
**E-mail** : deputycmguj@gujarat.gov.in, nitinpateldycm@gmail.com

**Shri Kishore Kanani (Kumar)**
Minister of State,
Health and Family Welfare,
Medical Education,
Govt. of Gujarat

**Kishor Kanani (Kumar)**

No.H.F.W.&M.E./VIP/**-32*/2019
**Minister of State,**
**Health and Family Welfare,**
**Medical Education,**
**Governnment of Gujarat,**
Swarnim Sankul-2, 2nd Floor,
Sachivalaya, Gandhinagar-382010
Phone No. (079) 232 50271, 54665
Fax No. (079) 232 50274
Date: 13 JAN 2020

## MESSAGE

I am greatly pleased to know that Indian Society of Chemists and Biologists (ISCB) is celebrating the Silver Jubilee Year of its establishment. With great pleasure, ISCB announces the 26th ISCB International Conference (ISCBC-2020) jointly organized with Nirma Institute of Pharmacy International Conference (NIPiCON-2020) as **ISCBC-NIPiCON 2020** from 22nd - 24th January, 2020 at Nirma University, Ahmedabad, Gujarat, India. The main theme of the conference is "Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care".

The pharmaceutical industry has undergone far-reaching changes during the last decade. Multidisciplinary research can lead to development of novel molecules and can bring innovations to healthcare sector. The pharmaceutical industries of India can make great strides with a multidisciplinary team consisting of scientists from various biological, chemical and pharmaceutical fields.

I appreciate ISCB and Institute of Pharmacy, Nirma University for organizing such an event that addresses the multifaceted aspects of innovation in health care. I wish the event a grand success.

Kishor Kanani (Kumar)

**Prof. Ashutosh Sharma**
Secretary,
Dept. of Science and Technology,
Govt. of India

सत्यमेव जयते
प्रो. आशुतोष शर्मा
Prof. Ashutosh Sharma

स्वच्छ भारत
एक कदम स्वच्छता की ओर

सचिव
भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
विज्ञान और प्रौद्योगिकी विभाग
Secretary
Government of India
Ministry of Science and Technology
Department of Science and Technology

13th January, 2020

## MESSAGE

I am pleased to know that Indian Society of Chemists and Biologists (ISCB) is celebrating the Silver Jubilee Year of its establishment. With great pleasure ISCB announces the 26th ISCB International Conference (ISCBC-2020) jointly organized with Nirma Institute of Pharmacy International Conference (NIPiCON-2020) as **ISCBC-NIPiCON2020** from 22nd - 24th January, 2020 at Nirma University, Ahmedabad, Gujarat, India. The main theme of the conference is "Integrating Chemical, Biological and Pharmaceutical sciences for innovations in health care".

Researchers should make every effort to integrate chemical, biological and pharmaceutical sciences to promote innovation in chemical biology and drug discovery. The conference will make an attempt to bring together distinguished scientists and budding researchers to discuss and deliberate on the opportunities of integrating different disciplines of chemical, biological and pharmaceutical Sciences for betterment of human health.

It is praiseworthy that Institute of Pharmacy, Nirma University has chosen such a relevant theme which would give young researchers a platform to present their ideas.

I convey my best wishes to participants, members of managing committee and organizers of ISCBC-NIPiCON-2020 and wish them grand success in all the future endeavors.

(Ashutosh Sharma)

Technology Bhavan, New Mehrauli Road, New Delhi - 110016
Tel: 00 91 11 26511439 / 26510068 • Fax: 00 91 11 26863847 • E-mail: dstsec@nic.in • website: www.dst.gov.in

**Dr. Subhash Soni**
Mission Director,
GSBTM,
Dept. of Science and
Technology,
Govt. of Gujarat

GSBTM
TRANSCRIPTING BRIGHTER BIO FUTURE

16 JAN 2020

## MESSAGE

I am delighted to hear that Indian Society of Chemists and Biologists (ISCB) is celebrating the Silver Jubilee Year of its establishment. With great pleasure ISCB announces the 26th ISCB International Conference (ISCBC-2020) jointly organized with Nirma Institute of Pharmacy International Conference (NIPiCON-2020) as **ISCBC-NIPiCON-2020** from 22nd - 24th January, 2020 at Nirma University, Ahmedabad, Gujarat, India. The main theme of the conference is "Integrating Chemical, Biological and Pharmaceutical sciences for innovations in health care".

The importance of the interdisciplinary aspects of Chemistry and Biology in Biomedical research is evident from the recent Nobel Prize being awarded to Dr. Allison and Dr. Honjo, for their discovery of cancer therapy through inhibition of negative immune response. In academia, the chemistry-biology-medicine continuum effectively explores the entire drug discovery and development process, initiating from disease pathogenesis-based target identification and validations, ultimately leading to discovery of the potential drug candidates. Further, the downstream processes including, optimization and clinical trials could also be included under the above continuum, with proper technical and financial support from industries.

I offer my heartfelt congratulations and best wishes to Institute of Pharmacy for conducting such event that emphasize pharmaceutical research in India. I wish for the grand success of this ceremony.

**Dr. Subhash Soni**
Mission Director,
Gujarat State Biotechnology Mission (GSBTM)
Department of Science and Technology, Government of Gujarat

**GUJARAT STATE BIOTECHNOLOGY MISSION**
**Department of Science & Technology, Government of Gujarat**
Block-11, 9th Floor, Udyog Bhavan, Gandhinagar-382017
**Phone** : 91-79-232 52197 Fax : 91-79-232-52195
**E-mail** : info-btm@gujarat.gov.in, **Web site** : http://btm.gujarat.gov.in

**Dr. Narottam Sahoo**
Advisor & Member Secretary
GUJCOST, Gujarat


**GUJARAT COUNCIL ON SCIENCE AND TECHNOLOGY**
Department of Science & Technology, Government of Gujarat
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Phone : (079) 23259362-65 Fax : (079) 23259363
E-mail : info-gujcost@gujarat.gov.in
URL : www.gujcost.gujarat.gov.in

**Dr. Narottam Sahoo**
Advisor & Member Secretary


GUJCOST/SP/2020- 4553

15th January 2020

**MESSAGE**

It gives me immense pleasure to know that the Indian Society of Chemists and Biologists (ISCB) in association with Nirma Institute of Pharmacy International Conference (NIPiCON) is organizing the International Conference **ISCBC-NIPiCON-2020** from 22nd to 24th January, 2020 at Nirma University, Ahmedabad, Gujarat, India.

It is also a pride moment that the international conference marks the celebration of the 25th Year of ISCB as well as the 5th year of NIPiCON in academic excellence. The focal theme of the conference is "Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Healthcare".

The classical or traditional method adopted by medicinal chemists involves modifying bio-active molecules from natural products. These natural products are the source of active ingredients in most of the existing drugs. The current era has witnessed an ever changing role in modern drug discovery. Drugs are designed, synthesized and purified as the first stage of the development process. The medicinal chemist leverages the knowledge of synthetic chemistry, medicinal chemistry and biology to achieve the lead molecule for further clinical development.

In this context, the international conference will certainly help in increasing the skills for application of science as well as promoting scientific temper amongst the young minds. I hope that this conference will surely trigger sharing and exchange of innovative ideas through deliberations and discussions.

I sincerely appreciate the efforts of the Institute of Pharmacy, Nirma University and the Indian Society of Chemists and Biologists for their pioneering efforts and wish the programme a grand success.

**(Narottam Sahoo)**

**Dr. Karsanbhai K. Patel**
President
Nirma University

NIRMA UNIVERSITY
NAAC ACCREDITED 'A' GRADE

## MESSAGE

We are pleased to inform you that Institute of Pharmacy, Nirma University is jointly organizing International Conference (NIPICON-2020) with the Indian Society of Chemists and Biologists (ISCB) as **ISCBC-NIPiCON-2020** from 22nd to 24th January, 2020 at Nirma University, Ahmedabad, Gujarat, India. We are glad to share with you that the Indian Society of Chemists and Biologists (ISCB) is celebrating the Silver Jubilee Year of the establishment. The main theme of the conference is "Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care".

Chemical biology in a drug discovery perspective changed significantly over the years. While a chemistry notion with a focus on identification of improved chemical matter was dominant in the early times and thinking was centered about how to incorporate knowledge on target families in library design, homology models and avoiding target specific pitfalls in compound development, today the focus on biology became significantly more pronounced. The theme of the present conference addresses the burning issues about Innovation, faced by the pharmaceutical research industry as well as the health sector in India and across the globe. Pharmaceutical companies must find a better way through innovation in drug development, for the benefit of patients and to increase their output of truly new drugs.

I heartily congratulate the Institute of Pharmacy for organizing such an event that addresses hurdling factors in the path of innovation and drug development. It will certainly help participants to solve the challenges in drug innovations.

I heartily welcome all the invitees, delegates and researchers to the vibrant land of Nirma University and wish for the grand success of this conference and it is anticipated that the Institute of Pharmacy will continue the tradition to explore and come up with many such endeavors with enlightening themes in future.

**Dr. Karshanbhai K Patel**
(President, Nirma University)

**Shri K. K. Patel**
Vice-President,
Nirma University

NIRMA UNIVERSITY
NAAC ACCREDITED 'A' GRADE

## MESSAGE

It matter to great pleasure of that Institute of Pharmacy, Nirma University is jointly organizing International Conference (NIPICON-2020) with the Indian Society of Chemists and Biologists (ISCB) as ISCBC-NIPiCON-2020 from 22nd to 24th January, 2020 at Nirma University, Ahmedabad, Gujarat, India. Indian Society of Chemists and Biologists (ISCB) is celebrating the Silver Jubilee Year of the establishment. The main theme of the conference is "Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care".

With the increasing prevalence of diseases that are, and could be treated with biologics, India has a large potential demand for biologics. At the same time, India has a wealth of scientific resources and talent to drive future innovation. The task at hand is to harness the potential in academia, the scientific community and the marketplace to create the right conditions and incentives for breakthrough innovation and commercial success.

In light of this, the organization of such a conference will serve the purpose of nurturing innovations in the field of pharmaceuticals and help in the exchange of research ideas amongst the budding scientists from academia and industries.

I heartily acknowledge the efforts of the Institute of Pharmacy, Nirma University for organizing such an event that provides a common platform for all stakeholders to put forward their views and opinions. I extend my best compliments to the Institute of Pharmacy for the grand success of this conference and we hope that the Institute continues to fill the void in the pharmaceutical sector by arranging many more conferences and workshops in the future.

**Shri K. K. Patel**
(Vice President, Nirma University)

**Dr. Anup K. Singh**
Director General
Nirma University

NIRMA UNIVERSITY
NAAC ACCREDITED 'A' GRADE

## MESSAGE

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All of the modern medicine is dependent on advances in chemistry. To ensure the development of healthcare keeps pace with the increasing health challenges our society faces, investment in the underlying chemical science research is vital. The deep well of innovative new drugs that society has become accustomed to is on the verge of running dry. With a lack of understanding of the biological processes and potential drug targets that underpin disease, rising manufacturing costs, and tighter legislation, the pharmaceutical industry now faces threats to its current business model, which it is struggling to overcome. To avert the worst of this crisis, and to secure a sustainable source of more effective drugs, we must encourage and support innovation throughout the process: from the molecular medicine to the advanced synthetic chemistry that adds to the drug designers' molecular toolkit.

I appreciate the efforts of the Institute of Pharmacy for taking lead in fostering innovations in drug discovery by organizing a conference on such sought after theme and to offer a common platform for the researchers from various parts of the country. I wish from the bottom of my heart that this conference will serve as a medium to bring together eminent personalities across the nation to share their experience in the field of drug discovery and innovation in pharmaceuticals.

I welcome all the dignitaries, delegates and participants at Nirma University for the conference and wish Institute of Pharmacy to have a grand and successful event.

Anup K. Singh, Ph.D.

(Director General, Nirma University)

**Dr. Anamik Shah**
Vice-Chancellor
Gujarat Vidyapith

डो. अनामिक शाह
कुलनायक

**Dr. Anamik Shah**
Vice-Chancellor

Accredited Grade 'A' by NAAC

गूजरात विद्यापीठ
(१९२० में महात्मा गांधी द्वारा स्थापित)
**GUJARAT VIDYAPITH**
(Founded By Mahatma Gandhi in 1920)

Ref. No. :

Date : 10-01-2020.

## MESSAGE

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I heartily congratulate the organizing committee for the initiative and efforts to shape such a meaningful programme.

The 26th ISCB conference covers a wide range of research areas in the interface of chemistry, biology & pharmaceutical sciences. The deliberations in the 3-day conference shall focus on the different domains of innovations in the research area. I am sure that gainful discussions & presentations of papers on latest research in these key areas will be the hallmark of the conference and it will be a great opportunity for all participants & delegates to interact & learn latest advancements into their area of interest.
I would like to congratulate the organizing team & wish all success.

**Prof. Anamik Shah**
Vice-Chancellor &
President, Indian Society of Chemists and Biologists (ISCB),
Lucknow.

Public Trust Register Number E591
(University established under Section 3 of the UGC Act, 1956 vide Notification No. F.10-20/62-U2 of the Govt. of India)
गुजरात विद्यापीठ, आश्रम रोड, अहमदाबाद - ३८० ०१४
फोन : ( का. ) ०७९-२७५४ ०३९१, २७५४ ११४८; ( आ. ) २७५४ ०६६३
फेक्स : ०७९-२७५४ २५४७
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Email : vc@gujaratvidyapith.org
Fax : 079-2754 2547

**Dr. P.M.S. Chauhan**
General Secretary, ISCB

# INDIAN SOCIETY OF CHEMISTS & BIOLOGISTS

Website: www.iscbindia.com

**Prof. Anamik Shah**
President, ISCB

**Dr. P.M.S. Chauhan**
General Secretary, ISCB

**Dr. P.M.S. Chauhan**
General Secretary, ISCB
Ex. Chief Scientist and Professor,
Central Drug Research Institute, Lucknow

## Message

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I believe that the conference will not only provide a forum for the participants to exchange scientific views but will also lead to the generation of new ideas and interests. I am sure that the gainful discussions and presentation of papers on the latest research will be the hallmark of the conference.

I earnestly hope that all participants, delegates, eminent young scientist & researchers can derive maximum benefit from the deliberations on important topics related to innovations, challenges in the field of drug discovery.

I would like to extend my warm wishes to all participants and organizers of this conference and wish a huge success of ISCBC in its endeavour of promoting research

pmschauhan

(Dr. P.M.S. Chauhan)
General Secretary, ISCB

facebook.com/iscbindia

**Prof. Manjunath D. Ghate**
Convener,
ISCBC-NIPiCON-2020

**Dr. Hardik G. Bhatt**
Organizing Secretary,
ISCBC-NIPiCON-2020

# ISCBC-NIPiCON-2020

**26th Indian Society for Chemists and Biologists Conference jointly organized with 5th Nirma Institute of Pharmacy International Conference**

*Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care*

**22nd-24th January, 2020**

**Chief Patron**
Shri K. K. Patel
Dr. Anup K. Singh

**Organizing Committee**
**Convenor**
Prof. Manjunath D. Ghate
**Organizing Secretary**
Dr. Hardik G. Bhatt

**Coordinators**
Prof. Tejal A. Mehta
Prof. Priti J. Mehta
Prof. Jigna S. Shah
Dr. Niyati S. Acharya
Dr. Mayur M. Patel
Dr. Shital B. Butani
Dr. Dhaivat C. Parikh
Dr. Nrupesh R. Patel
Dr. Nagja V. Tripathi

**ISCB Office Bearers**
**President**
Prof. Anamik Shah
**General Secretary**
Dr. P. M. S. Chauhan

## From the Desk of Organizers

With the immense pleasure on behalf of the Organizing Committee, it is our honour to invite all the resource persons, delegates, invitees and students to the ISCBC-NIPiCON-2020: 26th Indian Society for Chemists and Biologists Conference jointly organized with 5th Nirma Institute of Pharmacy International Conference on "Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care" to be held during January 22-24, 2020 in the city of Ahmedabad, India's first world heritage city.

Targeting a public healthcare necessarily entails embedding research and intervention within a variety of complementary disciplinary approaches. Due to the complexity of human health, emphasis is increasingly being placed on the need for and conduct of multidisciplinary and/or interdisciplinary health research. Interdisciplinary research among pharmaceutical, chemical and biological sciences can bring new insights and understanding across the disciplinary boundaries to better optimize the design, action, delivery, and disposition of drugs and translate this information into new and improved therapies against challenging diseases. Keeping this existing scenario of research in mind, the theme of this conference is kept onto interdisciplinary approach. We wish, the conference will prove fruitful to all the delegates, budding scientists and industry personnel providing them an opportunity to interact with leading scientists across the globe. The interdisciplinary communication happening at this platform will certainly lead the research in the area of healthcare to a new level in our region and the globe as a whole. The conference has been planned to deliver the most recent ongoing advancements in the area of pharmaceutical, chemical and biological sciences through scientific sessions that would benefit to the community and the country. The oral and poster presentations will give an insight into the latest research being conducted by the budding scientists of today.

We are deeply thankful to all the international and national resource persons who have travelled far distance to participate and interact with the young researchers and adding a great value in ongoing healthcare research. This challenging and demanding task would not have been possible without the journey voyaged together by the advisory committee, organizing committee and our beloved student volunteers under the valuable support and guidance of management of Nirma University. We also humbly thank our academic partners, Gujarat Vidyapith, GCRI and PERD Centre, Ahmedabad.

We are extremely thankful to Science and Engineering Research Board (SERB), Department of Science & Technology (DST), Department of Biotechnology (DBT), Defense Research and Development Organization (DRDO), Gujarat State Biotechnology Mission (GSBTM), Gujarat Council on Science & Technology (GUJCOST) as well as various sponsors and industries for providing the financial support for the conference.

Indeed, a conference is successful only by the active participation of the delegates for which we thank them proudly.

We warmly welcome you all to ISCBC-NIPiCON-2020 and wish you all a good stay and memorable time in this conference. We are looking forward for your valuable cooperation and dynamic participation to make this conference a grand success.

*Dr. Hardik G. Bhatt*
*Organizing Secretary, ISCBC-NIPiCON-2020*

*Prof. Manjunath D. Ghate*
*Convener, ISCBC-NIPiCON-2020*

NIRMA UNIVERSITY
INSTITUTE OF PHARMACY
NAAC ACCREDITED 'A' GRADE

**Institute of Pharmacy, Nirma University,**
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# ABOUT NIRMA UNIVERSITY

Established in the year 2003, under a special act passed by the Gujarat State Legislative Assembly, the Nirma University, Ahmedabad is a research-oriented, student-centric, multidisciplinary, not-for-profit state private university. Within a short period of its existence, it has emerged as a nationally renowned higher education institution. The University and its constituent institutes are highly ranked by different ranking agencies.

Nirma University is duly recognised by the University Grants Commission (UGC) under Section 2 (f) of the UGC Act. The University is accredited by National Assessment and Accreditation Council (NAAC). The University is a member of Association of Indian Universities (AIU) and the Association of Commonwealth Universities (ACU).

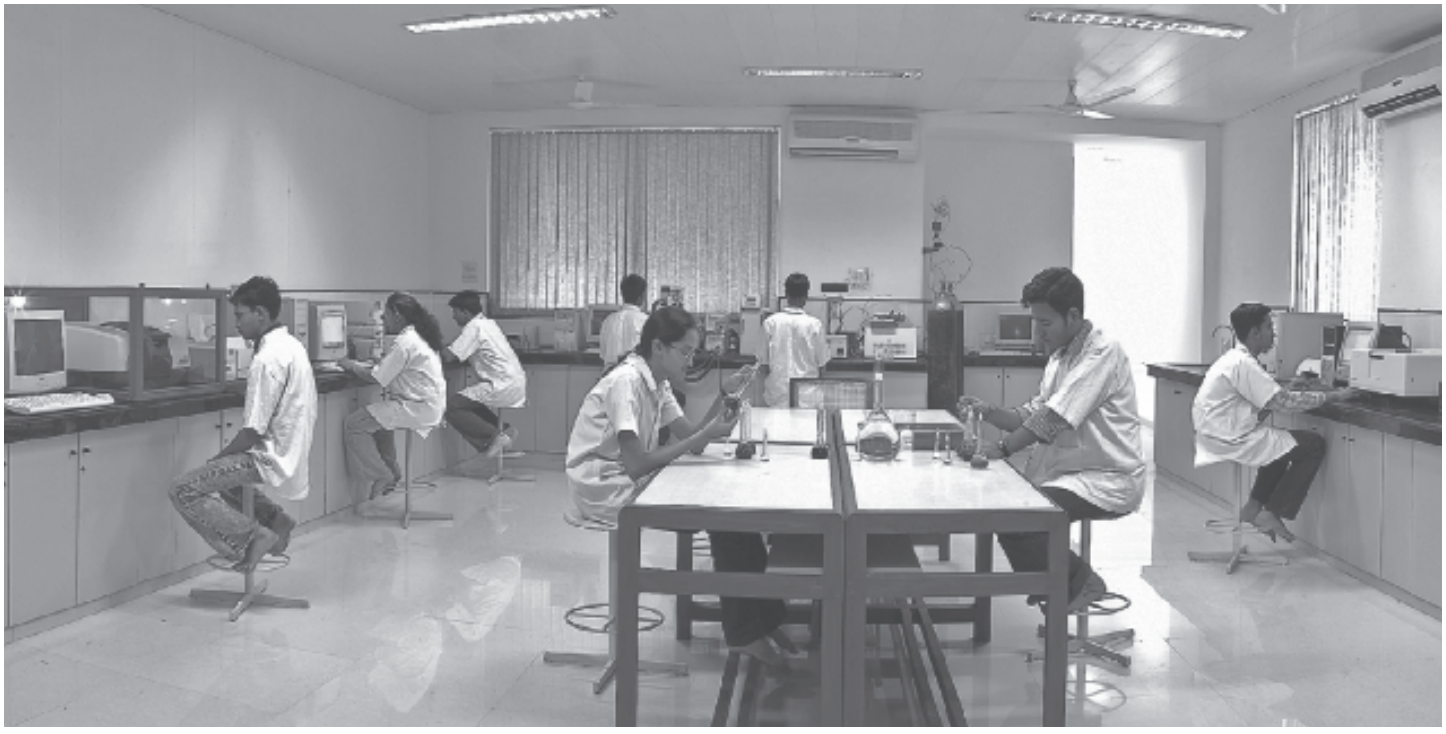
Dr. Karsanbhai K. Patel, Chairman, Nirma Group of Industries and Nirma Education and Research Foundation (NERF), is the President of the Nirma University. Under his leadership, the University is expanding every passing year and moving from strength to strength.

Spread across the sprawling lush green 115-acres campus, the University has a host of institutes, departments and centresincluding Institute of Technology, Institute of Management, Institute of Pharmacy, Institute of Science, Institute of Law,Institute of Architecture & Planning, Institute of Commerce, Department of Design, Faculty of Doctoral Studies and Research, Centre for Continuing Education, Centre for Entrepreneurship, Centre for Advanced Instrumentation and Centre for Robotics and Automation. These institutions offer numerous undergraduate, postgraduate and doctoral programmes.Apart from these, the University also offers several certificate and diploma programmes.

# ABOUT INSTITUTE OF PHARMACY

Institute of Pharmacy was established in the year 2003 under Nirma University with the aim of developing able professionals in the field of pharmaceutical sciences. In a short span of time, it has become one of the leading institution in the country, offering pharmaceutical education at the undergraduate, postgraduate, doctoral and postdoctoral level. The Institute has initiated an Executive Diploma Programme in Pharmaceutical Management. Institute has been ranked 21st in India Ranking 2019 by Ministry of Human Resource Development, (MHRD), Government of India in its National Institutional Ranking Framework (NIRF). The Institute offers B. Pharm, M. Pharm, Full time and External Ph.D as well as Postdoctoral programme. The Institute has adopted Outcome Based Education (OBE) to further advance the development of professional knowledge, inculcate employability skills in addition to development of character and social responsibility. To achieve the same objective, vision and mission of the institute was also defined in line with University's vision and mission. The Institute has also defined its programme educational objectives and programme outcomes. The Institute has more than 8.0 crore rupees grant from government agencies and has collaboration with various research centers and industries. The Institute houses state-of-the-art instruments, like supercritical fluid extractor and chromatogram, HPTLC, HPLC, MPLC, GC, Fluorescence Spectrometer, Raman Spectrometer, UV-VIS-NIR Spectrophotometer, FTIR, DSC, ELISA, PCR, Electrophoresis, Texture Analyser, Automated Dissolution Apparatus, Extruder-Spheronizer, Multiple diffusion Assembly, High Pressure Homogenizer, Particle Size Analyser, Microwave synthesizer, Stereotaxic apparatus with Microdialysis, etc. The Institute also has the software, like iWorx, Gold Suit, eCTD, Design Expert, etc.

The Institute has a two-storied animal house facility registered with the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), Government of India. Besides, there is also a medicinal plant garden “Nirma Herbal Wealth”, having an area of 3356.5 sqm with around 150 genera and 500 plants.



## About Indian Society of Chemists and Biologists (ISCB)

Indian Society of Chemists and Biologists (ISCB) founded in 1995 with the following aims and objectives:

- To promote and advance the cause of multidisciplinary research by providing a common platform for better cooperation and coordination.
- To develop national consensus among the younger generation to strive for interdisciplinary cooperation.
- To promote awareness of recent developments in frontal areas of science.
- To organise symposia, conferences and special lectures in different disciplines of science

ISCB has also instituted ISCB AWARD FOR EXCELLENCE and ISCB YOUNG SCIENTIST AWARD and other awards to recognize scientific excellence in the area of Chemical Sciences, Biological Sciences and Drug Research.

## About Indian Society of Chemists and Biologists Conference (ISCBC)

Indian Society of Chemists and Biologists (ISCB) conference prime objective is to provide an opportunity for a close interaction of scientists with varied interests, in diverse fields of the research. Conference will also provide common platform and more opportunities to the researchers in the areas of chemical sciences and biological sciences and other related areas to interact with each other. ISCBC will also provide a forum for in-depth assessment of the challenge involved in the dynamic and fast moving field of Drug research. It will bring together leading chemists, medicinal chemists, pharmacologists, biotechnologists, and other allied professionals to discuss and present the latest important developments in drug discovery and therapeutics. Approximately thousand delegates coming from different parts of India and abroad will participate in the conference. A large number of pharmaceutical and biotechnology industry professionals will join us for this event, share ideas and build networks.

Several distinguished speakers presented their work in ISCB conferences including Prof. Robert H Grubbs, Nobel Laureate (California Institute of Technology, Pasadena, USA) delivered a keynote lecture on the olefin metathesis reaction. Prof. Nancy B Jackson (President ACS, ISCBC-2010), Prof. David St C Black (Secretary General IUPAC, ISCBC-2010) Australia, Dr. Nicole Moreau (ISCBC-2011) President of the International Union of Pure and Applied Chemistry (IUPAC) France and several eminent scientists from United States, United Kingdom, Greece, Canada, France, Switzerland, Germany, Netherlands, Austria, Belgium, Sweden, Japan, Taiwan, Korea, Iran, Egypt, etc. had participated in past ISCB conferences.

Her Excellency ShrimatiKamla, the Governor of Gujarat (ISCBC-2011); Honorable union minister of Home Shri Sushil Kumar Shinde (ISCBC-2012); His Excellency the Hon'ble Governor of Assam, Sri Janaki Ballav Patnaik; Sri TarunGogoi, Chief Minister of Assam (ISCBC-2012); Prof. Raghunath A. Mashelkar FRS former DG, CSIR, President Global Research (ISCBC- 2004, 2011) Alliance, Pune; Dr. T. Ramasami, Secretary (ISCBC-2012) Dept. of Science & Technology, Govt. of India; Professor Goverdhan Mehta, FRS (National Research Professor, Hyderabad, ISCBC-2008, 2014) are few dignitaries who participated in ISCBC in the past. 23rd ISCB International Conference was organized at SRM University, Chennai. Approximately 800 delegates participated in the conference including delegates from US, Germany, Belgium, Sweden, France, UK, Japan etc. Last year, 25th ISCB International Conference was organized at Hotel Golden Tulip, Lucknow, India.

# About Nirma Institute of Pharmacy International Conference (NIPiCON)

The pharmaceutical sciences are a group of interdisciplinary field and profession that are involved with the design, discovery, development, delivery and disposition of drugs. Over the years, pharmaceutical scientists have been instrumental in discovering and developing innovative drugs that can cure various diseases and improve the quality of life.

Nirma Institute of Pharmacy International Conference (NIPiCON) was initiated in year 2013 to offer a common platform for academicians, researchers, industrialists, clinical practitioners and young budding pharmacists to share their ideas, knowledge and research findings which finally emerge with new concepts using interdisciplinary approach in the pharmaceutical field. In the year 2018, the 4th International Conference, NIPiCON 2018 was organized with the aim to provide knowledge sharing experience in the area of "Innovation in Pharmaceutical Research by Interdisciplinary Approach."

Pharmaceutical innovation is a creative process that helps in the application of knowledge and creativity for discovering and developing new medicinal products that generate improvement in patient health. Interdisciplinary research integrates information, concepts and theories of two or more different specialized disciplines for better scientific understanding and solving of complex challenging problems. Interdisciplinary approach in pharmaceutical research can resolve real health care problems, give a different perspective to research area and provide answers to complex problems of pharmaceutical field. This conference will provide an open forum for the academicians, researchers and professionals of pharmaceutical industry to enrich their knowledge in the area of pharmaceutical innovations for getting better product using interdisciplinary research in pharmaceutical field.

# About ISCBC-NIPiCON-2020

Gujarat is at the forefront of the growth in the pharmaceutical industry in India. Accounting for nearly 42 percent share of India's pharmaceutical turnover, 22 percent of its drug exports and 20 percent of its chemicals output, Gujarat's pharmaceutical industry has evolved into an innovation-driven, knowledge-focused industry. Ahmedabad, being the largest city in the state of Gujarat, houses several established companies which have operations in the world's major pharma markets. It will be a great opportunity for scientists, professors, researchers, and students to connect with industry experts during ISCBC-NIPiCON-2020 conference in Ahmedabad.

In January 2020, Indian Society of Chemists and Biologists (ISCB) International Conference will be jointly organized with the 5th International Conference, NIPiCON 2020. This aims to provide common platform for better cooperation, coordination and dissemination of multidisciplinary research on the theme of "Integrating Chemical, Biological and Pharmaceutical Sciences for Innovations in Health Care."

The prime objective of this conference is to provide an opportunity for a close interaction of scientists with varied interests, in diverse fields of the research. This will also provide common platform and more opportunities to the researchers in the areas of chemical sciences, biological sciences, pharmaceutical science and other related areas to interact with each other. It will bring together leading chemists, medicinal chemists, pharmacologists, biotechnologists, and other allied professionals to discuss and present the latest important developments in drug discovery and therapeutics. Interdisciplinary research integrates information, concepts and theories of two or more different specialized disciplines for better scientific understanding and solving of complex challenging problems.

The conference features plenary sessions which will be delivered by eminent national and international speakers from different disciplines of pharmaceutical field. In addition, there will be invited lectures and sessions delivered by distinguished and young researchers in their respective fields during parallel scientific sessions. The conference will also provide the opportunity to scientists and research scholars from various organizations to put forth their innovative ideas and research findings by means of deliberations, discussions, oral and poster presentations.

# ADVISORY COMMITTEE

## International Advisory Board ISCBC-2020

- Prof. Jyoti Chattopadhyaya, Chair of Chemical Biology, Uppsala University, Uppsala, Sweden
- Prof. Mike Threadgill, University of Bath, Claverton Down, Bath , UK
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- Prof. Kazuaki Matsumura, Japan Advanced Institute Science and Technology, Japan
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- Prof. Karol Grela, Polish Academy of Sciences, Warsaw, Poland
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- Prof. Girolamo Cirrincione, Professor of Medicinal Chemistry, University of Palermo, Pro Rector for Research, Via Archirafi, 32 - 90123 Palermo, Italy
- Prof. To Ngai, Dept. of Chemistry, The Chinese University of Hong Kong, Hong Kong
- Dr. RameshBabu Boga, BogaR Laboratories LLC, USA

## National Advisory Board ISCBC-2020

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- Prof. Diwan Singh, Delhi University, Delhi, India
- Prof. Mrs. J. S. Meshram, Professor & Head, Department of Organic Chemistry, North Maharashtra University, India

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- Prof. Shamsh Pervez, PRSU, Raipur, India
- Dr. Raja Shunmugam, IISER Kolkata, India
- Prof. Sangeeta Jha, SMIT, Sikkim, India
- Prof. Yasmeen Pervez, CSIT, Durg, India
- Dr. Neelima Gupta, University of Rajasthan, Jaipur, India

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Vice-President, Nirma University

**Dr. Anup K. Singh**
Director General, Nirma University

## CONVENER

**Prof. Manjunath D. Ghate**
Director
Institute of Pharmacy
Nirma University

## ORGANIZING SECRETARY

**Dr. Hardik G Bhatt**
Associate Professor and Head, Department of Pharmaceutical Chemistry, Institute of Pharmacy
Nirma University

## ISCB OFFICE BEARERS

**Prof. Anamik Shah**
Vice-Chancellor, Gujarat Vidhyapeeth
President, ISCB

**Dr. PMS Chauhan**
Former Chief Scientist, CDRI, Lucknow
General Secretary, ISCB

## VARIOUS COMMITTEES

| | Name of Committee | Name of Faculty and Staff | |
|---|---|---|---|
| | | Coordinator | Members |
| 1 | **Scientific, Printing and Souvenir committee** | Prof. Jigna S. Shah | Dr. Charmy S. Kothari<br>Ms. Palak K. Parikh<br>Dr. Vidhi Shah<br>Ms. Anushree Raval<br>Mr. Mukesh Patel |
| 2 | **Registration & Correspondence** | Prof. Priti J. Mehta | Dr. Jignasa K. Savjani<br>Dr. Snehal S. Patel<br>Dr. Bhoomika M. Patel |

| | | | |
|---|---|---|---|
| | | | Ms. Jigisha Patel<br>Ms. Pooja Pandey<br>Ms. Dharti Patel<br>Ms. Jaya Dabhi |
| **3** | **Finance Committee** | Prof. Tejal A. Mehta | Dr. Bhumika D. Patel<br>Mr. Dinesh Patel<br>Mr. Nityanandan Mudaliar |
| **4** | **Transport, Accommodation & Logistics for Speakers and Delegates** | Dr. Mayur M. Patel | Dr. Jigar N. Shah<br>Dr. Vivek K. Vyas<br>Dr. Mohit P. Shah<br>Mr. Shailesh Patel<br>Mr. Chetan Patel |
| **5** | **Venue Management** | Dr. Dhaivat C. Parikh | Dr. Dipal M. Gandhi<br>Ms. Dharmi Shah<br>Mr. DevendraVaghela |
| **6** | **Catering** | Dr. Nrupesh R. Patel | Mr. Rohit Patel<br>Mr. Hasmukhbhai Rathod<br>Mr. Jignesh Patel |
| **7** | **Hospitality & Reception** | Dr. Shital B. Butani | Dr. Shital S. Panchal<br>Dr. Bhagawati Saxena<br>Ms. Drashti Patel<br>Ms. Hiral Patel |
| **8** | **Entertainment** | Dr. Niyati S. Acharya | Ms. Kinjal K. Parekh |
| **9** | **Website Management & Media Publicity** | Dr. Nagja V. Tripathi | Mr. Tushar Patel<br>Mr. Virendra Goswami |

# STUDENTS TASK FORCE

| | Name of Committee | Name of Students |
|---|---|---|
| 1 | **Scientific, Printing and Souvenir committee** | Misari Patel<br>Shruti Rawal<br>Manan Shah<br>Khushali Parekh<br>Parmi Patel |
| 2 | **Registration &Correspondence** | Dhara Bhayani<br>Mansi Patel<br>Krunal Prajapati<br>Dattatraya Yadav<br>Krishna Bhalodi |
| 3 | **Finance Committee** | Keerti Vishwakarma |
| 4 | **Transport, Accommodation & Logistics for Speakers and Delegates** | Chintan Pansara<br>Chetan Dhal<br>Namdev Dhas<br>Vimal Patel<br>Hariharan Kartik<br>Arpit Bana<br>Atul Garkal<br>Divyesh Patel |
| 5 | **Venue Management** | Vishal Chavda<br>Vivek Bora<br>Jayanta Maji |
| 6 | **Hospitality & Reception** | Piyush Gediya<br>PrekshaVinchhi |
| 7 | **Entertainment** | Tripti Halder |

# SCIENTIFIC SCHEDULE OF ISCBC-NIPiCON-2020 AT A GLANCE

## SCIENTIFIC PROGRAMME

**Wednesday, January 22, 2020**

| | |
|---|---|
| 9.00 AM - 10.30 AM | **Registration** |
| 10.30 AM - 12.00 PM | **Inaugural Session** |
| 12.00 PM - 12.30 PM | High Tea |
| **Session – I**<br>**Chairpersons: Prof. Anamik Shah and Dr. PMS Chauhan** | |
| **PL-1**<br>12.30 PM - 1.00 PM | **Nigel G. J. Richards**<br>Department of Chemistry, Cardiff University, Cardiff, UK<br>***Building Better Enzymes: Redesigning DNA Polymerases to Replicate Nucleobases in Expanded Genetic Alphabets*** |
| **PL-2**<br>1.00 PM - 1.30 PM | **Christophe LEN**<br>Chimie ParisTech, PSL Research University, CNRS,<br>Institute of Chemistry for Life and Health Sciences, Paris, France<br>***Batch and Continuous Flow Conversion of Biomass Into Furan Derivatives*** |
| 1.30 PM - 2.30 PM | Lunch |
| **Parallel Session – II A**<br>**Chairpersons: Prof. N.C. Desai, Dr. Vinay Tripathi and Dr. Jignasa Savjani** | |
| **PL-3**<br>2.30 PM - 3.00 PM | **Anil Kumar Singh**<br>Department of Chemistry, Indian Institute of Technology Bombay, Powai, Mumbai, India<br>***New Strategies for Design and Development of Neutral*** *and Hydrophobic Extrinsic Fluorescent Probes* |
| **IL-1**<br>3.00 PM - 3.20 PM | **Keshav Deo**<br>Executive Director, Almelo Private Limited, Hyderabad, India<br>***A Dietary Supplement use as An Anti-Aging Agent*** |

| | |
|---|---|
| **IL-2**<br>3.20 PM - 3.40 PM | **Shipra Chauhan**<br>Scientist, Zeon Coperation, Kawasaki, Japan<br>***Cyclo Olefin Polymer, The New Age Material for Medical Application by Zeon: Outline of Zeon Medical Product*** |
| **IL-3**<br>3.40 PM - 4.00 PM | **Ramesh Babu Boga**<br>BogaR Laboratories LLC, PO Box 1554, Suwanee, GA 30024, USA<br>***Global Healthcare Challenge of Drug Resistance: Moment of Truth and Future Prospects*** |
| **IL-4**<br>4.00 PM - 4.20 PM | **Ravindra V. Singh**<br>Head of India R&D, Custom synthesis and Manufacturing, Merck - Living Innovation, Sigma Aldrich Chemicals Pvt Ltd, Bangalore, India<br>***Novel Diaminoquinazolines (DAQs) as an effective inhibitor of M. Tuberculosis, and a potential drug candidate for treatment of Tuberculosis (TB)*** |
| 4.20 PM - 4.30 PM | Tea |

## Parallel Session – II B

**Chairpersons: Prof. Ashok K Prasad and Dr. Vivek Vyas**

| | |
|---|---|
| **IL-5**<br>2.30 PM - 2.50 PM | **Manjunath Ghate**<br>Director, Institute of Pharmaccy, Nirma University, Ahmedabad, India<br>***Design, Synthesis and Biological Evaluation of Small Molecules targeting Histone Deacetylase Inhibitors (HDAC) as Anti-Cancer Agents*** |
| **IL-6**<br>2.50 PM - 3.10 PM | **Hemant Joshi**<br>Department of Chemistry, Birla Institute of Technology and Science, Pilani, Rajasthan, India<br>***A Molecular Rotor Possessing a Cl-Pd-Cl "Spoke" on a Se-Pd-Se "Axle": Efficient Catalyst for Regioselective C-5Arylation of Imidazoles*** |
| **IL-7**<br>3.10 PM - 3.30 PM | **Sivapriya Kirubakaran**<br>Assistant Professor, Indian Institute of Technology, Gandhinagar, India<br>***Are DDR kinases Druggable? : Our journey towards Cancer therapeutics*** |

| | |
|---|---|
| **IL-8**<br>3.30 PM - 3.50 PM | **Prajwal Nandekar**<br>Scientist, Schrodinger, India<br>***Transforming Drug Discovery with Advanced Computational*** |
| **IL-9**<br>3.50 PM - 4.10 PM | **Divya Vohora**<br>Professor, Pharmacology, Faculty of Pharmacy, Jamia Hamdard University, New Delhi, India<br>***Antiepileptic Drugs and Ketogenic Diet: An Uncanny Alliance to Bone*** |
| 4.10 PM - 4.30 PM | Tea |

## Parallel Session – III A

**Chairpersons: Dr. P.M.S. Chauhan and Dr. Nagja Tripathi**

| | |
|---|---|
| **IL-10**<br>4.30 PM - 4.50 PM | **Bal Ram Singh**<br>Professor and Director, Botulinum Research Center and Institute of Advanced Sciences, North Dartmouth, MA<br>***The Most Poisonous Poison as a Model to Reframe Biology, Chemistry, and Physics of Evolution*** |
| **IL-11**<br>4.50 PM - 5.10 PM | **Dalip Kumar**<br>Department of Chemistry, Birla Institute of Technology and Science, Pilani, India<br>***Efficient and Regioselective Functionalization of Quinolones*** |
| **IL-12**<br>5.10 PM - 5.30 PM | **Mukesh Nandave**<br>Associate Professor, Department of Pharmacology, Delhi Pharmaceutical Sciences and Research University (DPSRU), New Delhi, India<br>***The Role of Omics in Personalised Medicine: A Review of Outcomes in Cardiovascular Diseases*** |
| **IL-13**<br>5.30 PM - 5.50 PM | **Ritesh Singh**<br>Assistant Professor, Department of Chemistry, Central University of Rajasthan, Bandar Sindri, Ajmer, Rajasthan, India<br>***Synthetic Exploration of Aza-oxyallyl Cation Towards Oxindoles and 1,4-Benzodiazepines*** |

| **Parallel Session – III B**<br>**Chairpersons: Prof. Anshu Dandia and Dr. Shital Panchal** | |
|---|---|
| **IL-14**<br>4.30 PM - 4.50 PM | **Bapu B. Shingate**<br>Assistant Professor, Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, India<br>***Arylidene-Rhodanine/Thiazolidinone Hybrids: Synthesis, Bioevaluation and Molecular Docking Study*** |
| **IL-15**<br>4.50 PM - 5.10 PM | **Farukh Arjmand**<br>Department of Chemistry, Aligarh Muslim University, Aligarh, India<br>***Molecular design, structural features of new RNA targeted antitumor metallodrugs for cancerchemotherapy*** |
| **IL-16**<br>5.10 PM - 5.30 PM | **Rajeev Sakhuja**<br>Department of Chemistry, Birla Institute of Technology and Science, Pilani, Rajasthan, India<br>***Bile acid Hybrids as Anticancer Agents*** |
| **IL-17**<br>5.30 PM - 5.50 PM | **Devesh M Sawant**<br>Asst Professor, Pharmacy, Central University of Rajasthan, Bandarsindri, Ajmer, Rajasthan, India<br>***Pd-CatalyzedAzide-Isocyanide Cross Coupling Reaction: Applications in Medicinal Chemistry and Bioimaging*** |
| **Poster Session -I**<br>**Chairpersons: Dr. Sanjay Kumar, Dr. Bhagwati Saxena and Ms. Anusree Raval** | |
| 5.50 PM – 7.00 PM | **Poster Session -I (Poster Numbers 1-125)** |
| 7.00 PM – 8.30 PM | **Cultural Programme** |
| 8.30 PM | Dinner |

## Thursday, January 23, 2020

### Parallel Session – IVA

**Chairpersons: Dr. Surya Prakash Gupta and Dr. Shital Butani**

| | |
|---|---|
| **PL-4**<br>9.00 AM - 9.30 AM | **Michele Vittadello**<br>Professor of Chemistry, Medgar Evers College, of the City University of New York, Energy Nanotechnology and Materials Chemistry Team, Brooklyn, NY, USA<br>***Cytochrome c Oxidase Oxygen Reduction Reaction induced by Cytochrome c on Nickel-Coordination Surfaces based on Graphene Oxide in Suspension*** |
| **IL-18**<br>9.30 AM - 9.50 AM | **Ashok K Prasad**<br>Department of Chemistry, University of Delhi, Delhi, India<br>***Sugars to Flavonoids and Other Molecules of Important Applications*** |
| **IL-19**<br>9.50 AM - 10.10 AM | **Ashoke Sharon**<br>Associate Professor, Department of Chemistry, Birla Institute of Technology, Mesra, Ranchi, India<br>***Computational Studies on HSP90 inhibitors as possible anti-HIV agents*** |
| **IL-20**<br>10.10 AM - 10.30 AM | **Amjad Ali**<br>Professor & Head, School of Chemistry and Biochemistry, Thapar Institute of Engineering & Technology, (Deemed to be University), Patiala, India<br>***Transesterification/esterification reactions catalyzed by heterogeneous catalysts to form biofuel and fuel additives*** |
| **IL -21**<br>10.30 AM - 10.50 AM | **Debasish Mandal**<br>School of Chemistry and Biochemistry, Thapar Institute of Engineering and Technology, Patiala, Punjab, India<br>***Orientated External Electric Field: An Invisible Catalyst in Bio (Chemical) Reaction*** |

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| **IL -22**<br>10.50 AM - 11.10 AM | **Luxami, V.**<br>School of Chemistry and Biochemistry, Thapar Institute of Engineering and Technology, Patiala, India<br>***Experimental and theoretical investigation of ESIPT based Hydroxy aryl benzimidazoles/Schiff bases as chromofluorescent sensor*** |
| **IL -23**<br>11.10 AM -11.30 AM | **Manik Pradhan**<br>S N Bose National Centre for Basic Sciences, Kolkata, India<br>***Cavity-enhanced absorption spectroscopy in gas and condensed phases: Applications to medical diagnosis*** |
| 11.30 AM - 11.40 AM | High Tea |

## Parallel Session – IVB

**Chairpersons: Dr. Nandkishor N. Karade and Dr. Bhoomika Patel**

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| **PL-5**<br>9.00 AM - 9.30 AM | **Athina Geronikaki**<br>Aristotle University, School of Pharmacy, Thessaloniki, Greece<br>***Dithioloquinolinethiones as new potential multitargeted antibacterial and antifungal agents: synthesis, biological evaluation and molecular docking studies*** |
| **IL-24**<br>9.30 AM - 9.50 AM | **Namrata Rastogi**<br>Scientist, Medicinal & Process Chemistry Division, CSIR-Central Drug Research Institute, Lucknow, India<br>***Hantzsch Ester Mediated Reactions under Visible Light Irradiation*** |
| **IL -25**<br>9.50 AM - 10.10 AM | **Shovan Mandal**<br>Assistant Professor in Chemistry, Syamsundar College, Shyamsundar, Burdwan, India<br>***Palladium-CatalyzedSynthesis of Sulfur Heterocyclesand Their Biological Significance*** |
| **IL -26**<br>10.10 AM - 10.30 AM | **Dina Nath Singh**<br>Associate Professor, Department of Chemistry, K.S.Saket PG College, Dr. RML Avadh University, Ayodhya, India<br>***Current Trends Leading to the Isolation of Novel Bioactive Lead Molecules for Drug Discovery from Medicinal Plants*** |

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| **IL -27**<br>10.30 AM -10.50 AM | **Neelima Gupta**<br>Department of Chemistry, University of Rajasthan, Jaipur, India<br>***Computational Identification of Antiretroviral Drug Candidates through Recognition of HIV(type 1) Conserved Glycoprotein Sequence*** |
| **IL -28**<br>10.50 AM -11.10 AM | **Dinesh Kumar Yadav**<br>Assistant Professor, Department of Chemistry, Mohanlal Sukhadia University, Udaipur, India<br>***Graphene Oxide Promoted a Novel Multicomponent Reaction for the Synthesis of 3-Substituted Quinazolinones Using DMSO as One Carbon Source*** |
| **IL -29**<br>11.10 AM -11.30 AM | **Asha Jain**<br>Department of Chemistry, University of Rajasthan, Jaipur, India<br>***Synthesis and spectroscopic characterization of some organic inorganic hybrid complexes of organotin(IV) incorporating the anti-microbial activity analysis*** |
| 11.30 AM - 11.40 PM | High Tea |
| **Parallel Session-VA**<br>**Chairpersons: Dr. Sudhir Kumar Singh and Dr. Jigar Shah** | |
| **PL-6**<br>11.40 AM - 12.10 PM | **Marco L. Lolli**<br>Assistant Professor in Medicinal Chemistry, Dept. Science and Drug Technology - University of Turin (UniTO), Italy<br>***Effective use of a bioisosteric toll based on hydroxyazolesystems to design inhibitors of humanDihydroorotate Dehydrogenase (hDHODH) and of other oncological targets*** |
| **IL-30**<br>12.10 PM - 12.30 PM | **Virinder S. Parmar**<br>Bioorganic Laboratory, Department of Chemistry, University of Delhi (India); Department of Chemistry and Environmental Science, Medgar Evers College, The City University of New York, USA<br>***Natural products-inspired discovery and development of novel antifungal and antibacterial agents*** |

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| **IL-31**<br>12.30 PM - 12.50 PM | **Indresh Kumar**<br>Department of Chemistry, Birla Institute of Technology and Science, Pilani, India<br>***Linear dicarbonyls as suitable substrates for amine catalyzed transformations: Synthesis of medium-sized N-heterocyclic compounds*** |
| **IL-32**<br>12.50 PM - 1.10 PM | **Deepti Goyal**<br>Department of Chemistry, Sri Guru Granth Sahib World University, Fatehgarh Sahib, Punjab, India<br>***A multifunctional therapeutic approach: design, synthesis and identification of novel multitarget–directed ligands against Alzheimer's disease*** |
| **IL-33**<br>1.10 PM - 1.30 PM | **Satpal Singh Badsara**<br>S Assistant Professor, MFOS Laboratory, Department of Chemistry (Centre of Advanced Study), University of Rajasthan, JLN Marg, Jaipur, Rajasthan, India<br>***Metal-Free Carbon-Sulfur and Phosphorus-Chalcogenides Bond Formations*** |
| 1.30 PM - 2.30 PM | Lunch |

## Parallel Session - VB

**Chairpersons: Prof. Mahesh Sharma, Dr. Babita Malik and Dr. Dipal Gandhi**

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| **IL-34**<br>11.40 AM - 12.00 PM | **Harsha Rajapakse**<br>Department of Chemistry and Environmental Science, Medgar Evers College, The City University of New York, Brooklyn, New York, USA<br>***Time gated Long-lifetime Lanthanide Luminescence to Study Dynamic Molecular Interactions with Improved Resolution*** |
| **IL-35**<br>12.00 PM - 12.20 PM | **Dhananjay V Mane**<br>Professor in chemistry and Regional Director, Yashvantrao Chavan Maharastra Open University, Nashik, India<br>***Development and Validation of Analytical Methods for drugs used in treatment of Alzheimer's (Memantine HCl) and Depression Disease (Nortriptyline HCl)*** |

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| **IL-36**<br>12.20 PM - 12.40 PM | **Hitendra. M. Patel**<br>Department of Chemistry, Sardar Patel University,<br>Vallabh Vidyanagar,Gujarat, India<br>***Impact of Green matrix towards the Expansion of Miscellaneous Heterocyclic Scaffolds and their Biological significance*** |
| **IL-37**<br>12.40 PM - 1.00 PM | **Ravi P. Singh**<br>Department of Chemistry, Indian Institute of Technology-Delhi,<br>New Delhi, India<br>***Organo and Photoredox Catalysis forC-C bond formation*** |
| **IL-38**<br>1.00 PM - 1.20 PM | **Ram Sagar Misra**<br>Associate Professor, Department of Chemistry, Banaras Hindu University,<br>Varanasi, India<br>***Stereoselective Synthesis of Natural Product Inspired New Bioactive Glycohydrids*** |
| **IL-39**<br>1.20 PM - 1.40 PM | **Alka Sharma**<br>Centre of Advanced Study, Department of Chemistry,<br>University of Rajasthan, Jaipur, India<br>***Green Nano Materials for Sustainability*** |
| 1.40 PM - 2.30 PM | Lunch |
| **Parallel Session – VIA**<br>**Chairpersons: Dr. Rajiv Sharma and Dr. Snehal Patel** | |
| **PL-7**<br>2.20 PM - 2.50 PM | **Kottawa Gamage Anoja Priyadarshani Attanayake**<br>Head and Senior Lecturer, Department of Biochemistry,<br>Faculty of Medicine, University of Ruhuna, Karapitiya,<br>Galle, Sri Lanka<br>***Nano-encapsulation in herbal nutraceutical applications*** |
| **IL-40**<br>2.50 PM - 3.10 PM | **Mandar Bodas**<br>Solution Consultant, Research Solutions - Life Sciences, Elsevier, India<br>***Role of Elsevier Life Science Solutions in Drug Discovery Process*** |

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| **IL-41**<br>3.10 PM - 3.30 PM | **Arun K. Sinha**<br>Medicinal and Process Chemistry Division, C.S.I.R-Central Drug Research Institute, Lucknow, India<br>***An Innovation Process and Concerns of Green Chemistry: Natural product-inspired Pot-economy Synthesis of Small Molecules of Biological and Industrial Relevance*** |
| **IL-42**<br>3.30 PM - 3.50 PM | **Vikas Tyagi**<br>School of Chemistry and Biochemistry, Thapar Institute of Engineering and Technology, Patiala, Punjab, India<br>***Development of green methodologies in organic synthesis*** |
| **O-1**<br>3.50 PM - 4.00 PM | **Nigam M. Mishra**<br>Department of Pharmaceutical Sciences, UNT System College of Pharmacy, University of North Texas Health Science Center, Fort Worth, TX, USA<br>***Asymmetric syntheses identify preferred stereochemistry in small molecule allosteric modulators of the neuropeptide Y4 receptor*** |
| **O-2**<br>4.00 PM - 4.10 PM | **Rahul Shivahare**<br>Division of Molecular Parasitology and Immunology and 2 Division of Medicinal and Process Chemistry, CSIR-Central Drug Research Institute, Lucknow, India<br>***Strategies for Antileishmanial Drug Development: De novo Drug Discovery and Drug Repurposing*** |
| **O-3**<br>4.10 PM - 4.20 PM | **Banoth Karan Kumar**<br>Medicinal Chemistry Research Laboratory, Department of Pharmacy, BITS Pilani, Pilani Campus, Pilani, Rajasthan, India<br>***In-silico target identification of novel anti-leishmanial β-carboline analogues*** |
| **O-4**<br>4.20 PM - 4.30 PM | **Komal M. Vyas**<br>Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar, Gujarat, India<br>***Versatile Arene-Ruthenium(II)-Phosphine Complexes: From Green Catalysts for Hydration of Nitriles to Anticancer Agents*** |
| 4.30 PM - 4.40 PM | Tea |

## Parallel Session – VIB

**Chairpersons: Dr. Anand S. Aswar and Dr. Mohit Shah**

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| **IL-43**<br>2.20 PM - 2.40 PM | **Rachna Sadana**<br>Assistant Professor of Biology and Biochemistry, Department of Natural Sciences, University of Houston-Downtown, One Main Street, Houston, TX, USA<br>**Strategies to Engage Undergraduates in Meaningful STEM Research** |
| **IL-44**<br>2.40 PM -3.00 PM | **Bhupesh Goyal**<br>Assistant Professor, School of Chemistry & Biochemistry, Thapar Institute of Engineering & Technology (Deemed to be University), Patiala, Punjab, India<br>***Computational screeningof potential inhibitors against β2m aggregation in Dialysis-related amyloidosis*** |
| **IL-45**<br>3.00 PM - 3.20 PM | **Ramendra Pratap**<br>Department of Chemistry, University of Delhi, North campus, New Delhi, India<br>***Synthesis of various carbocycles and heterocycles from functionalized benzyl cyanide*** |
| **IL-46**<br>3.20 PM - 3.40 PM | **Devdutt Chaturvedi**<br>Head, Department of Chemistry, School of Physical Sciences, Mahatma Gandhi Central University (MGCU), Motihari, Distt.: East Champaran, BIHAR, India<br>***Carbon disulfide: Greener syntheses for biologically potent scaffolds*** |
| **O-5**<br>3.40 PM - 3.50 PM | **Molisha Soni**<br>Department of Pharmacology, Institute of pharmacy Nirma University, Ahmedabad, India<br>***Evaluation of Euphoria Longana in Oral Cancer Induced Rats Associated With Type Ii Diabetes Mellitus*** |
| **O-6**<br>3.50 PM - 4.00 PM | **Malek Mohammed Abrar Hafijmiya**<br>Department of Industrial Chemistry, VP & RPTP Science College. Vallabh Vidyanagar, Anand, Gujarat, India<br>***Diverse Strategies to Boost up Solubility of Poor Water Soluble Drugs - A Review*** |

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| **O-7**<br>4.00 PM - 4.10 PM | **Pratibha Yadav**<br>Centre for Rural Development and Technology, IIT Delhi, Hauz Khas, New Delhi, India<br>***Transformation of Different Sulfides to its Sulfoxide by a Plant Peroxidase*** |
| **O-8**<br>4.10 PM - 4.20 PM | **Kamna Goel**<br>School of Chemical Sciences, Central University of Gujarat, Gandhinagar, Gujarat, India<br>***Synthesis and in vitro pharmacological characterization of pyrimidinium ionic liquids*** |
| **O-9**<br>4.20 PM - 4.30 PM | **Balaram S. Takale**<br>Department of Pharmaceutical Sciences and Technology, Institute of Chemical Technology, Mumbai, India<br>***Highly sustainable approach towards synthesis of pharmaceutically relevant molecules*** |
| 4.30 PM - 4.40 PM | Tea |

## Parallel Session – VII A

**Chairpersons: Prof. Man Singh and Dr. Dhaivat Parikh**

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| **PL-8**<br>4.40 PM - 5.10 PM | **Laurent El Kaim**<br>Laboratoire de Synthèse Organique, Ecole Polytechnique, Palaiseau, France<br>***Post-condensations of Ugi adducts: a step towards higher diversity*** |
| **IL-47**<br>5.10 PM - 5.30 PM | **Sunil Jambhekar**<br>Professor of Pharmaceutical Sciences, LECOM School of Pharmacy, 5000 Lakewood Ranch Boulevard Bradenton, Florida, US<br>Abstract Awaited |
| **IL-48**<br>5.30 PM - 5.50 PM | **Surendra Singh**<br>Assistant Professor, Dept. of Chemistry, University of Delhi, Delhi, India<br>***Development of Chiral catalysts for Asymmetric Organic Reactions*** |

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| **O-10**<br>5.50 PM - 6.00 PM | **Prem Kumar Kushwaha**<br>Department of Chemistry, Birla Institute of Technology Mesra, Ranchi, India<br>***Synthesis of Therapeutic significant oxadiazole analogs and its crystallographic studies*** |
| **O-11**<br>6.00 PM - 6.10 PM | **Nisha Kumari**<br>Department of Chemistry, Birla Institute of Technology, Mesra, Ranchi, India<br>***Studies on Moringa based flocculant for the treatment of wastewater*** |
| **O-12**<br>6.10 PM - 6.20 PM | **Rajat Kumar Pandey**<br>Department of Pharmaceutics,Schoolof Pharmaceutical Sciences, Shoolini University, Solan, HP, India<br>***Synthesized and computational prediction of furfuraldehyde sulfonamide Schiff base compounds and their antibacterial activity*** |

## Parallel Session – VII B

**Chairpersons: Prof. Hitesh D. Patel and Dr. Bhumika Patel**

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| **IL-49**<br>4.40 PM - 5.00 PM | **Sartaj Tabassum**<br>Department of Chemistry, Aligarh Muslim University, Aligarh, India<br>***New Metal Based Pharmaceuticals, Structural Characterisation and their Anti-cancer activity*** |
| **IL-50**<br>5.00 PM - 5.20 PM | **Prakash C. Jha**<br>Associate Professor & Chairperson, Centre for Applied Chemistry, Central University of Gujarat, Gandhinagar, India<br>***Druggable Space beyond the rule of 5*** |
| **IL-51**<br>5.20 PM - 5.40 PM | **Nighat Fahmi**<br>Department of Chemistry, University of Rajasthan, Jaipur, Rajasthan, India<br>***Evaluation of Antimicrobial, DNA cleavage and anticancer activities of transition metal Schiff base complexes*** |

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| **O-13**<br>5.40 PM - 5.50 PM | **Raj Kumar Das**<br>School of Chemistry and Biochemistry, Thapar Institute of Engineering and Technology, Patiala, India<br>***Metal-Organic Frameworks as New General Catalyst for Electrochemical Water Splitting*** |
| **O-14**<br>5.50 PM - 6.00 PM | **Lata Rani**<br>Department of Chemistry, Indian Institute of Technology Gandhinagar, Gandhinagar, Gujarat, India<br>**Conformational influences of Phosphorylation and O-GlcNAcylation on Proline-rich domain of Tau** |
| **O-15**<br>6.00 PM - 6.10 PM | **Riya Sailani**<br>Department of Chemistry, University of Rajasthan, Jaipur, India<br>***Enthalpy-Entropy Compensation (EEC) Effect in Redox Kinetics Between Para-substituted Aniline And Peroxomonosulfate in Acidic Medium*** |
| **Poster Session -II**<br>**Chairpersons: Dr. Brijesh Kumar Srivastava, Dr. Jawahar Lal and Dr. Pradeep Srivastava** | |
| 6.20 PM – 8.00 PM | **Poster Session -II (Poster Numbers 125 onwards)** |
| 8.00 PM | Dinner |

## Friday, January 24, 2020

### Parallel Session –VIIIA

**Chairpersons: Prof. Diwan Singh and Dr. Charmy Kothari**

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| **PL-9**<br>9.00 AM – 9.30 AM | **Vassilios Papadopoulos**<br>Dean, School of Pharmacy, John Stauffer Dean's Chair in Pharmaceutical Sciences. Professor of Pharmacology & Pharmaceutical Sciences, University of Southern California, Los Angeles, California, USA<br>***Understanding the biology and designing new therapeutic approaches for the treatment of male hypogonadism*** |
| **IL-52**<br>9.30 AM - 9.50 AM | **Ravindra Kumar**<br>Scientist, CSIR-Central Drug Research Institute, Lucknow, India<br>***Catalytic and Enantioselective Synthesis of Benzoxasiloles: Direct Application to (R)-Orphenadrine and (S)-Neobenodine*** |
| **IL-53**<br>9.50 AM - 10.10 AM | **Asit K. Chakraborti**<br>Professor and Head, Department of Medicinal Chemistry, National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar, Punjab, India<br>***Integrating Sustainable Chemistryin Pharmaceutical Research: Novel Transition Metal-free Approaches for Drug Discovery and Development*** |
| **IL-54**<br>10.10 AM -10.20 AM | **Tejal Mehta**<br>Dept. of Pharmaceutics, Institute of Pharmacy, Nirma University, Ahmedabad, India<br>***Nanocrystal Based Topical Formulations for the Treatment of Fungal Infections*** |
| **O-16**<br>10.20 AM -10.30 AM | **Vikki N. Shinde**<br>Department of Chemistry, BITS Pilani, Pilani Campus, Pilani, Rajasthan, India<br>***Design and Syntheses of Palladium Complexes of NNN/CNN Pincer Ligands for Catalytic Dehydrogenative Cross-Coupling of Heteroarenes*** |

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| **O-17**<br>10.30 AM -10.40 AM | **Pidiyara Karishma**<br>Department of Chemistry, Birla Institute of Technology & Science, Pilani, Rajasthan, India<br>***Ruthenium Catalyzed C-H Acylmethylation of N-Arylphthalazine 1,4-diones with α-Carbonyl SulfoxoniumYlides: Highway to Diversely functionalized Phthalazino-fused Cinnolines*** |
| **O-18**<br>10.40 AM -10.50 AM | **Saroj Yadav**<br>Department of Chemistry, University of Delhi, North Campus, Delhi, India<br>***Agreen synthesis of multifunctional thieno(3,2-c)pyran-4-ones from 2-pyranones*** |
| **O-19**<br>10.50 AM -11.00 AM | **Bhumika D. Patel**<br>Department of Pharmaceutical Chemistry, Institute of Pharmacy, Nirma University, Ahmedabad, Gujarat, India<br>***3D-QSAR and Ligand Based Pharmacophore Modelling of Poly ADP-Ribose Polymerase 1 (PARP1) Inhibitors*** |
| 11.00 AM - 11.20 AM | High Tea |
| **Parallel Session –VIII B**<br>**Chairpersons: Prof. Dalip Kumar and Ms. Palak Parikh** | |
| **IL-55**<br>9.00 AM – 9.20 AM | **Sanjib Bhattacharyya**<br>Department of Pharmaceutical Science and Chinese Traditional Medicine, Southwest University, 2 Tiansheng Rd, Beibei Qu, Chongqing Shi, China<br>***Meeting the neurodegenerative disease at the junction of chemical, biological and behavioral science*** |
| **IL-56**<br>9.20 AM - 9.40 AM | **T. Narender**<br>Principal Scientist, Medicinal and Process Chemistry Division, CSIR-Central Drug Research Institute, Lucknow, India<br>***Chemical and Biological Exploration of Indian Medicinal Plants for Human Health Care*** |
| **IL-57**<br>9.40 AM - 10.00 AM | **Sushil Kumar Maurya**<br>Natural Product Chemistry and Process Development Division, CSIR Institute of Himalayan Bioresource Technology, Palampur, Himachal Pradesh, India<br>***Diversity Oriented Synthesis Approach for Macrocycles*** |

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| **IL-58**<br>10.00 AM - 10.20 AM | **Rodney A. Fernandes**<br>Professor, Chemistry Department, IIT Bombay, Powai Mumbai, India<br>***Unique Rearrangements of β-Aryloxyacrylates and δ-Hydroxy alkynones Under Mild Acid Catalysis*** |
| **IL-59**<br>10.20 AM - 10.30 AM | **Niyati Acharya**<br>Dept. of Pharmacognosy, Institute of Pharmacy, Nirma University, Ahmedabad, India<br>***Beneficial effects of Bergenin in Alzheimer's disease: In silico, in vitro and invivo evaluation*** |
| **O-20**<br>10.30 AM - 10.40 AM | **Areeg Anwer Ali**<br>Departmentof Clinical Pharmacy and Pharmacology, Rak College of Pharmaceutical Sciences, RAK Medical and Health Sciences University, Ras Al Khaimah, United Arab Emirates<br>***Assessment of Implementation of Antibiotic Stewardship Program in Surgical Prophylaxis at a Secondary Care Hospital in Ras Al Khaimah, United Arab Emirates*** |
| **O-21**<br>10.40 AM - 10.50 AM | **Ankita Rai**<br>School of Physical Sciences, Jawaharlal Nehru University, New Delhi, India<br>***Facile Cu (i)-induced Activation Of Furan To [4+2] Aza-diels-alder Reaction For Synthesis of Tetrahydropyridines*** |
| **O-22**<br>10.50 AM - 11.00 AM | **Bintu Kumar**<br>Department of Chemistry, Birla Institute of Technology and Science, Pilani, India<br>***Regioselective Synthesis and Photophysical Studies of Triazolyl Boron-dipyrromethene Complexes*** |
| 11.00 AM - 11.20 AM | High Tea |

## Parallel Session –IX A

**Chairpersons: Dr. Ravindra V. Singh and Dr. Mayur Patel**

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| **IL-60**<br>11.20 AM –11.40 AM | **Saranjit Singh**<br>Dean Professor & Head, Pharmaceutical Analysis, National Institute of Pharm. Education & Research, NIPER, S.A.S. Nagar (Mohali), India<br>***Model Informed Precision Dosing for Pediatric Population*** |

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| **IL-61**<br>11.40 AM - 11.50 AM | **Priti Mehta**<br>Dept. of Pharmaceutical Analysis, Institute of Pharmacy, Nirma University, Ahmedabad, India<br>***Human space medicine: stability issues with case studies and countermeasures*** |
| **O-23**<br>11.50 PM - 12.00 PM | **Pratibha Singh**<br>MFOS Laboratory, Department of Chemistry (Centre of Advanced Study), University of Rajasthan, Jaipur, Rajasthan, India<br>***Substrate-switched dual functionalization of alkenes: catalyst-free synthetic route for β-hydroxy and β-ketothioethers*** |
| **O-24**<br>12.00 PM - 12.10 PM | **Jobin Jose**<br>Department of Pharmaceutics, NITTE Gulabi Shetty Memorial Institute of Pharmaceutical Sciences, NITTE Deemed-to-be University, Mangalore, India<br>***Development, Characterization and Evaluation of Solid Lipid Nano Particles of Aloe Vera*** |
| **O-25**<br>12.10 PM - 12.20 PM | **Amol Prakash Pawar**<br>Department of Chemistry, BITS, Pilani, Rajasthan, India<br>***Enantio- and Diastereoselective Two-Pot Synthesis ofIsoquinuclidines from Glutaraldehyde and N-Aryl Imines with DFT-Calculations*** |
| **O-26**<br>12.20 PM - 12.30 PM | **Anu Manhas**<br>School of Chemical Sciences, Central University of Gujarat, Gandhinagar, Gujarat, India<br>***A novel attempt to explore the pharmacophoric space of the enzymatic proteome of Plasmodium falciparum using multicomplex-based pharmacophore modeling*** |
| **O-27**<br>12.30 PM - 12.40 PM | **Chandralata Bal**<br>Department of Chemistry, Birla Institute of Technology, Mesra, Ranchi, India<br>***Synthesis of Entecavir-Aristeromycin Hybrid Scaffold as anti-HBV Agents*** |

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| **O-28**<br>12.40 PM - 12.50 PM | **Rekha Bai**<br>MFOS Laboratory, Department of Chemistry (Centre of Advanced Study), University of Rajasthan, Jaipur, Rajasthan, India<br>***Highly Atom-Economic, Catalyst-free, and Solvent-free Phosphorylation of Chalcogenides*** |
| **O-29**<br>12.50 PM - 1.00 PM | **Mohd Jubair Aalam**<br>Department of Chemistry, University of Delhi, Delhi, India<br>***Development of Modified MacMillan based Ionic liquids as organocatalyst for Asymmetric Friedel-Crafts Reaction*** |

## Parallel Session –IX B

**Chairpersons: Prof. Athina Geronikaki and Dr. Nrupesh Patel**

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| **IL-62**<br>11.20 AM - 11.40 AM | **Siddharth Sharma**<br>Assistant Professor, Department of Chemistry, Mohanlal Sukhadia University, Udaipur, India<br>***Isocyanide Insertion Reactions: Our Findings*** |
| **IL-63**<br>**11.40 AM - 11.50 AM** | **Jigna Shah**<br>Dept. of Pharmacology, Institute of Pharmacy, Nirma University, Ahmedabad, India<br>***Involvement of PTEN expression in antitumour activity of febuxostat against 4-Nitro quinolone induced oral cancer in rats*** |
| **O-30**<br>11.50 AM - 12.00 PM | **Faraz Shaikh**<br>Department of Computer and Information Science, University of Macau<br>***LigTMap: Ligand and Structure-Based Target Identification and Activity Prediction for Small Molecules*** |
| **O-31**<br>12.00 PM - 12.10 PM | **Dinesh Kumar**<br>School of Chemical Sciences, Central University of Gujarat, Gandhinagar, India<br>***Visual Detection of Aqueous Health Hazard Ions*** |
| **O-32**<br>12.10 PM - 12.20 PM | **Jignesh P. Raval**<br>The Mandvi Education Society Science College (TMES), Mandvi, Gujarat, India<br>***Ultrasound promoted synthesis of Novel benzothiazinone derivatives and its pharmacological evolution*** |

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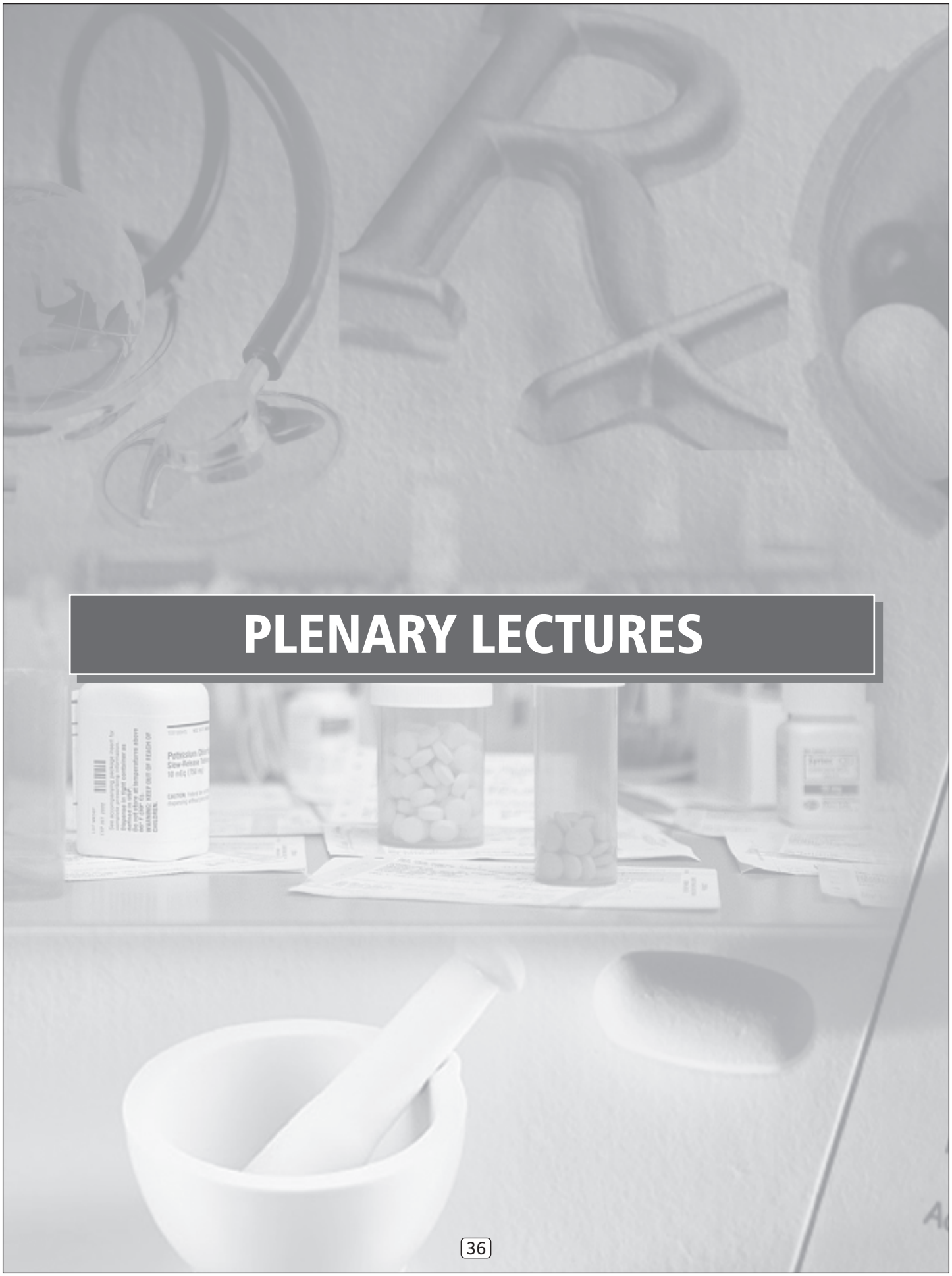
| **O-33**<br>12.20 PM - 12.30 PM | **Ravi Pal**<br>Center for DNA fingerprinting and diagnostics, Hyderabad, Telangana, India<br>***PPE2: a blessing in disguise*** |
| **O-34**<br>12.30 PM - 12.40 PM | **Anurag Zaveri**<br>Department of Biotechnology, KadiSarvaVishwaVidyalaya, Gandhinagar, India<br>***Isolation, screening and molecular characterization of multidrug resistant organisms, to screen and identify carbapenem producers, from operation theaters and Intensive Care Unitsof Ahmedabad*** |
| **O-35**<br>12.40 PM - 12.50 PM | **Ruby Kharwar**<br>Ashok and Rita Patel Institute of Integrated Study and Research in Biotechnology and Allied Sciences (ARIBAS), New Vallabh Vidyanagar, India<br>***8-Hydroxyquinoline-sulfonamid Hybride Ligand And Its Metal Chelates: Synthesis, Characterization, In Silico Admet, In Vitro Antimicrobial, Dna Interaction And Molecular Docking Studies*** |
| **O-36**<br>12.50 PM - 1.00 PM | **Vishnu Prabhakar Srivastava**<br>National Sugar Institute, Kanpur, Uttar Pradesh, India<br>***Direct Use of Sugarcane bagasse derived hemicellulose hydrolysate for the synthesis of C-glycosyl derivatives by the Lubineau Reaction*** |
| **O-37**<br>1.00 PM - 1.10 PM | **Khandhara Vraj**<br>M.Pharm in Regulatory Affairs, Department of Pharmaceutical Analysis Institute of Pharmacy, Nirma University, Ahmedabad, India<br>***Regulatory Compliance Management of Transdermal Patches*** |
| 1.10 PM - 2.00 PM | **Valedictory Session** |
| 2.00 PM –3.00 PM | Lunch |
| - End of Programme - | |



# PLENARY LECTURES

## PL-1

# Building Better Enzymes: Redesigning DNA Polymerases to Replicate Nucleobases in Expanded Genetic Alphabets

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### BIODATA

Nigel G. J. Richards is currently Professor of Biological Chemistry in the School of Chemistry at Cardiff University. Dr. Richards carried out his post-doctoral training at Columbia University, New York (1983-1985, with W. Clark Still) after receiving his Ph.D. in Organic Synthesis at Cambridge University in 1983 (with Ralph Raphael) and his B.Sc. in Chemistry from Imperial College, University of London in 1980. As a young researcher, he participated in the design and coding of the MacroModel® software package for modeling the properties of organic and biological molecules. He is well known for his work on the mechanistic enzymology of oxalate catabolism, and is the leading expert on asparagine synthetase, an enzyme that seems to lie at the heart of human cancer biology and neural development. These research efforts have been described in approximately 130 papers and numerous lectures worldwide. His most recent work is focused on studying the molecular properties of non-natural nucleobase pairs that can be used for the creation of organisms possessing expanded genetic alphabets. Prior to taking up his current position as a Professor of Biological Chemistry at Cardiff University, he was Professor and Department Head of Chemistry & Chemical Biology at IUPUI (Indianapolis, USA) from 2012-2015. He has also held positions at the University of Florida (1991-2012), where he obtained the rank of Full Professor and Distinguished Teaching Scholar, and the University of Southampton in the UK. He is a co-founder of the Florida-based company AP Lifesciences, LLC, which is seeking to develop novel diagnostic tools and therapies for the treatment of kidney disease. He is an elected Fellow of the American Association for the Advancement of Science, and a Fellow of the Royal Society of Chemistry.

### ABSTRACT

The development of "semi-synthetic" microorganisms possessing artificially expanded genetic information systems (AEGIS) will permit access to cells with novel phenotypes and biotechnological applications [1]. Non-natural nucleobase pairs that meet the size and/or hydrogen bonding complementarity rules of Watson-Crick base pairing include the complementary 2-amino-8-(1-beta-D-2′-deoxyribofuranosyl)imidazo [1,2-a]-1,3,5-triazin-[8H]-4-one (trivially known as P) and 6-amino-3-(2′-deoxyribofuranosyl)-5-nitro-1H-pyridin-2-one(trivially known asZ) nucleobase pair that is present in "hachimoji" DNA (Figure). As is true of naturally occurring (Watson-Crick) DNA, AEGIS DNA duplexes containing P:Z pairs interconvert easily between A- and B-helical forms [2,3]. In addition, B-form DNA tolerates the inclusion of multiple consecutive P:Z nucleobase pairs with minimal structural impact on the double helix when compared to duplexes containing only A:T or

G:C base pairs [4]. The high-resolution X-ray crystal structure of a KlenTaq variant has been reported [5] that incorporates the "hachimoji" P:Znucleobase pair with a similar efficiency to that seen for Watson-Crick nucleobase incorporation by wild type (WT) KlenTaq DNA polymerase. The variant polymerase differs from WT KlenTaq by only four amino acid substitutions, none of which are located within the active site (Figure).

*(A) Cartoon representation of the X-ray crystal structure of the variant KlenTaq polymerase in its binary complex (PDB: 5W6Q) [5] showing the location of P:Z in the active site. (B) The P:Z nucleobase pair. (C) Close-up of the polymerase domain showing the side chains of mutated residues, Val444, Ala527, Glu551 and Val832, in the Klentaq variant.*

This lecture will present new research aimed at extending the number of nucleobase pairs that can be used to encode proteins together with insights into how the presence of AEGIS nucleobases affects the structural properties of duplex DNA. I will also discuss structural and computational studies that elucidate the contributions of the four amino acid substitutions to the altered catalytic activity of the polymerase [6]. Computational methods have a clear role to play in systematically screening DNA polymerase variants capable of incorporating non-natural nucleobases thereby limiting the number that must be characterized by experiment.

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**PL-2**

## Batch and Continuous Flow Conversion of Biomass into Furan Derivatives

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### BIODATA

Dr. LEN has done his MSc in chemistry in 1992, PhD in chemistry in 1995, Post Doctorate in 1996. He joined as an assistant professor at University de Picardie jules verne, amiens, France in 1997, as full time professor at University de poitiers, francein 2004, at University de technology de Compiegne, France,in 2008,at University de technology de comoiegne, France,in 2011(first class) and at University de technology de Compiegne, france in 2017(exceptional class) and research in chimie paristech, France. His areas of expertise are fine chemistry from natural substances, chemistry and processes for the sustainable development, organic chemistry in green solvent, homogeneous, heterogeneous and micellar catalysis, continuous flow applied to organic chemistry, organic chemistry under microwave activation. He was awarded as the honorary life fellow of Indian society of chemists and biologists and of association of carbohydrate chemists and technologists India in2014. He was awarded as the fellow of the royal society of chemistry in 2015. He has been awarded the glycerine innovation research award of American oils chemist's society. He has been the co-authors of 176 articles in peer reviewed journals. He has 9 patents and 8 book chapters to his credit.

### ABSTRACT

The concepts of sustainable development, bio-economy and circular economy are increasingly being applied to the synthesis of molecules of industrial interest. Among these molecules, furfural as a platform molecule is the subject of various research approaches to improve its synthesis and productivity, and also to extend its transformation for the production of molecules of interest. Due to the current momentum in promoting green chemistry for sustainable development, chemists have recently established catalytic reactions based on alternative technologies such as continuous flow.

The present study showed recent breakthroughs obtained in the production of furfural [1-10], hydroxymethylfuran [11-13], methylfuran [11-13], methyl levulinate [14] and □-valerolactone [15] starting from lignocellulose in the presence of homogeneous catalysts and heterogeneous catalysts using either batch process or continuous flow process.

Various reaction parameters in dependence of time such as temperature, catalyst and feedstock loadings as well as solvent types have been optimized.

Conception, synthesis and physico-chemical properties will be detailed.

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## PL-3

# New Strategies for Design and Development of Neutral and Hydrophobic Extrinsic Fluorescent Probes

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**BIODATA**

Prof. Anil Kumar Singh earned his PhD in 1978 from IIT Kanpur. After post-doctoral stints at Florida State University (Tallahassee, USA), University of Hawaii at Manoa (Honolulu, USA), and Columbia University in the city of New York (New York, USA) he returned to India in 1982 to join University of Roorkee as a Lecturer in chemistry. In January 1983, he moved to IIT Bombay as Lecturer in Chemistry where he subsequently rose to the rank of full Professor in 1990. During 1989, he was visiting scientist in the Département de Chimie, Université de Montréal, Canada. He superannuated from in IIT Bombay in April 2017 as Professor in the Highest Academic Grade (HAG) scale. He has been associated in multiple capacities with several educational institutions, R&D organizations, scientific societies, administrative and policy making bodies, to drive organizational excellence. As member of the Board of Governors, Governing Council, University Court, Executive and Academic Councils, Senate, Peer Group Member, Editor and Editorial Board Member, Reviewer, Adjudicator, etc., Prof. Singh has contributed to the advancements and development of higher education and policy formulation across the country. At IIT Bombay he has served as Head of Chemistry Department, Convener of Post-Graduate Academic Performance Evaluation, Chairman of IIT-JEE, Dean of Academic Programs, and Convener of IIT Gandhinagar Cell. Prof. Singh has also served as Director of CSIR-Regional Research Laboratory (present-day North-East Institute of Science & Technology) Jorhat, and as Vice-Chancellor of two major Universities, the Bundelkhand University and the University of Allahabad (a Central University in Prayagraj). His research interests and experiences are equally vast and varied, which broadly span the areas of organic and bioorganic chemistry, chemical biology, medicinal chemistry, natural products, photochemistry, photobiology, molecular spectroscopy, and nanoscience. He has contributed towards: i) photocontrol of structure and reactivity of organic and biomolecular systems, in particular, in building molecular understanding of structure and mechanism of function of Rhodopsins – the retinal-bound biological photoreceptors involved in sensory and energy transductions, ii) excited state chemistry of linear polyenes, iii) photochemistry of organic compounds in organized assemblies, iv) photocatalytic routes to novel heterocyclic systems, v) design and development of: fluorescent molecular probes, caged compounds, phototriggers and photoswitches, vitamin E-based radioprotectants, vitamin A analogues as anticancer compounds, organic nanoparticles (ONPs) and fluorescent ONPs of low molecular weight organic compounds.

**ABSTRACT**

Fluorescent probes (FPs) are molecular entities, extensively used for studying the microenvironments by applying different techniques of fluorescence spectroscopy [1,2]. Among their myriad of uses, FPs are used in probing structure, biomolecular binding and interactions, cellularimaging,biological events and dynamics, and discover new drugs, etc. to name but a few. FPs can be broadly grouped in two categories: i) intrinsic FPs, which are primarily based on biomolecules like the amino acids, proteins, antibodies, etc., and ii) extrinsic FPs, which are based on synthetic small organic molecules, select proteins, quantum dots, etc. In general, a good fluorescent probe (FP) is characterized by its maximum λabs and λem wavelength, high extinction coefficient, high fluorescence Φf, proper interaction with the host system, large Stokes' shift, ability to undergo change in its fluorescence behavior in response to change in its surroundings, etc. Both, intrinsic as well as extrinsic, FPs suffer from a few disadvantages. For instance, in the case of intrinsic FPs the disadvantage could be due to probe's inadequate fluorescence efficiency, wavelength range, sensitivity, ability to provide proper information in the presence of multiple fluorophores in the system. Similarly, in the case of a biological extrinsic FP the problem could arise due to probe's generally large molecular size, artifactual response, photoinstability. To alleviate some of the problems, small organic molecules bearing appropriate fluorophore have been considered for use as extrinsic FP. These probes are based on several structural frameworks such as naphthyl, fluorescein, pyrenes, anthraquinones, triarylmethane derivatives, oxadiazoles, cyanine derivatives, benzoxathioles, tetrapyrrole derivatives, acridine derivatives, xanthenes, coumarins, etc. However, several of these probes also suffer from shorter λabs and λem wavelength, and some of these are charged, hydrophilic and have self-ionic behaviour, which limits their biological and medical applications. The fluorescence information obtained from the charged FPs may be due to ionic/ secondary Columbic interactionsthat these probes undergo with the host, and this interferes with the fluorescence studies and complicates fluorescence data interpretation.

Considering the aforesaid, attempts have been made towards designing neutral and hydrophobic extrinsic FPs based on small synthetic organic molecules. In one such attempts, the efficacy of α,ω-diarylpolyenes as neutral, hydrophobic extrinsic FP has been explored [3]. It is based on the fact that dipolar excited states are involved in the photoprocesses of linear polynes [4]. Thus, fluorescence behaviour of a number of diaryl ethenes, diarylbutadienes and styryl indoles have been examined. It has been found that these compounds are capable of exhibiting efficient solvent polarity- and substituent-dependent fluorescence, despite the fact that ethenes and linear polyenes in general do not fluoresce due to availability of alternate channel for excited state energy dissipation, e.g.through C=C isomerization. It has been further observed that in general compounds bearing donor or acceptor groups fluoresce from their locally excited state, and those substituted with both strong donor and acceptor groups show solvent polarity- and substituent-dependent dual fluorescence from their conformationally relaxed intramolecular charge transfer excited state (Fig.1). Interestingly, the styrylindoles also exhibit aggregation-induced enhanced

fluorescence in the solid state due to specific molecular arrangement in the crystal. These compounds also show dramatically enhanced fluorescence in the nanoparticle forms. The efficacy of these compounds as neutral, hydrophobic FPs is amply demonstrated by FP studies of proteins and micelles.Attempts are also underway to design two-photon excitable (TPE) chromophores, which owing to lower energy of employed photons, cause less photo-damage and photo-bleaching to the biological systems than the corresponding one-photon microscopy. TPE compounds have brought new dimensions to fluorescence probing, wherein lies a great scope for design and development of TPE probes for biological applications.

This talk, while presenting a detailed discussion of the aforesaid aspects of FPs, would accentuate on the importance of detail mechanistic knowledge of the excited state in FP design and would uncover design and development of neutral, hydrophobic extrinsic fluorescent probes based on excited state stereo-electronic considerations of synthetic α,ω-diarylpolyenes.


*Fig. 1. LE, ICT and CRICT fluorescent excited states of a,w-diarylpolyenes.*

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**PL-4**

# Cytochrome c Oxidase Oxygen Reduction Reaction induced by Cytochrome c on Nickel-Coordination Surfaces based on Graphene Oxide in Suspension

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## BIODATA

Prof. Vittadello received his Ph.D. in Chemical Sciences in 2003 from the University of Padua in Italy with Prof. Vito Di Noto. In his Ph.D. thesis, he focused on the synthesis and spectroscopic/electrochemical characterization of cationic polymer networks for energy storage and potentiometric transductor applications. He spent two years (2003-2005) as a post-doctoral fellow in the lab of Prof. Steve Greenbaum at the City University of New York - Hunter College, working on solid state NMR spectroscopy of ion and proton conducting materials for electrochemical power sources (batteries and fuel cells), ion exchange membranes and silicon-based aerogels. He was a post-doctoral research associate at the Materials Science and Engineering Department at Rutgers, The State University of New Jersey (2005-2008) with Prof. Ahmad Safari, working on the development of an energy research program including free-form fabrication of solid oxide fuel cells, direct-write of microbatteries, low temperature fuel cells and piezo-electric materials. While at Rutgers, he was awarded funding by the Rutgers Energy Institute (2007-2008), and worked with Prof. Paul Falkowski on research in photosynthetic bio-hydrogen production. Prof. Vittadello is primarily interested in the investigation of fundamental physical-chemical properties of nanomaterials and biomaterials with potential applications in the fields of energy storage/generation, biotechnology and radio-remediation. Throughout his research career, he has held teaching positions at CUNY - Borough of Manhattan Community College, The College of New Jersey and at Rutgers University. In the Fall of 2008 he joined the faculty at CUNY - Medgar Evers College as an Assistant Professor of Chemistry with a joint appointment as a visiting faculty at the Rutgers Energy Institute. He was appointed (Fall 2008) to the doctoral faculty of The Graduate School and University Center's Ph.D. Program in Chemistry of the City University of New York. He was promoted to tenured Associate Professor (Fall 2015) and then to Professor (Fall 2019). He has held visiting appointments at Rutgers University and Princeton University.

## ABSTRACT

In vitro investigations on isolated components of the mitochondrial electron transport chain are expected to shed new light on the plethora of bioenergetic functions carried out by mitochondria, affecting the performance of living organisms. This study is focused on assessing the biocompatibility of graphene oxide (GO) derivatives with His-tagged cytochrome c oxidase (CcO),

expressed and purified from Rhodobactersphaeroides using the Gibson assembly method. As prepared GO was enriched with carboxylic acid groups yielding carboxylated GO (CGO). CGO was functionalized with nitrilotriacetic acid (NTA) yielding CGO-NiNTA, in the presence of Ni2+ ions. We investigated the reaction of horse-heart cytochrome c (Cyt c) with free CcO and CGO-NiNTA-CcO coordination complexes in suspension. Kinetic studies by UV-Visible absorption spectroscopy confirmed that free CcO oxidizes Cyt c and provided a similar indication for immobilized CcO. However, oxygen-consumption measurements using a Clark-type electrode suggested that CGO-based supports are capable of oxygen reduction reaction (ORR), especially in the presence of Ni2+ coordination centers. The ORR caused by immobilized CcOcould be clearly distinguished from that of CGO-NiNTA in the presence of Cyt c and dithiothreitol (DTT) as a sacrificial reducing agent. The results indicate that while the protein content is about 3.7 ‰ by mass with respect to the support, the contribution to the oxygen consumption activity ranges from 39.3% to 71.0%, depending on the concentration of DTT. This finding indicates that the support stabilizes the free enzyme which, while capable of Cyt c oxidation, is unable to carry out oxygen consumption in solution under our conditions. The turnover rate was as high as 250O2 molecules per second per CcO unit.

## PL-5

# Dithioloquinolinethiones as new potential multitargeted antibacterial and antifungal agents: synthesis, biological evaluation and molecular docking studies

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**BIODATA**

Prof. Athina Geronikaki was born on 9 August, 1949, Tirana, Albania. She currently works at School of Pharmacy in Department of Pharmaceutical Chemistry of Aristotelian University of Thessaloniki as an Assistant professor. She has a major experience related to Chemistry of natural products - isolation, determination of structure. Chemistry of biologically active compounds - synthesis, determination of structure, evaluation of biological activity, determination of physico-chemical constants such as lipophilicity. She received grant from Ministry of Health (Greece), 1992-1994 for Synthesis of thiazole derivatives with prospective local anaesthetic activity, Evaluation of local anaesthetic activity, neurotoxicity and toxicity of synthesized compounds with special physiological methods and Computer-assisted combinatorial design, synthesis and testing of new cognition enhancers, anxyolitics and anticonvulsants. She is a Member of Greek Chemical Sosiety and Russian Devision of QSAR and Modelling, Heterocyclic Chemistry Sosiety. She has also been awarded with medal for development of International collaboration by the Scientific Partnership Foundation. She has written books titled "Inorganic Pharmaceutical Chemistry", "Organic Pharmaceutical Chemistry. Vitamines", "Organic Pharmaceutical Chemistry. Hormons" and "Lectures on pharmacognosy". Prof. Athina has 41 articles published and 30 announcements in international conferences.

**Abstract:**

Herein we report the design, synthesis, molecular docking study and evaluation of antimicrobial activity of ten new dithioloquinolinethiones. The structures of compounds were confirmed by 1H-NMR, 13C-NMR and HPLC-HRMS. Before evaluation of their possible antimicrobial activity prediction of toxicity was performed. All compounds showed antibacterial activity against eight Gram positive and Gram negative bacterial species. All compounds appeared to be more active than ampicillin and almost all than streptomycin. The best antibacterial activity was observed for compound 8c 4,4,8-trimethyl-5-{[(4-phenyl-5-thioxo-4,5-dihydro-1,3,4-thiadiazol-2-yl)thio]acetyl}-4,5-dihydro-1H-[1,2]dithiolo[3,4c]quino lone-1-thione). The most sensitive bacterium En.cloacae followed by S. aureus, while L.monocytogenes was the most resistant. All compounds were tested for antifungal activity also against eight fungal species. The best activity was expressed by compound 8d (5-[(4,5-Dihydro-1,3-thiazol-2-ylthio)acetyl]-4,4-dimethyl-4,5-dihydro-1H-[1,2]dithiolo[3,4-c]quinoline-1-thione). The most sensitive fungal was T. viride, while P. verrucosum

var. cyclopium was the most resistant one. All compounds were more potent as antifungal agent than reference compound bifonazole and ketoconazole. The docking studies indicated a probable involvement of E. coli DNA GyrB inhibition in the anti-bacterial mechanism, while CYP51ca inhibition is probably responsible for antifungal activity of tested compounds. It is interesting to mention that docking results coincides with experimental.

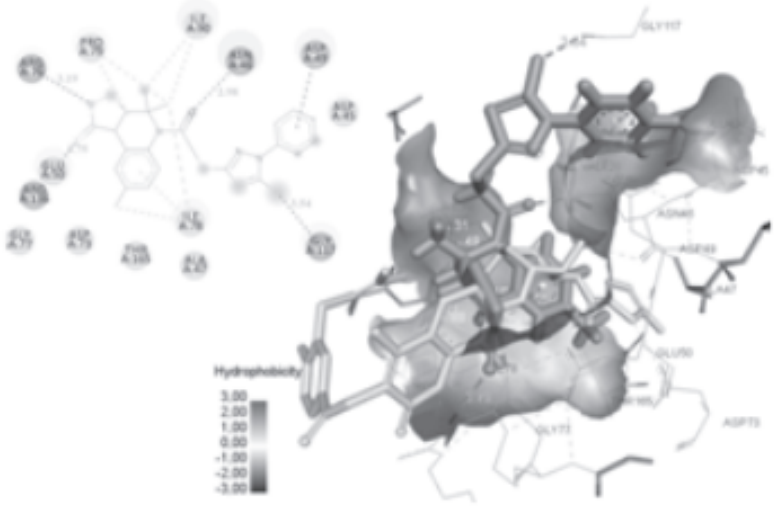


*Figure. Docked conformation of the most active compound 8c (green) and Clorobiocin (yellow) in E. coli DNA GyrB.*

## PL-6

# Effective use of a bioisosteric toll based on hydroxyazolesystems to design inhibitors of *human*Dihydroorotate Dehydrogenase (*h*DHODH) and of other oncological targets

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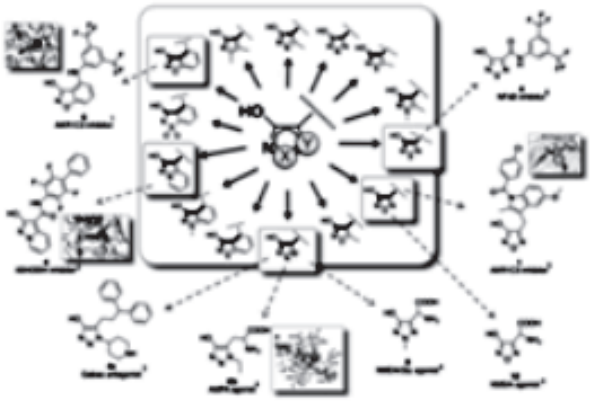
### BIODATA

Dr. Marco Lolli is presently serving as an Aggregate Professor in Medicinal Chemistry, University of Turin, Torino, Italy and CEO at Beenext S.R.L. After completing master in chemistry from University of Milan, Italy in 1990, he visited the Ohio State University, USA (1993), and University of Wisconsin at Madison USA (1993 - 94) as a research Fellow. In between, he was a Team Leader researcher at Bracco Industria Chimica S.p.a, Research and Development Division, Milano (1991 - 96). Subsequently, he has served as an Assistant Professor in Medicinal Chemistry (C07X/CHIM08) Faculty of Pharmacy - UniTO (Torino). In 2012, he has served as a Primary investigator (PI), MEDSynth Medicinal Chemistry group, DSTF (UniTO). MEDSynth is involved in Drug Design across several collaborative projects with academic and pharmaceutical industries worldwide. The research lines are directed in particular in the development of small molecules active on neglected diseases (malaria, leishmaniasis) and cancer. In the falls 2013, he became CEO of a UniTo SpinOff named beenext (www.beenext.it). He has several Presentations and funded projects to his credits which include PRIN 2016, ITN Marie Curie Project, San Paolo Project name a few. He has 4 patents and more than 40 publications to his credit.

### ABSTRACT

During the design of drug candidates, bioisosterism is often the winning approach to improve potency/selectivity, achieve optimal ADME-T profiles and acquire novel intellectual property (IP). In some ways, the eternal confrontation between the concepts of isostere (defined by a chemistry-related context) and bioisostere (defined by a biological-related context) is well representative of the deep soul of a Medicinal Chemist. The frequent absence of correlation of biological activity between isosteres is often a brutal remind of how the translation of a chemistry-based design into a living organism context could be challenging.

In the last fifty years, acidic hydroxyazoles, because of their isosteric connection to the carboxylic group, represent an efficient tool for designing active compounds with added IP value. Recently, we and other groups, while expanding the chemical space of these hydroxylated heterocycles, systematically explored these systems in the framework of hit-to-lead optimization processes. This contribute, while covering the acidic hydroxyazoles research field and detailsome of their most



recent application in Medicinal Chemistry (see figure), will be major focused on the design of human dihydroorotate dehydrogenase (hDHODH) inhibitors. Being already validated as therapeutic target for the treatment of autoimmune diseases, in the fall 2016 hDHODH was associated to acute myelogenous leukemia(AML), a disease that has not seen a new therapies in four decades.This discovery opened a totally new prospective in hDHODH and AML field. Starting from brequinar, one of the most potent known hDHODH inhibitors, and by applying innovative scaffold-hopping replacement, we recently designed a novel generation of potent and selective hDHODH inhibitors presentingnano-molar activity on theisolatedhDHODH able to restore the myeloid differentiation in leukemia cell lines, in a range superior then brequinar itself. Theoretical design, modeling, synthesis, SAR, X-ray crystallographic poses, biological assays (cell viability, proliferation, cytotoxicity, immunosuppression, myeloid differentiation), ADME and in vivo toxicity and efficacy are here presented and discussed.

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## PL-7

# Nano-Encapsulation in Herbal Nutraceutical Applications

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Dr A.P. Attanayake currently serves as a Senior Lecturer in Biochemistry and is the Head of the Department of Biochemistry. She has done her B.Sc in Chemistry (Hons) from University of Peradeniya, PhD in Biochemistry from University of Ruhuna, and MI Chem C. Her Research interests include bioactivity studies of medicinal plant extracts, isolation and characterization of antidiabetic, antihyperlipidaemic and antioxidant compounds, antidiabetic mechanisms of natural products; beta cell regenerative effects in animal models and in cell cultures, immunohistochemistry and histopathology in the pancreas of diabetic animal models and chemical standardization of traditional plant remedies.

### ABSTRACT

Nutraceuticals are molecules which shade the frontier between drugs and food. Molecules used in nutraceuticals possess interesting and often potent biological activities but also can be scaffolds for synthetic derivatives, significantly reducing the time and cost of development of new molecules with therapeutic potential. Nutrients, herbals and dietary supplements are major constituents of plant based nutraceuticals which make them instrumental in maintaining health, act against various diseases and thus promote the quality of life.

Nano-encapsulation is an innovative approach that has potential applications in nutraceutical research. Nanoparticles have proved as one of the logical and encouraging tools for the rapid delivery of drugs/neutraceutcials in controlled and targeted manner. The nanoparticles have the potential to increase solubility due to a combination of a greater surface area and large interfacial adsorption of the core compound. Other benefits of the utilization of nanoparticles include enhanced bioavailability, improved controlled release and better precision targeting of the encapsulated materials. Accordingly, encapsulated food compounds /formulations enhance pharmacokinetic properties, bioavailability and drug targeting in different pathological conditions in vivo. Phyto-derived bioactive compounds have been loaded into nanoparticles for oral delivery in various animal models of chronic diseases, and the results have shown improved stability, bioavailability and sustained bioactivities.Recently, research work has been increasingly focused on designing formulations consisting of nanoparticles constituted from different polymers and containing encapsulated plant extracts in order to combine the diversity of bioactivities of plant

extracts and the advantages offered by the nanoparticles. Indeed, the use of nanoparticle based formulations to improve biopharmaceutical and chemical properties of plant based nutraceuticals is of current interest worldwide. Delivery systems for hydrophilic bioactive materials or plant extracts include several generally recognized as safe (GRAS) approved materials like lipids, polymers, carbohydrates, proteins that can be used to fabricate nano/micro carrier; however, only a few of them are recommended for regular consumption.In comparison with conventional formulations, nano-formulations can increase the solubility of constituents, reduce the therapeutic dose, and improve absorption of the active components. Nano-nutraceutical formulations targeting the management of chronic diseases would essentially exert particular bioactivities with enhanced targeted delivery to the sites of interest. The potential applications and beneficial effects of nano-encapsulation in herbal nutraceutical formulations in present and future scenarios will be discussed.

## PL-8

# Post-condensations of Ugi Adducts: A Step Towards Higher Diversity

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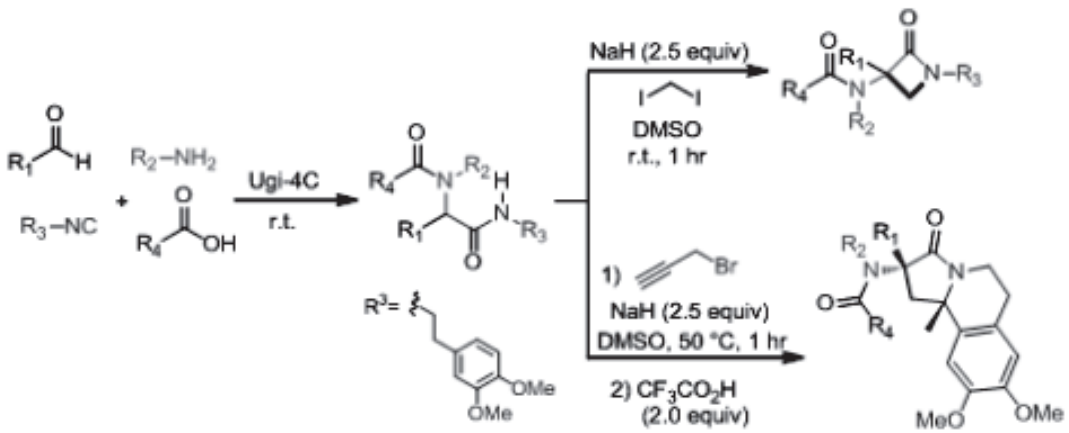
**BIODATA AWAITED**

**ABSTRACT**

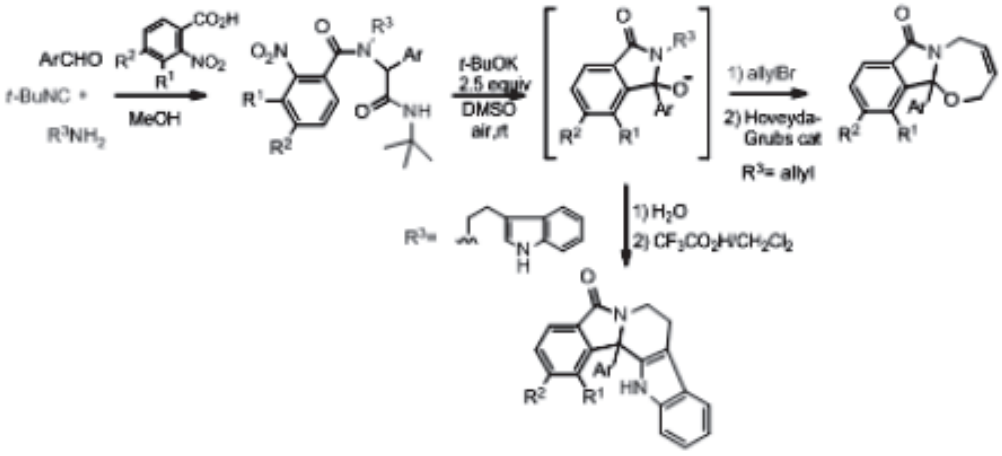
Ugi and Passerini Post-condensations are modifications of Ugi and Passerini adducts that traditionally involve intramolecular reactions leading to more or less complex heterocyclic scaffolds. We have been interested in the last few years by performing intra and intermolecular reactions playing on the peptidyl positions of Ugi adducts. While intramolecular reaction at this position are well documented, intermolecular reactions are much more difficult for steric reasons. The formation of amide dianions of Ugi adducts has allowed us to achieve easy room temperature alkylations which have been extended to the disclosure of cascades using bielectrophilic derivatives such as diiodomethane or propargyl bromide (Scheme 1).[1]




Scheme 12

In diversity oriented approach towards heterocycles, the amide moiety coming from the isocyanide is often not considered as the most valuable part as the number of commercially available isocyanides is relatively limited. It is thus interesting to extent the scope of Ugi reactions through transformation of the isocyanide moiety. Working on intramolecular reactions at the peptidyl position, we have proposed an approach involving a fragmentation of the Ugi adduct with removal

of the amide as an isocyanate. The resulting loss of diversity may be compensated by a further functionnalisation (Scheme 2).[2]




Scheme 2

**References:**

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2. S. Baaziz, M. DolèKerim, M. Cordier, L. Hammal, L. El Kaim, Synlett, 2018, 29, 1842-1846. M. Kurva, M. DoléKerim, R. Gàmez-Montaño, L. El Kaim, Org. Biomol. Chem., 2019, 17, 9655-9659.

## PL-9

# Understanding the biology and designing new therapeutic approaches for the treatment of male hypogonadism

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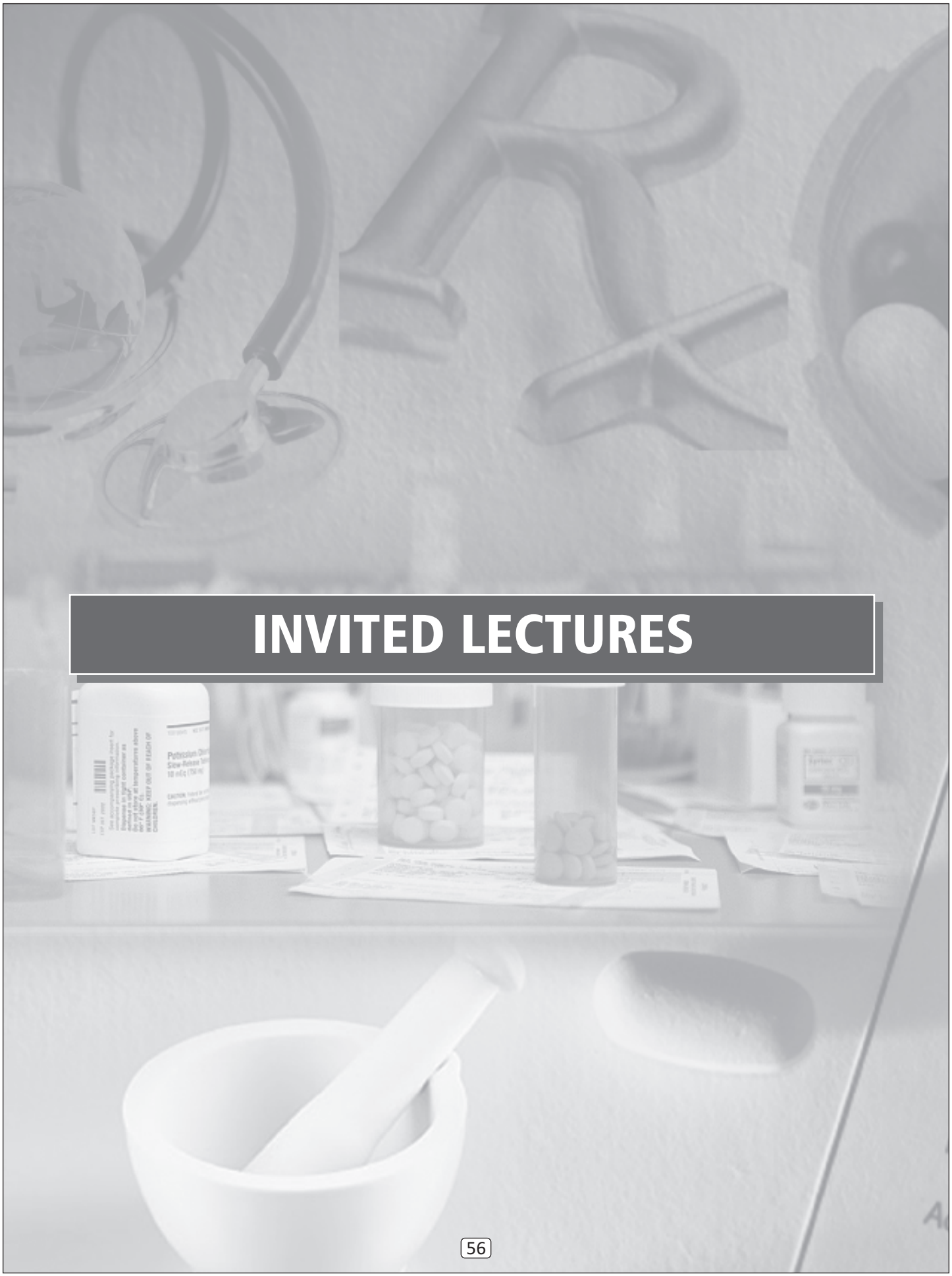
### BIODATA

Vassilios Papadopoulos, DPharm, PhD, DSc (hc) is the Dean of the School of Pharmacy at the University of Southern California. Dr. Papadopoulos holds the John Stauffer Dean's Chair in Pharmaceutical Sciences and is Professor of Pharmacology and Pharmaceutical Sciences at the University of Southern California.Dr. Papadopoulos is a graduate of the School of Pharmacy of the University of Athens. He completed his PhD in Health and Life Science at Université Pierre et Marie Curie, Paris and post-doctoral studies in France and Australia. In 1988, he joined the faculty of Georgetown University School of Medicine, where he rose through the ranks to become Professor and Chair of the Department of Biochemistry and Molecular Biology, Associate Vice President for Research and then Director of the Biomedical Graduate Research Organization at Georgetown University Medical Centre. In 2007, he moved to Montreal as the Executive Director and Chief Scientific Officer of the Research Institute of the McGill University Health Centre, and Professor of Medicine at McGill University where he held the Canada Research Chair in Biochemical Pharmacology and the Phil Gold Chair in Medicine.His research focus is on the pharmacology of steroid hormone biosynthesis in relation to endocrine pathologies, male reproductive disorders, neuropathologies and cancer. He has published over 350 papers, holds numerous patents and serves on advisory committees of various U.S., Canadian, European and other government agencies, foundations and corporations. Dr. Papadopoulos is an elected member of the French National Academies of Pharmacy and Medicine, a fellow of the American Association for the Advancement of Science, the American Association of Pharmaceutical Scientists, and the Canadian Academy of Health Sciences.

### Abstract

Testosterone (T), synthesized by testicular Leydig cells (LCs), is critical for male developmental and reproductive functions, and contributes significantly to quality-of-life and well-being. Reduced serum T is common in aging men, and also occurs in men diagnosed with idiopathic infertility, orchitis, genital trauma, spinal cord injury and testicular torsion, and after chemotherapy or irradiation. Reduced T is associated with mood changes, fatigue, depression, decreased lean body mass, reduced bone mineral density, increased visceral fat, metabolic syndrome, cardiovascular disease, decreased libido, and erectile dysfunction. T replacement therapy (TRT) is used clinically to

restore T levels. However, there are alarming reports of possible side-effects associated with TRT, making it desirable to develop additional strategies for increasing T. Unfortunately, there are major gaps in our knowledge of the mechanisms involved in T production and in the changes leading to hypogonadism, making it difficult to develop drugs that might positively affect T synthesis. In this presentation Dr. Papadopoulos will present an overview of recent advances in understanding the mechanisms underlying T biosynthesis in normal and hypogonadal testis that paved the way for the identification of molecular targets and the development of novel pharmacological and stem cell strategies to increase serum T levels by restoring T production in LCs.



# INVITED LECTURES

## IL 1

### Future of medicine in genomic era: New role for the teachers

***Keshav Deo***
*Executive Director, Almelo Private Limited, Hyderabad, India*
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**BIODATA**

Dr. Keshav Deo is presently Executive Director at Almelo Private Limited, Hyderabad. Dr. Deo previously held the positions of increasing responsibilities within the research, process development and manufacturing of various Indian pharma industries. He started his carrier from Lupin followed by Sun Pharma, Dai-Ichi Laboratories, Ranbaxy, Alembic Limited and Wockhardt Limited. Dr. Deo is also life member of various national, international chemical research societies and also recognised supervisor for Ph.D degree in various Indian universities.He is Board member for various pharma industries and has more than 330 patent applications globally to his credit. Prior to joining Lupin, Dr Deo has completed his Ph.D degree from Central Drug Research Institute, Lucknow , India in 1989 under the direction of Dr. D. S. Bhakuni. He earned his master degree at Agra University, Agra in 1985. His research interests include chemo &regio selective reductions, asymmetric catalysis / Biocatalysis and insightful process development of significant active pharmaceutical ingredients.

## IL 2

### Cyclo Olefin Polymer, The New Age Material for Medical Application by Zeon: Outline of Zeon Medical Product

***Shipra Chauhan***

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**BIODATA**

Dr. Shipra Chauhan working as chief scientist in ZEON cooperation at Tokyo, Japan. She has completed her PhD from Hokkaido University, Japan with collaboration National Institute for materials science, japan. She has received Post-Doctoral Fellowship from National Institute for material science. Tsukuba, Japan. She is also Visiting Researcher at University of Queensland, Australia. She has also received junior research fellowship and NEDO fellowship. She is awarded for encouragement of research in 25th annual award meeting of MRS-J at Yokohama, Japan. She has 3 international patent and 9 publication with 11 proceeding.

## IL 3

# Global Healthcare Challenge of Drug Resistance: Moment of Truth and Future Prospects

***RameshBabu Boga***
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*BogaR Laboratories, Peddapuram-533437, E.G. Dt., A.P., INDIA*

**BIODATA**

Dr. RameshBabu Boga is the President and Managing Director of BogaR Laboratories in USAand India, and he is Adjunct Professor in VIT University, Vellore (Tamil Nadu) and Shri VishnuCollege of Pharmacy, Bhimavaram (Andhra Pradesh). In that past, he was adjunct faculty inDepartment of Pharmacology at Emory University School of Medicine, Atlanta (USA). Dr. Bogareceived his Ph.D., (1990) from Indian Institute of Technology (IIT-Madras), Chennai (India) andhad his pre-doctoral and postdoctoral experience at Kyoto University (Japan) and University ofMichigan Medical School (Ann Arbor, USA). He was appointed as Research Assistant Professorin Department of Biochemistry at Medical college of Wisconsin (Milwaukee, USA), and later hetook several industry positions in pharma and diagnostic companies before starting his owncompany, BogaR Laboratories in 2007.

Dr. Boga is a diversified scientist and entrepreneur, and his contributions are significant inorganic chemistry, biochemistry, medicinal chemistry, clinical chemistry, and food chemistry. Hehas published 22 research articles, and obtained over 23 US patents and filed 6 Indian patents.His research contributions are significant in developing Nitric Oxide Synthase (NOS) inhibitors,selective neuronal NOS inhibitor of Vinyl-L-NIO, and also other inhibitors for kinases, foodmycotoxins, and TB. In the area of sensors and diagnostics, he has contributed severalpatented technologies for hormonal and bone-resorption biomarkers, bacterial vaginosis, H.Pylori infection, and ovulation. He is the member of American Chemical Society (ACS) andAmerican Society for Biochemistry and Molecular Biology (ASBMB). His current focuses arepromotion of science and its importance to younger generation in India by visiting variousuniversities/institutions and also involving more of the industry-academic collaborations.

**IL 4**

## Novel Diaminoquinazolines (DAQs) as an effective inhibitor of M. Tuberculosis, and a potential drug candidate for treatment of Tuberculosis (TB)

***Ravindra V. Singh***
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**BIODATA**

Dr. Ravindra received his PhD in the area of Synthetic Organic and Medicinal Chemistry from University of Lucknow. His thesis was entitled "Synthesis and biological activity of 2 substituted and 2, 3-disubstituted 1, 4-naphthoquinone and related aryl glycosides". He started his industrial research career with Lupin Pharmaceuticals India Ltd, Pune, one of the world's largest manufacturers of Tuberculosis drugs and fastest growing Generic pharmaceutical company globally. He joined GE India Technology Centre, Bangalore in 2002 and worked on developing innovative chemistries and products for advanced material research programs. In 2007, he joined Jubilant Life Science, Noida, one of the largest CROs in the country. At Jubilant, his research group was involved in collaborative medicinal chemistry research programs e.g. synthesis and characterization of intermediates and final products to support multinational pharma, biotech and healthcare industries. In Merck, his group is working on developing new molecules, innovative synthetic tools and technologies which supports global research community working in drug discovery, advanced materials research and other emerging research areas. His group is also responsible for handling custom synthesis projects from global innovator companies in pharmaceutical, biotech, agrochemical and materials chemistry. He has been an invited speaker at many National and InternationalConferences and Symposiums. Dr. RavindraisFellow of the Royal Society of Chemistry (FRSC, UK. Membership No. 562967), Life Member of Materials Research Society of India (MRSI, LMB 2264), Expert Reviewer of Book Proposals for CRC Press (Taylor & Francis Group), Springer International Publishing AG and WILEY (John Wiley & Sons, Inc., USA), Expert Reviewer for Journal of Photochemistry&Photobiology, B: Biology (Elsevier) and Journal of Cheminformatics (Springer). He published several articles in various peer-reviewed international journals and, Co-inventor in many patents (> 15 patents- US, WO and EP). He is Memberof the AcademicCouncil (UG and PG courses- Physical & Life Sciences), Jyoti Nivas Pre-University College, Bangalore, INDIAandExternalMemberoftheDoctoralCommittee for the PhD students at VIT University Vellore, Tamil Nadu, INDIA.He is Six Sigma Green Belt certified professional.

## IL 5

## Design, Synthesis and Biological Evaluation of Small Molecules targeting Histone Deacetylase Inhibitors (HDAC) as Anti-Cancer Agents

***Manjunath Ghate***
*Institute of Pharmacy, Nirma University, Ahmedabad*
*Email: Manjunath.ghate@nirmauni.ac.in*

**BIODATA**

Dr Manjunath Ghate is the Dean and Director of the Institute of Pharmacy, Nirma University, Ahmedabad, India. He obtained his PhD degree (2003) from Karnatak University, Dharwad, India, following which he worked as a Postdoctoral Researcher at National Dong Hwa University, Hualien, Taiwan; and Changwon National University, Changwon, South Korea (2003-06). During his tenure at Changwon National University, Changwon, South Korea (2005-06) he also worked as a Research Professor. In his academic career, he undertook four projects that he won from the Departments of Science and Technology: SERB- DST, Indo Bulgarian Collaborative project; GUJCOST and DST-FIST. He was a Visiting Professor, Southwest University, Chonquing, China (May 2018 and July 2019). His primary domains of expertise are design, synthesis of new molecules for Cancer, Tuberculosis and Diabetes. Among his academic recognition are: The prestigious 'Best MPharm Thesis award' by Rajanjibhai Foundation twice in 2010 and then again in 2018; and the IPER's Best Principal of the Year 2018 by the Association of Pharmacy Teachers of India 2018. He has made presentation in several conferences in India, US, China and Bulgaria upon invitation. He has to his credit, several published papers in peer-reviewed international journals and conference presentations in Germany, South Korea, China, Canada and the United States of America. He has teaching and research experience of 22 years

## IL 6

## A Molecular Rotor Possessing a Cl-Pd-Cl "Spoke" on a Se-Pd-Se "Axle": Efficient Catalyst for Regioselective C-5Arylation of Imidazoles

***Hemant Joshi****
*Department of Chemistry, Central University of Rajasthan, Bandarsindri, Rajasthan*
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**BIODATA**

After obtaining master's degree in Chemistry from Malaviya National Institute of Technology (MNIT) Jaipur Rajasthan In 2010, Dr. Joshi started his research journey as a doctoral research scholar at Indian Institute of Technology (IIT) Delhi, India under the guidance of Professor Ajai K. Singh,

where he worked on thesis entitled "Organochalcogen tailored nanoparticles and metal complexes in catalysis of organic reactions". He was awarded with doctorate degree in Oct. 2015. After his doctorate degree Dr. Joshi joined research group of Prof. John A. Gladysz at Department of Chemistry, Texas A&M University, College Station, USA as postdoctoral research associate. During postdoctoral research his research work was focused on design and synthesis of gyroscope like molecules using ring closing alkene metathesis reactions. Subsequently, he worked in Department of Chemistry, Birla Institute of Technology and Science, Pilani, India as DST Inspire Faculty before joining Central University of Rajasthan as Assistant Professor. Where he is currently working on design and syntheses of molecular rotors and exploring their applications in regioselective catalysis.

## IL 7

## Are DDR kinases Druggable? : Our journey towards Cancer therapeutics

***Sivapriya Kirubakaran***
*Assistant Professor, Department of Chemistry & Bioengineering*
*Indian Instititute of technology Gandhinagar*
*Webpage: http://labs.iitgn.ac.in/ccbl/*

**BIODATA**

Prof. Sivapriya Kirubakaran did her Ph.D (Organic chemistry) from IISc, Bangalore. She had her postdoctoral training from Harvard Medical School and MIT, Whitehead Institute before joining as an assistant professor in the discipline of chemistry jointly with biological engineering in 2013. She works on developing novel therapeutics for cancer. Her research is multidisciplinary involving synthetic organic chemistry, Molecular & cell biology. Currently her group works in two different target oriented drug discovery projects, one targeting DNA damaging pathways in cancer especially on ATR/ATM, TLK kinases and the other on studying IMPDH as a novel target for H pylori infection. Her long-term goal is to make affordable medicines for cancer. She is also a recipient of prestigious Ramanujan Fellowship from DST.

## IL 8

## Transforming Drug Discovery with Advanced Computational Modeling

***Prajwal Nandekar***
*Scientist, Schrodinger.*
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**BIODATA**

Dr. Prajwal Nandekar received his Master's and Ph.D. from National Institute of Pharmaceutical Education and Research (NIPER - Mohali) in 2010 and 2015, respectively. He is a recipient of

prestigious DAAD fellowship to perform research at Heidelberg University. He has four years of postdoctoral research experience in using various types of molecular modeling techniques to understand biological processes. His research interests are computer-aided drug design, quantum chemistry, and multi scale molecular dynamics simulations. He has been associated with many eminent scientists and has experience on diverse range of research projects and proteins/DNA as drug targets. He holds 27 publications to his credit. For more info: https://sites.google.com/view/prajwalnandekar

## IL 9

## Antiepileptic Drugs and Ketogenic Diet: An Uncanny Alliance to Bone

***Divya Vohora***
*Department of Pharmacology, School of Pharmaceutical Education and Research, Jamia Hamdard, New Delhi 110062*
*Email: dvohora@jamiahamdard.ac.in*

**BIODATA**

Prof. Dr. DivyaVohora, M. Pharm, Ph.D., PGDOM, MNAMSis Professor and Head, Departmentof Pharmacology and In-charge of Pharmaceutical Medicine Programme (joint collaborative Ph.D. program between Jamia Hamdard and Sun Pharmaceuticals)in School of Pharmaceutical Education and Research at Jamia Hamdard, New Delhi.She has over 20 years of teaching/research experience with >200publications in reputed national and international journals. She is also the author/editor for 3 books published by Elsevier and CRC Press, Florida. She has received grants and worked as Principal investigator for various research projects funded by AICTE, ICMR, UGC, CSIR and DST, Government of India. She is the coordinator for UGC-Special Assistance Program and DST-FIST program of her department. Fifty six research (M.Pharm40 and Ph.D. 16) degrees have been awarded under her supervision. She is a recipient of Dr. Vinod Kumar Bhargava Award of National Academy of Medical Sciences (NAMS); Dr. D. N. Prasad Memorial Oration Award of Indian Council of Medical Research (ICMR); Career Award for Young Teachers by AICTE; Fast Track Award for Young Scientists by DST and Chandra Kanta Dandiya Prize for best published paper in Pharmacology. She is a member of International Advisory Group of British Pharmacological Society, UK and is expert member for research grants submitted to National Science Centre, Poland. Her major areas of interests are Neurobehavioral Pharmacology particularly epilepsy and epilepsy associated complications, neuropsychiatric diseases, cognitive functions, histamine and osteoporosis. Her laboratory has investigated adverse consequences on bone following antiepileptic, antidepressant and anticancer drug therapy and provided evidence for preventive/ therapeutic treatment with some anti-osteoporotic agents for the first time. New mouse models were developed for secondary osteoporosis in mice and novel biomarkers for epilepsy and osteoporosis are currently being investigated with a focus on aromatase, Wntsignaling and PI3K-mTOR pathway as potential targets.

## IL 10

## The Most Poisonous Poison as a Model to Reframe Biology, Chemistry, and Physics of Evolution

***Bal Ram Singh***
*Botulinum Research Center and Institute of Advanced Sciences, North Dartmouth, MA*

**BIODATA**

Bal Ram Singh, PhD, Singh has been a Professor since 1990 and Henry Dreyfus Teacher-scholar since 1997 at UMass Dartmouth (until 2014) and at the Institute of Advanced Sciences (INADS), Dartmouth, Massachusetts. He has been visiting Professor at Georgetown University, Harvard Medical School, Yang Ming University (Taiwan), and Jawaharlal Nehru University (India). He is currently the President of the Institute of Advanced Sciences, and also the founder of Prime Bio Inc., a biotechnology based company. Dr. Singh is the Founding Director of the Botulinum Research Center, established in 2003 and currently located at INADS. He is also the Founding Director of the Center for Indic Studies at the University of Massachusetts Dartmouth. He is currently a Fellow of the Jawaharlal Nehru Institute of Advanced Study, JNU, Delhi. Dr. Singh is an alumnus of Kamla Nehru Institute Science and Technology of Avadh University, Ayodhya, India, Jawaharlal Nehru University in New Delhi, India and Texas Tech University in Lubbock, TX, USA. He has been conducting research on botulinum and tetanus neurotoxins, and also on yoga, mind, and consciousness. He has published 13 books and over 300 articles, including articles related to India's philosophy and traditions. He is Editor/Associate Editor of four journals, including Biochemical and Biophysical Research Reports (Elsevier), Ayurveda Journal of Health (UMass Dartmouth), and International Journal of Indian Culture and Business Management (Inderscience), Ayurveda - Health Happiness and Harmony Book Series, Motilal Banarasidas.

## IL 11

## Efficient and Regioselective Functionalization of Quinolones

***Dalip Kumar***
*Department of Chemistry, Birla Institute of Technology and Science, Pilani 333 031, Rajasthan (India)*
*E-mail: dalipk@pilani.bits-pilani.ac.in*

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Prof Dalip Kumar is working as Professor of chemistry since February 2013 and Associate Dean, IPCD at BITS Pilani. He has total 130 publications, 2 patent, 4498 citations, 37 H-index and 79 i10-Index. His area of research covers Synthetic organic and medicinal chemistry. He has completed his PhD in Organic chemistry from Kurukshetra University, Haryana in year 1997 and M. Phil in organic chemistry from Kurukshetra University, Haryana in year 1993. He has achieved 9 awards. He has received Platinum Jubilee Award from Indian Science Congress Association- 2018. He has

supervised 13 PhD students Thesis. He has completed total 9 major research project and 2 ongoing research project DST and CSIR. He is joint secretory in Indian society of chemists and biologist, CDRI Lucknow. In 2015, he has received R D Desai 80th Birthday Commemoration Medal, Prize from Indian Chemical Society.

## IL 12

## The Role of Omics in Personalised Medicine: A Review of Outcomes in Cardiovascular Diseases

***Mukesh Nandave***
*Associate Professor, Department of Pharmacology, Delhi Pharmaceutical Sciences and Research University (DPSRU), New Delhi.*
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**BIODATA**

Dr. Mukesh Nandaveis is Associate Professor in Dept. of Pharmacology at Delhi Pharmaceutical Sciences and Research University, New Delhi. Dr. Nandave earned his Ph. D. in Pharmacology from the All India Institute of Medical Sciences (AIIMS), New Delhiand received his Post-Doctoral training from the Division of Cardiothoracic Surgery, the Ohio State University Medical Center, Columbus, USA.Before that Dr. Nandave worked as Research Scientist in Ranbaxy Laboratories Limited, Gurgaon.Since more than 10 years Dr. Nandave has been investigating the role of use of nutraceuticals, herbomineral formulations, plant extracts & constituents for Myocardial ischemia & reperfusion injury, Diabetes, Obesity, Pain management. Other areas of Dr. Nandave includes effects of Sirtuin1 (Sirt1) activation in ageing-related cardiovascular diseases, System Xc-antiporter inhibition in epileptogenesis, and Targeting AMPK, SIRT1, and cholesterol pathways for prevention of metabolic abnormalities-associated cancer. He has published more than 60 papers in peer-reviewed national and international journals (including Oxidative Medicine and Cellular Longevity, J Medicinal Food, Eur J Pharmacol,Molecular& Cellular Biochemistry), reviews and book chapters. His overall citations are now at 513 with an H-index of 13.His lab is well funded from Govt. grants including DST, DBT, ICMR and industry including Dabur, Charak, Madhavbaug, Sandu etc. Dr. Nandave has received numerous awards including The Indus Foundation's Award for Research Excellence; G. Achari Gold Medal by Indian Pharmacological Society; Early Investigator Award by International Society for Heart Research, Prof. DuggiralaVisweswaram& Prof. Sreemantula Satyanarayana Prize; Best Research Output of the Year for 2014-2015, 2013-2014, and 2012-2013 Award" of SVKM's NMIMS University.

Dr. Nandave is life member of various professional bodies including International Society for Heart Research (ISHR), International Academy of Cardiovascular Sciences (IACS); Indian Pharmacological Society (IPS); Indian Pharmaceutical Association (IPA); Association of Physiologist and Pharmacologist of India (APPI); Association of Pharmaceutical Teachers of India (APTI); and Society for Ethnopharmacology.

## IL 13

## Synthetic Exploration of Aza-oxyallyl Cation Towards Oxindoles and 1,4-Benzodiazepines

***Ritesh Singh***
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Dr. Ritesh Singh is currently working as Assistant Professor of Chemistry, Central University of Rajasthan, Ajmer, Rajasthan. He has completed his Bachelor of Science (B.Sc.) and Master of Science (M.Sc.) from University of Lucknow, Lucknow, India. Dr. Singh completed his Ph.D. in Chemistry from CSIR-Central Drug Research Institute, Lucknow, India. He has worked as Postdoctoral Research Associate at University of Rochester, New York, USA; Ulsan National Institute of Science and Technology, South Korea and Kyoto Prefectural University of Medicine, Japan. He also worked as DST INSPIRE Faculty at National Institute of Pharmaceutical Education and Research (NIPER), Raebareli and CSIR- Indian Institute of Chemical Technology, Hyderabad. Dr. Singh has published more than 17 research papers in journals of international repute. He has honored with several fellowship and award which include Junior Research Fellowship from Council for Scientific and Industrial Research (CSIR) in year 2011, India; NIH postdoctoral fellowship at University of Rochester, USA in 2012; Awarded prestigious FGS Postdoctoral fellowship at Weizmann Institute of Science, Israel and DST INSPIRE FACULTY from Department of Science and Technology in 2015; Recognized Assistant Professor in Academy of Scientific and Innovative Research (AcSIR) and Awarded prestigious JSPS Postdoctoral Award, from Japan Society for Promotion of Science (JSPS), at Kyoto Prefectural University of Medicine, Kyoto, Japan in year 2016.

## IL 14

## Arylidene-Rhodanine/Thiazolidinone Hybrids: Synthesis, Bioevaluation and Molecular Docking Study

***Bapurao B. Shingate***
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*Email: bapushingate@gmail.com*

**BIODATA**

Dr. Bapurao is working as Assistant Professor in Department of chemistry at Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. He has completed his PhD from organic chemistry synthesis division, National chemical Laboratory University of Pune. He has 18 year of research experience and 12 year of teaching experience. He has received 4 Awards and achever of ISCB Best

teacher award 2018: Indian Society of Chemists and biologist, Lucknow. He has attended 65 national and international conference as Invited Talks. He has guided 8 PhD student. Dr. Bapurao has total 100 international research publication, total 2452 citations, H-index 28 and i10 index 74. His current area of research is "synthesis of bioactive compounds and new synthetic methodologies. He is reviewer of more than 40 journals. He is Editor of special issue: Organic chemistry Current Research. He has also achieved Indo-US Research Fellowship Award in 2013: IUSSTF

## IL 15

## Molecular design, structural features of new RNA targeted antitumor metallodrugs for cancerchemotherapy

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Dr. (Mrs.) FarukhArjmand was born in Srinagar, Kmr on 11th November, 1964, currently working asProfessor of Chemistry, Aligarh Muslim University, Aligarh, India. She has completed her masters and Ph.D in chemistry from Aligarh Muslim University, Aligarh and later joined her services as lecturer in 1994 in AMU. Dr. Arjmand has research and teaching experience of 25 years in the specialization area of bioinorganic chemistry. Her research focus is on medicinal inorganic chemistry. She works on "Design and Synthesis of chiral metal-based antitumor chemotherapeutic drug entities and in vitro interactionof metal-based compounds with biomolecules viz, DNA and RNA. She has published 135 research papers pertinent to her specialization in the peer reviewed journals of international repute, has contributed 46 articles to national and international conferences/symposium and has two patents on metallic antitumor drug entities. Dr. Arjmand has 3338 citations to her credit with h-index 32 and i10-index 80.She has contributed a chapter "Antitumor activity of tin complexes" to Encyclopedia of Metalloproteins (Springer, 2012). Dr. Arjmand has successfully guided 14 Ph.D and 4 M. Phil students and has run six major research projects as PI on the design of metal-based drug candidates awarded by UGC, CSIR and DBT, Govt. of India and has visited many countries (China, USA, Egypt) for academic pursuits. She has joint research collaborations with national and international research institutes, IIT Kharagpur, IICT , Hyderabad and ACTREC, Mumbai (India) USTC, China and Materials Chemistry Laboratory Oujda, Morocco and Institut de Physique de Rennes - UMR 6251,universitÃ© de Rennes 1,France and The Ohio state University ,USA. Prof Arjmand is presently serving as Co-director of APJ Abdul Kalam STEM ER centre which is joint collaboration venture of The Ohio State University, USA and AMU, Aligarh.

## IL 16

### Bile acid Hybrids as Anticancer Agents

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Dr. Sakhuja obtained his M.Phil. and Ph.D. degrees from Department of Chemistry, University of Delhi, New Delhi in the area of heterocyclic chemistry. Following this, he pursued his postdoctoral research with Prof. Alan R. Katritzky at the Center of Heterocyclic Compounds, University of Florida, Gainesville, and thereafter with Prof. Raymond Booth at Department of Medicinal Chemistry, the University of Florida from 2009-2012. Dr. Sakhuja joined the Department of Chemistry, BITS Pilani, Pilani Campus as an Assistant Professor in March 2012. Dr. Sakhuja is presently an Associate Professor in Department of Chemistry, leading an independent research group at Birla Institute of Technology & Science, Pilani where his current area of research interest lies in the development of metal-catalyzed and metal-free strategies for the functionalization of heterocycles, synthesis of biologically important heterocyclic scaffolds, along with the development of organic materials with sensing and gelation abilities. His active contribution in these areas has fetched him fifty one research articles and four reviews in peer-reviewed journals of international repute. He has successfully completely four sponsored projects funded by government agencies (DST & UGC), and private organization (BITS seed grant & additional research grant) in the past seven years.

## IL 17

### Pd-CatalyzedAzide-Isocyanide Cross Coupling Reaction: Applications in Medicinal Chemistry and Bioimaging

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Dr. Sawant is a graduate from NIPER, Mohali, and did his PhD from CDRI, Lucknow. He started his academic career as a Lecturer at NIPER, Raebareli in 2011. In August 2013, he joined Central University of Rajasthan (CURaj) as an Assistant Professor. His research group works in the area of transition-metal catalyzed synthesis of bioactive heterocycles. He completed four research projects and currently is investigating two major research grants. His group published eighteen research articles in the last four years.

## IL 18

## Sugars to Flavonoids and Other Molecules of Important Applications

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**BIODATA**

Dr. (Mr.) Ashok K. Prasadhas completed his PhD from University of Delhi in 1990.He has been apost-doctoral fellow at the University of Southern Denmark, Odense, University of Copenhagen, Denmark, Max-Planck-Institute for Molecular Physiology, Dortmund, Germany as well as UMASS, Lowell, USA. His major research interest lies in the areas of Biocatalysis and Biotransformations, Polymeric Architecture& Supra-molecular Chemistry, Synthesis of Modified Nucleosides and Bioactive Heterocycles and Carbohydrate Modification & Synthesis of Macromolecules. Dr. Ashok was honored with Best Paper Award from Trends in Carbohydrate Research in 2012, CRSI Young Scientist Award in 2007 and was also honored with Excellence in Carbohydrate Research by ACCTI in 2016. He was awarded ISCB Award for excellence in Chemical Sciences in 2014 and he was alsoNational Meritorious Scholarship holder. Dr. Ashok has been Editor / Guest editor of Journals, such as Biochemie; Indian J. Chemistry and Trends in Carbohydrate Research and many more. He has 235 Research papers and 7 International and Indian Patent applications to his name.

## IL 19

## Computational Studies on HSP90 inhibitors as possible anti-HIV agents.

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Dr. Ashoke Sharon currently working as Associate professor, Department of Chemistry at Birla Institute of Technology, Mesra, Ranchi. He completed his M.Sc in Pharmaceutical Chemistry from University of Lucknow; Ph.D in Chemistry from CSIR-Central Drug Research Institute Institute, Lucknow and Post-doctoral Associate, Drug Discovery Group, University of Georgia, USA. His area of research interest includes Medicinal chemistry: Nucleoside & Natural Product Mimetic Synthesis, Novel Heterocyclic Scaffold Synthesis, Computational biology and drug design and antiviral drug discovery. Dr. Sharon has around 75 international publication with 600 citation and h-index of 14 and also include 2 book chapters. He has filed 3 Japanese Patent. Dr. Sharon has completed extramural research grant. Dr. Sharon is awarded with Post-doctoral fellowship, Drug discovery

group, University of Georgia, USA; Certificate of Excellence, Drug Discovery group, University of Georgia, USA; DST- Young Scientist research grant; ICAR-ISAR international travel grant award; Short-gun oral lecture, 26th ICAr, San Francisco, USA. He was also member at Publication Committee Member, ICAR-ISAR, Since 2007; member of International Society of Antiviral Research (ISAR); Life member of India Society of Chemist and Biologist; Life member of Association of Microbiologist of India.

## IL 20

## Biofuel and Fuel Additives

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**BIODATA**

Dr. Amjad Ali has completed MSc in chemistry from IIT Roorkee in 2000 and obtained PhD degree in Bioinorganic chemistry from IIT Bombay in 2005 under the supervision of Prof C. P. Rao. He joined Bharat Petroleum Corporation Limited as PostDoctoral Fellow in 2005. He moved to Thapar Institute of Engineering & Technology, Patiala as Assistant Professor in 2006 and presently working as a professor & head of School of chemistry and biochemistry in the same Institute. His area of research is the development of mixed metal oxide based heterogeneous catalysts for the synthesis of biodiesel, diesel fuel additives and glycerol derivatives. Dr. Ali has so far published 52 research papers in reputed SCI listed journals and has also been granted one Indian patent. His research work has been attracted a total funding of Rs ~ 1.5 Cr by all major Govt funding agencies including CSIR, DST and DRDO. So far, he has guided 8 doctoral and 24 Master's students. He is also in the reviewer panel of research journal published by RSC, ACS, Wiley, and Elsvier publishing groups.

## IL 21

## Orientated External Electric Field: An Invisible Catalyst in Bio(Chemical) Reaction

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Mr. DebasishMandal is presently serving as an Assistant Professor of Chemistry and Biochemistry at Thapar Institute of Engineering & Technology, Punjab, India. He graduated from Jadavpur

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## IL 22

## Experimental and theoretical investigation of ESIPT based Hydroxy-aryl benzimidazoles/Schiff bases as chromofluorescent sensor

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Vijay Luxami received her PhD from Department of Chemistry, Guru Nanak Dev University Amritsar. She joined School of Chemistry and Biochemistry, Thapar Institute of Engineering and Technology, Patiala as Assistant Professor in 2010. She has received various awards like DST Young Scientist, DST INSPIRE Faculty, DST-DFG awards etc. She worked as visiting scientist at University of Bath, UK. She has 75 research Publication in SCI journals and has h-index 21. Currently, she is working as Associate Professor at TIET, Patiala. Her area of research is supramolecular materials and their applications in molecular electronics

## IL 23

## Cavity-enhanced absorption spectroscopy in gas and condensed phases: Applications to medical diagnosis

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Dr. Manik Pradhan is presently working as an Associate Professor at S. N. Bose National Centre for Basic Sciences, Kolkata. He completed his Ph.D. in Chemical Physics from the University of Bristol, England. He completed his M. Tech in Cryogenic Engineeringfrom I.I.T. Kharagpur, India. He

completed his M. Sc in Physics from the University of Calcutta, India. He was a postdoctoral research associate at Stanford University, USA and University of Cambridge, UK. He was a Visiting Research Fellow at IAMS, Academia Sinica, Taiwan. He has many awards on his name such as WIDF-Innovation Award, DayawatiRastogi Award, SIGMA-ALDRICH Award, Best Research Paper Award and Dorothy Hodgkin Postgraduate Award. Sir was a recipient of the Isaac Newton Trust Postdoctoral Fellowship from Cambridge, UK. Dr. Manik has more than 50 publications to his credit and has filed 6 number of patents.His current research areas are Molecular Spectroscopy, Biomedical Diagnostics, Laser Spectroscopy in Health Care, Non-invasive diagnosis of diseases, Trace gas sensing and isotope ratio measurements, and Nano-Biophotonics

## IL 24

## Hantzsch Ester Mediated Reactions under Visible Light Irradiation

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Namrata Rastogi obtained Ph.D. in synthetic organic chemistry from Indian Institute of Technology, Bombay in 2006. She was postdoctoral research associate at the Indian Institute of Technology, Kanpur and University of Minnesota, Minneapolis, USA, during 2006 to 2009. She then worked as research scientist in Jubilant Biosys Drug Discovery and Development, Bengaluru, Karnataka for 2 years before joining CSIR-Central Drug Research Institute, Lucknow in 2011. Her research interests include exploring new reactions of diazo compounds and visible light photoredox catalyzed organic transformations. She was selected as INSA-DFG visiting faculty in the University of Regensburg, Germany in 2014. She is a recipient of ISCB Distinguished Women Scientist Award-2019 in the area of Chemical Sciences

## IL 25

## Palladium-CatalyzedSynthesis of Sulfur Heterocyclesand Their Biological Significance

***Shovan Mondal***
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Dr. Shovan Mondal is working as Assistant Professor in Chemistry at Syamsundar College, Shyamsundar Burdwan. He has completed his Post-doctoral studies in year 2011-2012 at Aix-

Marseille University, France and PhD in 2010 from the University of Kalyani. Dr.Mondal has completed his M.Sc in 2003 from Visva-Bharati and B.Sc in 2001 from Burdwan Raj College. He has 2 years of teaching experience in field of Synthetic organic and Inorganic Chemistry. His research areas include synthetic organic & inorganic chemistry, Biological activities, liquid crystals, theoretical chemistry. He has 52 research papers to his credit. In 2011, he has been awarded as "ALLOCATION D'ACCUEIL DE CHERCHEURS POST-DOCTORANTS" from the city of Marseille, France with award money 2500 euros. Dr. Mondal has successfully guided 2 PhD and 5 Master students under him. He has attended more than 34 International and National Conference, Seminar and Workshop. He has completed major research project in Synthesis of Bioactive heterocycles as a Principal Investigator. He haswas awarded gold medal at "Adarsh Vidya Saraswathi Rashtriya Puraskar" in 2016 from Global Management council, Ahmedabad and has also been awarded "Early Career Research Award from SERB, New Delhi, Govt. of India in 2017

## IL 26

## Current Trends Leading to the Isolation of Novel Bioactive Lead Molecules for Drug Discovery from Medicinal Plants

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Dr. Dina Nath Singh is working as Associate Professor at Department of Chemistry at K.S. Saket Post Graduate College and Dr. Ram Manohar Lohia Avadh University, Ayodhya, India. He has completed his PhD from Central Drug Research Institute, India and M.Sc. from Purvanchal University, Jaunpur, India. He has been awardedthree research fellowships from BHU, CDRI and CSIR. In 2012 hewas awarded best paper presentation at Indian Chemical Society. In 2016, he has been recipient of Prof. Sudheer K. Banerjee Memorial Award by ICC Agra, India. His major research interest lies in Natural products, Medicinal chemistry and Synthetic organic chemistry. He has guided 2 PhD students and has completed 1 ONR project. He has published 14 papers in peer reviewed journals and as well as a Book Chapter. He has presented total 39 papers in various national and international conferences. He has also delivered more than 20 invited lectures at various national and international conferences. He has also chaired 5 sessions at various national and international conferences. He is a life fellow of six academic bodies.

## IL 27

## Multi-target Binding Profile of Tetrahydrocannabinol: Conformational Variations Analysis

***Neelima Gupta***
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**BIODATA**

Research interests of Dr. Neelima Gupta include synthetic organic chemistry, low coordinated phosphorus heterocycles, computational chemistry assisted study of reaction mechanism and drug-biomolecule interactions. She has worked as postdoctoral Fellow at the EMA University, Germany, prior to joining the University of Rajasthan as Faculty. She has completed several research projects including one under DST's fast-track scheme to Young Scientists and was also visiting scientist to the Phillips University of Marburg under Indo-German cooperation program. Dr. Gupta has supervised 12 Ph.D. students and has more than 75 Research Publications in International Journals of Repute. She has authored chapters in reference series - Science of Synthesis (Thieme Chemistry), Topics in Heterocyclic Chemistry (Springer-Verlag) and Methods in Pharmacology and Toxicology (Springer-Verlag). Member of the present Governing Council of the Chemical Research Society of India and as one of the Conveners of the CRSI-Rajasthan Chapter, she is engaged in Chemistry popularization program. Dr. Gupta has received the "Distinguished Women Scientist Award–2019" from the Indian Society of Chemists and Biologists. In 2009, she was Awarded for Excellence in Research among Top Researchers of the University of Rajasthan. She has organized several National and International Conferences and delivered Invited Talks in National and International Conferences & Symposiums in India and abroad. She has organized Several National and International Conferences, Workshops and delivered Invited Talks in Conferences and Symposiums in India and Abroad. She is a Resource person in Refresher Courses for Teachers and workshops for Research Scholars in several Universities.

## IL 28

## Graphene Oxide Promoted a Novel Multicomponent Reaction for the Synthesis of 3-Substituted Quinazolinones Using DMSO as One Carbon Source

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Dr. Dinesh Kumar Yadav, Assistant Professor in the Department of Chemistry at Mohanlal Sukhadia University, Udaipur, Rajasthan. He has joined Central Drug Research Institute (C.D.R.I), Lucknow, as

CSIR- UGC Junior Research Fellow and registered at B.H.U., Varanasi, in 2005 for his doctorate degree having specialization in Natural Products Chemistry. He has been awarded Ph. D. in 2011 from Institute of Medical Sciences, Banaras Hindu University. 19 Peer-reviewed International Publications in high repute impact factor journals in his credit such as in Journal of Natural Products, Bioorganic & Medicinal Chemistry Letters, J. Cellular Biochemistry, Menopause: The Journal of the North American Menopause Society, Molecular and Cellular Endocrinology, Fitoterapia, Osteoporosis International, Phytomedicine etc. which are regularly published by American Chemical Society, Springer, Elsevier, Wiley, Taylor & Francis, Lippincott Willams publishers. His area of research interest is isolation, characterisation and synthesis of natural products and development of novel methods for isolation of molecules from crude extract. Dr. Yadav, is life time member of Rajasthan Science Congress and reviewer of various prestigious journals.

## IL 29

## Synthesis and spectroscopic characterization of some organic-inorganic hybrid complexes of organotin(IV) incorporating the anti-microbial activity analysis

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Dr. Asha Jain is currently working as Head, Department of Chemistry, University of Rajasthan, Jaipur and as Dy. Director, University Centre for Computer Science and Information Technology, University of Rajasthan, Jaipur. Her main research interests are in synthetic, inorganic and metallo-organic Chemistry. She has published more than 40 research papers in national and international refereed journals. Dr. Asha Jain received M.Sc. and Ph.D. degrees from University of Rajasthan, Jaipur. She served as Vice Principal of Maharaja College. She is a life Member of the Indian Science Congress Association, Chemical Research Society of India, Indian Society of Chemists and Biologists, Society for material Chemistry BARC. Dr. Asha Jain is Secretary of local chapter of Jaipur of Indian Society of Chemists and Biologists. She has held a series of positions in Maharaja College and University of Rajasthan, Jaipur. She has evaluated the major project of UGC. During research work, she has received two major research projects from UGC. She has supervised four students for awarding Ph.D. degree. At present, five students are doing research work under her supervision. Dr. Asha Jain is highly active in academic research, focusing on oganometallic Chemistry and corporate social responsibility. She was president of Rotary Club Jaipur Marugandha.

## IL 30

## Natural products-inspired discovery and development of novel antifungal and antibacterial agents

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**BIODATA**

Professor Virinder Parmar, born on 2nd November 1948 at Allahabad (India), did B.Sc. Honors, M.Sc. and Ph.D. from the University of Delhi. He has Postdoctoral / Visiting Scientist research experience of nearly ten years at Cornell University, Harvard University, University of Massachusetts Lowell, Polytechnic University of New York (NYU-Poly) and MIT (USA); the University of Basel (Switzerland) and the Imperial College of Science, Technology and Medicine (London, UK). Currently, he is a Faculty at the Department of Chemistry and Environmental Science, Medgar Evers College, The City University of New York (USA). He has been a Faculty at St Stephen's College and the University of Delhi for 44 years, he recently retired as Professor of Chemistry and has served as Head of the Department of Chemistry and as Chairman of the Board of Research Studies, and Provost of Gwyer Hall at this University. He has been a Visiting Full Professor at the Institute of Nanoscience and Nanomedicine (INSET), University of Massachusetts Lowell (UML, USA) from March 2001 to December 2005, an Honorary Professor of Organic Chemistry at the University of Southern Denmark since March 2008, a Visiting Professor at Indiana University-Purdue University (IUPUI, Indianapolis, USA) in May-June 2015, an Adjunct Professor at Long Island University, Brooklyn (New York, USA) in January-April 2013, a Visiting Professor at the Institute of Advanced Sciences, Dartmouth (INADS, MA, USA) since November 2016 and a Visiting Professor at the Central University of Haryana (CUH, Mahendergarh, India) since February 2016. He was appointed Full Tenured Professor of Chemistry & First Head of the Department of Nanoscience of the newly formed Joint School of Nanoscience & Nanoengineering (JSNN) at the University of North Carolina Greensboro (UNCG, USA). He has been an awardee of Medals for Excellence in Research from the Chemical Research Society of India (CRSI, Bangalore) for the year 2001 and of the Indian Society of Chemists and Biologists (ISCB, Lucknow) for the year 2009. He has been a recipient of the Academic Staff Award from the EXPERTS II Consortium of the European Union (EU) in December 2012 and April 2013. Professor Parmar's research interests include: Green/Sustainable Chemistry, Nanotechnology, Organic Synthesis, Nucleic Acid Chemistry, Advanced Materials, Medicinal Chemistry, Biocatalysis and the Chemistry of Natural Products. He has mentored 85 Ph. D. and Postdoctoral Scientists in several Belgian, British, Canadian, Danish, Dutch, French, German, Indian and US Universities, and has published 492 research papers (in 2018: 7; in 2017:7; in 2016:11) in journals of high repute (published by ACS, RSC, Elsevier, Wiley, VCH, MDPI, Thieme, Springer, etc.;h-Index: 43/35; Citation Index: 47.28; Number of Citations: 8,600; Number of Reads: 171,000; Number of Readers: 4,100) in addition to being co-inventor on 21 patents and having co-authored six Books & Edited six special Issues of Journals. He has handled thirty two research projects involving grants

of nearly US Dollars 11.60 million obtained from various agencies and corporations in USA, UK, Germany, Denmark, Italy and India in international collaboration with twenty six research groups in USA, UK, Russia, Italy, India, Germany, France, Sweden, Canada, Denmark, Bulgaria, Czech Republic, The Netherlands and Belgium. He has organized 26 conferences/symposia/seminars/ workshops/colloquia in the areas of his research interests. He has delivered Invited / Plenary Lectures at 147 international meetings and has given 398 Research Seminars at 293 Institutions in 31 Countries across the Globe. He is the Executive Editor of the Journal 'Biocatalysis and Biotransformation', and has been on the Editorial Boards of the Journals: ChemSusChem, Mendeleev Communications, Indian Journal of Chemistry, Natural Product Communications, Arkivoc, Molecules and ISRN Medicinal Chemistry. He is a regular reviewer for several journals published by the American Chemical Society, the Royal Society of Chemistry (London), Elsevier & Wiley-VCH, etc., and is a member of the IUPAC's Subcommittee on Biomolecular Chemistry and the Interdivisional Committee on Green Chemistry for Sustainable Development(ICGCSD).

## IL 31

## Linear dicarbonyls as suitable substrates for amine catalyzed transformations: Synthesis of medium-sized N-heterocyclic compounds

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## IL 32

## A multifunctional therapeutic approach: design, synthesis and identification of novel multitarget–directed ligands against Alzheimer's disease

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Chandigarh. She completed her PHD from IIT Bombay in chemistry having her thesis title as "Design of New Synthetic Strategies to Modified Amino Acids and Peptides. One of her sponsored research project includes 'Design, Synthesis and Evaluation of Modified Short Peptides as Inhibitors of Amyloid-β (Aβ) Peptide Aggregation' under the Start-Up Research Grant (Young Scientists) Scheme by the Science and Engineering Research Board (SERB), Govt. of India. She has received many awards and honourslike Young Scientist Foreign Travel Grant from DST and CSIR India to present poster at 242ndAmerican Chemical Society National Meeting & Exposition, Denver, Colorado, USA. She was also a CSIR-UGC JRF and SRF by qualifying UGC-NET in chemical sciences.She is also a recipient of Prof. Prem Singh Medal for standing 1st in B. Sc. (Honours School) Chemistry and Recipient of 1st prize in State Science Exhibition in 2000. She was recognized as one of the meritorious candidates by Government of India, National Scholarships Scheme 1998. More than 20 papers are published by her in various journals. Currently 4 PHD students and 2 MSc students are working under her. She has attended wide range of both international and national conferences. She is currently a life member of many professional bodies like Society of Biological Chemists India, Indian Peptide Society, Indian Biophysical Society, Chemical Research Society of India, IIT Bombay Alumni Association and Chemical Society, Department of Chemistry, Panjab University.

## IL 33

## Metal-Free Carbon-Sulfur and Phosphorus-Chalcogenides Bond Formations

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He has completed is M.Sc. from Banaras Hindu University (BHU) and Ph.D. from University of Hyderabad, Hyderabad.He completed his Post-Doc from National Chung Hsing University, Taiwan.

His areas of research interest include Development of methods for organic synthesis via C-H functionalization/ cross-coupling reactions and Baylis-Hillman Chemistry. He has around 24 publications with total 1259 citations and total 4 R & D projectsas principle investigator from CSIR, SERB, DST and UGC-India. He has several achievements which include NSC Post-Doctoral Fellowship by NSC Taiwan; DST Young Scientist Award by Department of Science & Technology, DST INSPIRE Faculty Award by Indian National Science Academy (Department of Science & Technology, 2015); Awarded prestigious ISCB YOUNG SCIENTIST AWARD-2019 in Chemical Sciences by Indian Society of Chemists and Biologists, India and also became member (MRSC) of The Royal Society of Chemistry, Cambridge, UK. He has relative experiences as Coordinator at Centre for Converging Technologies, University of Rajasthan; Organizing Secretary at International Conference on "Frontiers at the Chemistry - Allied Sciences Interface in year 2018; Joint-Organizing Secretary, International Conference on "Frontiers at the Chemistry - Allied Sciences Interface in 2017 and member at Local advisory committee for DST-SAIF Programme, University of Rajasthan.

## IL 34

## Time gated long lifetime lanthanide luminescence to study dynamic molecular Interactions with improved resolution

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Harsha Rajapakse from the Department of Chemistry and Environmental Science, Medgar Evers College completed his Ph.D. in Chemical Biology and MS in chemistry from the University of Illinois at Chicago and MS from the University of Illinois at Chicago. Sir did his BS in chemistry from the University ofColombo, Sri Lanka. Harsha Rajapakse worked as an Assistant Professor and Adjunct Assistant Professor at Medgar Evers College and St. John's University, NY.He was a Postdoctoral Scholar at the University of Chicago and a Graduate Research Assistant at the University of Illinois, Chicago. In the year 2015, he was awardedHonors Distinction by the University of Colombo for outstanding contribution for undergraduate education and in 2010Paaren Graduate Fellowship Awarded by the University of Illinois at Chicago, for an outstanding graduate student of the Year. In the year 2006,he got awarded for Outstanding Research by the Industrial Technology Institute, Sri Lanka in iron deficiency. He was also awarded Honors Distinction in 2005 by the Department of Chemistry, University of Colombo, for outstanding academic performance towards the degree from 2001 to 2005.He has many articles published and has attended various conferences and professional workshops. Sir has teaching experience of around 10 years and currently a member at Professional Organization, American Chemical Society Sigma Xi Honor Society Golden Key Honor Society Institute of Chemistry, Sri Lanka.

## IL 35

## Development and Validation of Analytical Methods for drugs used in treatment of Alzheimer's (Memantine HCl) and Depression Disease (Nortriptyline HCl)

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Dr. Dhananjay Vithalrao Mane is working as Regional director and professor (since feb 2018) in Yashwantrao Chavan Maharashtra open University, Nashik, India. He has completed his M. Sc in chemistry in 1990, B. Ed in 1991, PhD in 1995 and MBA in 2012. He has total of 28 years of teaching experience and 27 years of research experience. His area of research is on synthetic organic chemistry, pharmaceutical chemistry, medicinal chemistry, analytical chemistry, nanomaterials and kinetic studies. He has guided 10 PhD students and 8 students are currently pursuing PhD under his guidance. He has presented papers at 52 national and 28 international levels. He has published 85 national and international papers. He has 2 patents to his credit. He was Member of advisory committee at Dr. Babasaheb Ambedkar Marathawada University, Osmanabad, India. He has also worked as NSS programme coordinator at Dr. BAM University, Ahmedabad andas Dy. Director at UGC-HRDC, Dr. BAM university, Aurangabad. He is a life member of various bodies such as Indian science congress Kolkata, Indian chemical society Kolkata, international society of chemists and biologists CDRI Lucknow, association of Chemistry teachers Mumbai, Chemical Research Society of India, IISc banglore, International Congress of Chemistry and Environment,Indore, Vigyan prasar DSIR New Delhi, Indian council of Chemist, Agra, Fellow member of International Congress of Chemistry and Environment Indore.

## IL 36

## Impact of Green matrix towards the Expansion of Miscellaneous Heterocyclic Scaffolds and their Biological significance

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**BIODATA**

Dr. H M Patel was born on 25thJuly1971VallabhVidyanagar, India. Currently, he is working as a Professor of Chemistry, SardarPatel University, VallabhVidhyanagar, India. He completed his masters in the specialization of organic chemistry from south Gujarat University and his Ph.D. from

SardarPatel University. He joined his services as a lecturer in 1997 atSt. Xavier's College. Dr. H M Patel has research and academic experience of 23 years in the specialization of organic chemistry. Currently, he is working on an efficient synthesis of biologically active compounds via one-step synthesis from diverse heterocyclic scaffolds. He has published 24 research papers pertinent to specialization in the peer-reviewed journals of international repute.He is an editorial board member of Arkivoc, U.S.A and Frontiers in Chemistry (Organic Section) He had been honored with life member award by Indian society of chemical and biology in 2018 and Top Peer Reviewer award 2019, Based on Publons database

## IL 37

## Organo and Photoredox Catalysis forC-C bond formation

Ravi P. Singh
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**BIODATA**

Ravi P. Singh born in UP, India, is currently an associate professor in chemistry department at the Indian Institute of Technology (IIT) Delhi, India. He obtained his Bachelor's degree in chemistry from U.P. College, Varanasi and Master's degree from Banaras Hindu University, Varanasi. Later, he moved to the Chemistry Department at IIT Kanpur, to pursue his Doctoral studies under the supervision of Prof. Vinod K. Singh. He gained his postdoctoral experience in U.S.A in the area of total synthesis and asymmetric catalysis. Dr. Singh spent two years (2005-2007) at Harvard University working with Nobel Laureate, Professor E. J. Corey and four years (2007-2011) at Brandeis University working with Professor Li Deng. He started his independent academic career at National Chemical Laboratory -Pune as a Senior Scientist in 2011 and later moved to the chemistry department at IIT-Delhi in 2013. Dr. Singh has been recognized with ISCB YOUNG SCIENTIST AWARD-2017 IN CHEMICAL SCIENCES .Dr. Singh's research interest is broadly in the field of synthetic organic chemistry and specifically in Asymmetric Catalysis, C-H Activation and total synthesis of small molecules. His research group is not only pursuing various ways to make and break C-C and C-X bonds but also trying to develop strategies to synthesize biologically active and other pharmaceutically relevant natural products in a cost effective way.

## IL 38

## Stereoselective Synthesis of Natural Product Inspired New Bioactive Glycohydrids

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**BIODATA**

Prof. Ram Sagar is currently working as an associate professor in the Department of Chemistry, Institute of Science Banaras Hindu University, Varanasi, India. He has completed his masters in Organic Chemistry fromtheUniversity of Lucknow, India and Ph.D. in Organic Synthesis, Medicinal Chemistry and Natural Product Chemistry from Central Drug Research Institute (CDRI) Lucknow, India. Prof. Misra joined his services as Research Associate in 2006 at IIT Kanpur, India. He has published 28 research articles in various reputed journals, and a book chaptertitled Carbohydrate Chemistry in Royal Society of Chemistry (RSC)in the year 2014. Amongst 5 patents filed under his name, 2 are Indian patents while the other three are filed to U.S, U.K, and P.C.T patent granting agencies. Organic Synthesis, Medicinal Chemistry, Chemical Biology and Glycochemistry are the broad research areas of prime interest tothe Professor. He receivedBrain Korea-21 postdoctoral fellowship from Seoul National University, South Korea in the year 2007-2008. He also received BBSRC UK postdoctoral fellowship, University of Oxford, the U.K in the year 2008-2012. Prof. Ram Sagar Misra won the Agri-net Sandpit funding in collaboration with a team of Imperial College London and Royal Holloway University,the U.K in the year 2012. He has worked as Academic Visitor at IIT Kanpur during 2016-2017. Prof. has also worked as Visiting Scientist at JNCASR, Bangalore during May-July 2019.He has successfully supervised 2 Ph.D. students and currently guiding three students.

## IL 39

## Green Nano Materials for Sustainability

***Alka Sharma***
*Centre of Advanced Study, Department of Chemistry, University of Rajasthan, Jaipur*
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BIODATA AWAITED

## IL 40

## Role of Elsevier Life Science Solutions in Drug Discovery Process

***Mandar Bodas***
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**BIODATA**

Dr.Bodas is the Solution consultant for Life Sciences solutions for Academic and Government institute. Before joining Elsevier he has worked with Syngene& Ranbaxy in different capacities as Principal Scientist. He received his doctorate from NCL Pune and PDF from Department of Chemistry, University de Montreal.

## IL 41

## An Innovation Process and Concerns of Green Chemistry: Natural-product-inspired Pot-economy Synthesis of Small Molecules of Biological and Industrial Relevance

***Arun K. Sinha***
*Medicinal and Process Chemistry Division, C.S.I.R- Central Drug Research Institute,*
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**BIODATA**

Dr. Arun K Sinha is currently working as a Chief Scientist and Professor (AcSIR) Of Medicinal and Process Chemistry at C.S.I.R.-Central Drug Research Institute (C.D.R.I.). Sir has completed his Ph.D. in organic chemistry from IIT Delhi. He has completed his M.SC in organic chemistry from Banaras Hindu University, Varanasi, U.P. He has done his post-doctoral tenure from Illinois Institute of Technology, Chicago, USA, the University of Illinois at Urbana Champaign Illinois, U.S.A and Umea University, Sweden He has 3 years of industrial experience in Max-GB India Limited, Vam Organic Chemical Ltd, and Northern Mineral Ltd. He has 14 years of experience in the Natural Plant Products Division, CSIR-IHBT, Palampur (HP). He served as a Chief Scientist at Natural Plant Products Division, CSIR-IHBT, Palampur (HP). From 2013 he is working as a Chief Scientist and Professor (AcSIR) at CSIR-CDRI, Lucknow (UP). He got Dr. P. D. Sethi Award for the best Indian research papers in Pharmaceutical Analysis, consecutive for four years. He was a CRSI- Bronze Medal Recipient in 2012. He was a Fellow of the National Academy of Sciences (FNASc), Allahabad in 2014. Sir has published 118 publications. He has also filed 17 patents on his name.

## IL 42

## Development of green methodologies in organic synthesis

***Vikas Tyagi***
*Assistant Professor, School of Chemistry and Biochemistry, Thapar Institute of Engineering and Technology, Patiala-147004, Punjab, India*
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**BIODATA**

Dr. Vikas Tyagi obtained his Ph.D. from CSIR-Central drug research Institute, Lucknow/ Jawaharlal Nehru University, New Delhi in the area of organic chemistry. Subsequently, he pursued postdoctoral studies at University of Rochester, USA, and worked there for three years. Thereafter, he moved to University of North Carolina, Chapel Hill, USA and worked as a postdoctoral research fellow in the area of medicinal chemistry for one year. Currently, he is working at Thapar Institute of Engineering and Technology (Deemed University), Patiala, India as assistant professor. His research area includes development of novel green synthetic methodology for the synthesis of bioactive heterocycles mainly using biocatalysts. Total Citation: 769, Average Citation: 14, H index: 13

## IL 43

## Strategies to Engage Undergraduates in Meaningful STEM Research

***Rachna Sadana***
*Assistant Professor of Biology and Biochemistry, Department of Natural Sciences, University of Houston-Downtown, One Main Street, Houston, TX, USA*
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**BIODATA**

Dr. Rachna Sadana is an Associate Professor of Biology and Biochemistry at University of Houston-Downtown (UHD). After receiving PhD from Kurukshetra University, Rachna came to USA as a postdoctoral fellow. After multiple years of strong training in research, she joined UHD as a tenure track professor and has been at UHD for 10.5 years. During her stay at UHD, she has played a leading role in curriculum and program development. She has designed and developed four new courses and has overall taught eleven different courses. She teaches multiple project based laboratory courses and has published papers with first year undergraduates. Recently, she became a certified online educator and has been teaching science courses online. At an undergraduate institute like UHD, she has a very active research program that focusses on cancer drug development and phage therapy. In 10 years, she has mentored 90 students in research, have co-authored multiple papers in reputed peer-reviewed journals and has obtained funding from various resources to support her research activities. In addition to teaching and research, she serves as the Chair of the department comprised of 40 full time faculty members.

## IL 44

## Computational screeningof potential inhibitors against β2m aggregation in Dialysis-related amyloidosis

***Bhupesh Goyal***
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**BIODATA**

Bhupesh Goyal is currently working as Assistant Professor at School of Chemistry and Biochemistry at Thapar Institute of Engineering & Technology, Punjab, India. He has completed his PhD in Bioorganic Chemistry from IIT Bombay in 2012 and M.Sc. from Punjab University in the year 2006. He has been was awarded research proposal of 14.3 lakhs on the "Computational scrutiny of the mechanism of amyloid-6 peptide aggregation" under start-up research grant scheme by SERB-DST in 2014. Hewas also awarded Postdoctoral research fellowship at ASU, Tempe, USA during 2012-2013. He has total 25 publications in peer reviewed journalshaving h-index of 9. He has supervised 6 PhD students under his guidance. Dr.Bhupesh Goyal has presented 17 papers at various national and international conferences. With 12 years of teaching experience, Dr.Goyal is reviewer of many scientific journals of international repute such as RSC Advances, Chem Phys Chem etc. He is also a member secretary of school planning and policy committee. He has also done various administrative duties and synergistic activities at various conferences, journals and schools.

## IL 45

## Synthesis of various carbocycles and heterocycles from functionalized benzyl cyanide

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**BIODATA**

Dr. Ramendra Pratap has completed his masters from University of Gorakhpur in 2001 and then he moved to Central Drug Research Institute, Lucknow for doctoral research. There he worked with Dr. Vishnu Ji ram for four and half years on ring transformation reactions of 2H-pyran-2-one. He worked as postdoctoral fellow at the City University of New York, USA and Humboldt fellow at University of Saarland, Germany. Presently, He is working at the Dept of Chemistry, University of Delhi as an Asst Prof. Till now he has published more than 75 papers in various international Journals. He also received JSPS invitation fellowship during the year 2016-17. His chemistry is focused on development of various heterocycle, carbocycles, materials and metal catalyzed bond formation reactions.

## IL 46

## Carbon disulfide: Greener syntheses for biologically potent scaffolds

***Devdutt Chaturvedi***
*Department of Chemistry, School of Physical Sciences, Mahatma Gandhi Central University, Motihari-845401(East Champaran), Bihar, India.*
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**BIODATA**

Dr. Devdutt Chaturvedi, Professor and Head of Department of Chemistry, School of Physical Sciences, Mahatma Gandhi Central University, Bihar. He has completed his Ph.D in 2003 in Synthetic Organic/Medicinal Chemistry from Central Drug Research Institute, Lucknow and as Postdoctoral Fellow at USA & Germany. His research includes Synthesis of Bioactive Natural Products. Dr. Devdutt Chaturvedi has more than 20 years of teaching and research experience with more than 80 publications and 11 National & International patents filed till date. He is reviewer of more than 50 leading international journals and his article has been chosen 3rd best article in one of the Top 10 best articles. He has successfully supervised 5 Ph.D. thesis and 3 are ongoing. He was Awarded "Young Scientist Award" (2008-2009) in the area of "Chemical and Pharmaceutical Sciences" by the Govt. of U. P and Awarded "Highest Impact of the Year Award" (2010), for publishing a review article in a high impact factor RSC journal. He has worked as a Guest Editor for publishing a special hot-topic issue entitled "Organic synthesis using green reaction media" in the "Current Organic Synthesis" and Awarded "DST-Fast Track Young Scientist Award" (2010). He was also awarded with "Most Cited Paper Award (2006-2009)" from Elsevier for one of Tetrahedron Letters publication. He has organized a National Symposium on "Interfacing Chemical Biology and Drug Design (ICBDD), held on 24-25th Feb., 2015, at Amity University, Lucknow Campus.

## IL 47

## Abstract Awaited

***Sunil Jambhekar***
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**BIODATA AWAITED**

## IL 48

## Development of Chiral catalysts for Asymmetric Organic Reactions

***Surendra Singh***
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**BIODATA**

Dr. Surendra Singh joined Department of Chemistry, University of Delhi, as an Assistant Professor in March, 2010. He obtained his Ph.D. degree from Central Salt and Marine Chemical Institute (CSMCRI), Bhavnagar, Gujarat in 2006 under supervision of Dr. (Mrs.) Rukhsana I. Kureshy. Dr. Surendra Singh was Irish Research Council for Science Engineering and Technology (IRCSET) postdoctoral research fellow with Professor Patrick J. Guiry during Sept, 2006- Sept, 2008. He had worked as a postdoctoral researcher up to Jan, 2010 under different funding scheme (PRTLI cycle 4 and Enterprise Ireland) in Prof. Guiry's research group. Dr. Surendra Singh's research interests include: Development of organocatalysts, transitionmetal complexes and its application in asymmetric catalysis and synthetic methodologies development for organic transformations. We have published 49 papers in international journal. My research group also presented several research papers in various national and international conferences and Six Ph.D. students are completed their doctoral degree. I have completed three major research projects funded by CSIR, DST-SERB and Reliance Industry Limited. Currently, we have two ongoing major research projects from CSIR and DST-SERB

## IL 49

## New Metal Based Pharmaceuticals, Structural Characterisation and their Anti-cancer activity

***Sartaj Tabassum***
*Department of Chemistry, Aligarh Muslim University, Aligarh-202002*

**BIODATA**

Prof. Sartaj Tabassum is working as Professor in the Department of Chemistry, Aligarh Muslim University.He has published 130 papers in the journals of international repute. He is a life member of ICC, CRSI, ISCB, DNA Society of India and American Nano Society. He has successfully guided 17 Ph.D. He has successfully completed many research projects awarded by TWAS, Italy, CSIR, New Delhi, DBT, Govt. of India. As a distinguished Scientist, Prof. Tabassum was awarded Overseas Associateship award in 2005 by DBT, Govt. of India. He has signed several MoU and joint research collaboration with University of Camerino UNICAM, Italy, USM Malaysia and USTC Hefei, China. He has visited many countries for academic pursuit particularly, China, USA, Italy,Saudi Arabia as fellow, visiting Professor and for the international conferences. He has three patents on cancer metallic drugs.

## IL 50

## Druggable Space beyond the rule of 5

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*School of Applied Material Science Central University of Gujarat, sector-30, Gandhinagar, Gujarat, India*
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**BIODATA**

Prakash C. Jha is at present associated with Central University of Gujarat holding multiple administrative responsibilities besides being an Associate Professor, teacher and research scientist. He is the chairperson for Centre for applied chemistry in the School of Applied Materials Science, Coordinator for University level Industry-Academia Interface Cell, Coordinator and Nodal officer for Govt. of India's recently launched Flagship programme Bachelor in Vocational study (B.Voc) for "Rational Approach to Drug Design" at Central University of Gujarat, Gandhinagar. He is also a nominated member of President of India's innovation club at Rashtrapati Bhavan, New Delhi. Earlier even he has served as Nodal officer for the National Mission for Education through Information and communication Technology (NMEICT) project at Central University of Gujarat, Sector-30, Gandhinagar, Gujarat (India). He is trained in an interdisciplinary science interfacing chemistry, physics, mathematics and computational material and pharmaceutical science and has a PhD from Indian Institute of Science, Bangalore (India). He has been associated with Swedish, Norwegian and Indian academy of science, American Chemical Society in various capacities. Before joining Central University of Gujarat, Prakash was associated in various capacities with Royal Institute of Technology, Stockholm (Sweden), Stockholm University, Stockholm (Sweden), Jacobs University, Bremen (Germany), The Centre for Theoretical and Computational Chemistry (CTCC), Tromso (Norway).

## IL 51

## Evaluation of Antimicrobial, DNA cleavage and anticancer activities of transition metal Schiff base complexes

***Nighat Fahmi***
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**BIODATA**

Dr. Nighat Fahmi working as Associate Professor in Department of Chemistry at University of Rajasthan, Jaipur. Mam fields of interest in Coordination and Bioorganic chemistry. Mam has achieved award for excellence in research by university of Rajasthan, Jaipur. Mam has supervised 17 PhD students and published 90 research papers. Mam is also author in book of applied chemistry for engineers. Mam is also member of various academic professional bodies/societies. Mam has also completed major and minor UGC research projects.

## IL 52

## Catalytic and Enantioselective Synthesis of Benzoxasiloles: Direct Application to (R)-Orphenadrine and (S)-Neobenodine

***Ravindra Kumar***
*Medicinal and Process Chemistry, CSIR-Central Drug Research Institute (CDRI), Lucknow, Uttar Pradesh 226031, India*
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**BIODATA**

Dr. Ravindra Kumar is senior scientist at CSIR-Central Drug Research Institute (CDRI), Lucknow since 2018. He was specially appointed assistant professor in Graduate School of Engineering, Osaka University, Japan and in Graduate School of Engineering, Osaka University, Japan from the years 2014-2017.He was also a Postdoctoral Fellow from the years 2011-2013 in Venture Laboratory, Kyoto Institute of Technology, Kyoto, Japan under the supervision of Prof. Toshiro Harada. He did his Ph.D. in Organic Chemistry Division from National Chemical Laboratory (NCL), Pune, India.He has 12 publications in the last 5 years.He has presented talks at various national and international levels including 25th ISCB, International Conference, Lucknow; ICOS, Mumbai; Green and Sustainable Chemistry (GSC), Tokyo, Japan; OMCOS 18, Spain; AoC GSE, New Delhi and CCCC at Kyoto, Japan.His awards and fellowships include CSIR-JRF/NET (2003), Jean and AshitGanguly Education Scholarship (2002-2003) awarded by University of Delhi and Meritorious award (2003) awarded by Kirori Mal College, University of Delhi.His research area includes asymmetric and transition metal catalysis, medicinal chemistry and total synthesis.

## IL 53

## Integrating Sustainable Chemistryin Pharmaceutical Research: Novel Transition Metal-free Approaches for Drug Discovery and Development

***Asit K. Chakraborti***
*Professor and Head,Department of Medicinal Chemistry, National Institute of Pharmaceutical Education and Research (NIPER), Sector 67, S. A. S. Nagar, Punjab 160062*
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**BIODATA**

Professor Asit K. Chakraborti obtained his M. Sc. degree in 1977 in Organic Chemistry from the University of Burdwan, West Bengal, India being placed first in the first class and Ph. D. degree in Synthetic Organic Chemistry from IACS, Kolkata, India in 1985. After post-doctoral research training in USA in the department of Chemistry, Clemson University, South Carolina, during 1985-1987 and in Medicinal Chemistry at Purdue University, Indiana, USA during 1987-1989 he joined the University of Burdwan as a faculty in the department of Chemistry and served for the period 1990-

1994. He joined the department of Medicinal Chemistry, NIPER, S. A. S. Nagar, Punjab, India as Assistant Professor in 1994 and was elevated to the position of Assoc. Professor in 1999 and to Professor and Head in 2001. Prof. Chakraborti has guided 40 Ph. D. and 130 Masters' students, published 173 research papers (with > 8900 citation with h index of 56), and filed 42 patents. He received several awards and recognition such as University Gold Medal, BardhamanSammilani Gold Medal, ISMAS Eminent Mass-spectroscopist award, Ranbaxy Research Award (Pharmaceutical Sciences), Chemical Research Society of India Bronze Medal, Rajnibhai V. Patel PharmInnova Best Research Guide Awards for the most "Innovative Ph. D. Thesis" during 2017-2018 and 2016-2017 and the most "Innovative MS Thesis" during 2015-2016 2014-2015 in "Pharmaceutical Chemistry," Certificate of Appreciation for Ph. D. thesis Advisor of Eli Lilly and Company Asia Outstanding Thesis First Prize Awardee in 2013, 2012, and 2009 and Second Prize Awardee in 2009. He is Fellow of the Royal Society of Chemistry and elected Fellow of Indian Academy of Sciences, Bangalore and Indian National Science Academy, New Delhi.

## IL 54

## Nanocrystal Based Topical Formulations for the Treatment of Fungal Infections

**Tejal Mehta**
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**BIODATA**

Dr. Tejal is presently working as Professor & Head in Dept. of Pharmaceutics, Nirma University, Ahmedabad. She is also working as Dy. Director, Centre for Quality Assurance and Academic Development at Nirma University. She has done her Ph.D. from Sardar Patel University, VallabhVidyanagar&B.Pharm&M.Pharm (Pharamceutics& Pharmaceutical Technology) from Gujarat University, Ahmedabad. She has more than 21 years of teaching & 16 years of research experience at UG & PG level. Her current area of research includes Bioavailability enhancement of sparingly soluble drugs, Fixed dose combinations using multiparticulate systems, Development of micro and nanoparticulate drug delivery systems for oral, parenteral and topical drug delivery systems. She has published more than 80 research papers in journals of national & international repute. She has also presented several papers in national & international conferences. She has published 1 chapter in national and 5 chapters in international book. She is recipient of the Best Paper Award 2004 granted by Association of Pharmaceutical Teacher's of India for publishing paper in Indian Journal of Pharmaceutical Education. She also received R. V. Patel Best M.Pharm thesis award in Guide category. She is also recipient of Best Professor Award for Overall Performance by Nirma University in year 2016. She has also authored a book "Practical Manual of Pharmaceutical Engineering", "Practical Manual of Pharmaceutical Dosage Forms" and "Pharmaceutical Quality Management & Drug Delivery Systems". She filed 4 patents related to her research and one of them is granted. She is involved in various projects, consultancy in area of formulationdevelopment. She also conducted seminar, workshop and Hands on training for manufacturing and evaluation of nanoformulations.

She delivered lectures in various staff development programmes, seminars, workshop, conference etc. She is reviewer of national & international journal in her research area of interest.

## IL 55

## Meeting the neurodegenerative disease at the junction of chemical, biological and behavioral science

***Sanjib Bhattacharyya***
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**BIODATA**

Sanjib BhattacharyyaisaMember of the American Chemical Society (ACS) and Editorial board member of Australasian Medical Journal. He completed his masters in the specialization of green chemistry from IIT Kharagpur and Ph.D. from the University of Missouri, Columbia, USA. He has professional experience of 9 years and is currently working on protein misfolding and cytoskeletal disorders related to neurodegenerative disease. He also has industrial experience of 1 year and teaching experience of 5 years.He has published 23research papers pertinent to specialization in the peer-reviewed journals of international repute,has contributed 11 abstracts to national and international conferences/symposium.Currently, in 2019 he wrote a book chapter entitled 'Synthesis of Some Bioactive Nanomaterials and Applications of Various Nanoconjugates for Targeted Therapeutic Applications'. He received a Research grant award by WPI-AIMR, Tohoku University as a Principle investigator, 2016.

## IL 56

## Chemical and Biological Exploration of Indian Medicinal Plants for Human Health Care

***T. Narender***
*Medicinal and Process Chemistry Division, CSIR-Central Drug Research Institute, Lucknow-226 031, U.P., India*

**BIODATA**

He obtained the Ph.D. degree in the area of natural products (phytochemistry) from the University of Kakatiya, Warangal, Telangana, India in 1999. After obtaining his Ph.D. degree, he joined as a Scientist in the ICAR-Central Marine Fisheries Research Institute (CMFRI) Cochin, which is one of the constituents of ICAR, New Delhi, India in November 1999, and continued there until July 2002, where he worked on the bioactive substances from the marine organisms. In July 2002, he moved to the CSIR-Central Drug Research Institute, Lucknow, India, on a higher position, and July 2011

onwards he holds a Principal Scientist position. He has been awarded the BOYSCAST Fellowship by the Department of Science and Technology, New Delhi, India, in 2007. As a part of this program he visited University of California, San Diego (UCSD), USA, where he worked in Prof. William Fenical's lab on marine bacteria and fungus from April 2007 to March 2008. He published more than 110 research articles in various national and international journals, two book chapters, a US patent and delivered 33 invited lectures in national and international conferences. Under his supervision 13 students have been awarded their Ph.D. One of the thesis guided by him has been chosen for Eli Lilly and Company Asia Outstanding Thesis Award for 2014. He has been honored with the CSIR-CDRI Incentive Award for the best publication during the year 2008, 2012, 2014 and 2017. Currently, his research group is engaged in developing leads for various diseases such as malaria, leishmania, cancer, diabetes, and lipid lowering from the Indian medicinal plants, marine organisms. He also carries out work on chemical transformation and synthesis of natural products of biological importance.

## IL 57

## Diversity Oriented Synthesis Approach for Macrocycles

***Sushil K. Maurya***[1,2*]

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**BIODATA**

Dr. Sushil Maurya received his M. Sc. in Organic Chemistry from Lucknow University,Lucknow and Ph. D. in Chemistry from National Chemical Laboratory, Pune, India. Dr.Maurya performed his postdoctoral studies with Prof. Lizbeth Hedstrom in the Department ofBiochemistry at the Brandeis University, USA and Prof. Greg Cuny in the Laboratory forDrug Discovery in Neurodegeneration and Partners Center for Drug Discovery, Brigham &Women's Hospital and Harvard Medical School, Cambridge, USA working on acollaborative project on Medicinal Chemistry. He worked as Marie Curie Fellow with Prof.Adam Nelson in the Department of Chemistry at the University of Leeds, Leeds, UK. Dr.Maurya was a visiting scientist in the group of Prof. Erhard Kemnitz in the department ofChemistry, Humboldt University, Berlin, Germany. After working in the industry for about 4years advanced from Senior Research Scientist to Group Leader, Dr. Maurya started hisacademic career in the Natural Product Chemistry & Process Development Department as aSenior Scientist at CSIR-Institute of Himalayan Bioresource Technology, Palampur, India.Dr. Maurya is a recipient of Early Career Research Award from Science and EngineeringResearch Board, Govt. of India. His research interests include the designing and synthesis ofbioactive small molecules with an emphasis on natural products and their analogs for drugdiscovery, Natural Product Synthesis, Synthetic Organic & Catalysis Chemistry, andChemical Biology.

## IL 58

## Unique Rearrangements of β-Aryloxyacrylates and δ-Hydroxy-alkynones Under Mild Acid Catalysis

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**BIODATA**

Dr. Rodney did his B.Sc in chemistry from Dhempe college of arts and science, Miramar, Goa with first class distinction and 2ndstaterankin 1995. He completed his masters of science in organic chemistry with outstanding grade "O", 1st rank in chemistry department from Goa Universityin 1997. He did his Ph.D in synthetic Organic chemistry from Pune University. He did his postdoctoral research with prof. Dr. Yoshinori Yamamoto from Tohoku University, Sendai, Japan. He was also a Postdoctoral Research Alexander von Humboldt Research Fellow (AvH), with Prof. Dr. Reinhard Brückner at Albert-Ludwigs-University, Germany. He served as Dean Academic Programme and Dean Faculty Affairs at IIT Goa (on deputation from IIT Bombay) and Acting Director of IIT Goa.He is currently working as Professor in Chemistry Department at IIT Bombay.His research interests involveasymmetric synthesis of bioactive molecules/natural products and total synthesis; organometallic chemistry, chiral asymmetric reactions, palladium catalysis, development of new catalysts and oxidative organic transformations and synthesis of heterocycles. His affiliation to scientific bodies includes Member of Board of Studies, Chemical Sciences, M.S. University of Baroda, Vadodara, Gujarat (2017 onwards), Elected Fellow of Maharashtra Academy of Sciences (2015), Life Member of Maharashtra Academy of Sciences Life Member of Chemical Research Society of India (CRSI), Indian Society of Chemists and Biologists (ISCB) and Indian Association of Chemistry Teachers (IACT).He wasrecently awarded as the "Departmental Excellence in Teaching Award," Chemistry Department, IIT Bombay in September 2019.

## IL 59

## Beneficial effects of Bergenin in Alzheimer's disease: In silico, in vitro and invivo evaluation

***Niyati Acharya***
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**BIODATA**

Dr. Niyati has 18 years of experience in teaching and natural product research. She has published 34 international/national research papers, 3 book chapters, 1 patent and presented more than 80

posters. She has completed research projects of more than 50 lacs and has been doing many consultancy projects for herbal drug industry and research centers. Being a recognized PG/Ph.D. guide, guided more than 20 M. Pharm & 12 M. Sc Cosmetic technology students, 3 PhD students have been awarded and 4 are pursuing Ph. D at Nirma University under her able guidance. She is the recipient of GABTP national woman scientist award for the year 2019. She has also received Dr. P.D. Sethi's research paper award in 2006 and best paper award at International Symposium on Cancer research at GCRI in 2014. The research area of her interest includes phytopharmacology based investigations & characterization of biomarkers from medicinal plants for the management of wounds, obesity, liver disorders, and neurodegenerative disorders like Alzheimer's disease. She is also working on herbal drug standardization and development of novel and target based herbal formulations. She is the member of various professional bodies like APTI, ISP, IPA, ISTE, Society of ethnopharmacology and IPGA and has been working as an editorial member and reviewer for many journals of Elsevier, Taylor and Francis and Willey.

## IL 60

## Model Informed Precision Dosing for Pediatric Population

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**BIODATA**

Dr Saranjit Singh is Ex-Dean and Professor and Head of the Department of Pharmaceutical Analysis at the National Institute of Pharmaceutical Education and Research (NIPER) at S.A.S. Nagar, Panjab, India. He is a renowned academic, having ~37 years of teaching and research experience. He is alumnus of UIPS, Punjab University, having completed his B.Pharm. in 1977, M.Pharm. in 1979 and Ph.D. in 1987. He is known for excellence in research, and is well recognized International expert in the areas of drug stability testing, degradation chemistry, impurity and metabolite profiling. He has published ~230 research papers, general articles and book chapters. He has one patent and one edited book on drug stability to his credit. Till date, his team has executed ~100 industry sponsored projects involving most sophisticated instruments like LC-MSn, LC-MS/TOF and LC-NMR. He is a member of Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations and also has been a temporary advisor to the World Health Organization in the Expert Committee on Specifications for Pharmaceutical Preparations. He has delivered 493 invited lectures, and has spoken at the forums of AAPS, USP, DIA, IPA, IDMA, SSX, etc. He has guided a large number of Master's and Ph.D. students. He is Contributory Editor of Trends in Analytical Chemistry (TrAC) and Editorial Board member of several leading journals, including Journal of Pharmaceutical and Biomedical Analysis. He is recipient of Professor M.L. Khorana Memorial Lecture Award from Indian Pharmaceutical Association; and Outstanding Analyst and Eminent Analyst awards from Indian Drug Manufacturers Association.

## IL 61

## Human space medicine: stability issues with case studies and countermeasures

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Dr. Priti Mehta, Professor and head of department of Pharmaceutical Analysis at the Institute of Pharmacy, Nirma University, has more than 20 years of teaching, research and industrial experience. She started postgraduate programme of Pharmaceutical Regulatory Affairs at Institute. Her area of expertise encompasses stability studies of drugs, Impurity profiling, elucidation of degradation pathways of drugs, isolation and characterisation of active moiety from plant and marine seaweeds, bioequivalence and bioavailability studies, development of long acting formulations, effects of radiation exposure on medicines, etc. She is pioneer in getting interdisciplinary research grants at Nirma University. Recently she received DST-DPRP project as principal coordinator to develop national facility for the characterisation of biosimilars. Dr Mehta worked on many research projects from government funding agencies, like AYUSH, ISRO, BRNS, GUJCOST, GSBTM etc. She is a mentor of Women Scientist under WOS-A scheme of DST. Under her guidance many students got research fellowship from CSIR, DST-INSPIRE, ICMR etc. Dr Mehta has published a number of research papers and review articles in peer reviewed scientific journals. She has presented research papers in International conference at USA. Dr. Mehta has delivered guest lectures at various Institutions during seminars, workshops and staff development programme. She has rendered professional services to leading universities in various capacities. Her research students won scientific poster awards at national forums. She is a recipient of prestigious M L Khurana award for the best research paper in Pharmaceutical Analysis. She is also recipient of P D Sethi award and R V Patel Best thesis award in guide category. She was conferred prestigious APTI woman of the year 2018 award by the Association of Pharmaceutical Teachers of India for her scientific and academic contribution.

## IL 62

## Isocyanide Insertion Reactions: Our Findings

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Dr. Siddharth Sharma is currently working as Assistant Professor in Mohanlal Sukhadia University, Udaipur, previously he has worked as DST-INSPIRE Faculty in Guru Nanak Dev University, Amritsar, Punjab. Before that, he was postdoctoral fellow at POSTECH South Korea where he has worked in

the area of flow chemistry. Dr. Siddharth Sharma has completed his PhD from CSIR-CDRI, Lucknow in 2012. Dr. Sharma is currently working in the area of isocyanides and electroorganic synthesis

## IL 63

## Involvement of PTEN expression in antitumour activity of febuxostat against 4-Nitro quinolone induced oral cancer in rats

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**BIODATA**

Dr.Jigna Shah is working as Professor and Head of Department of Pharmacology at Nirma University, Ahmedabad, India. She has Academic and Research Experience of 22 years in specialization area of Pharmacology. Her research area include Neuropharmacology, Oncology and Clinical Research. She has more than 46 publication in national and international journal of repute. Dr.Jigna has successfully completed several industrial projects on oncology, toxicological studies, CNS studies, gastrointestinal pharmacology, wound healing etc. worth Rs. 6 lakhs. She received grants from FAP GSBTM, GUJCOST, AICTE Research Promotion Scheme (RPS) andFaculty Development Programme (FDP) for various major and minor projects. She was awarded by Dr. S. Vajpayee award for best oral presentation at 24th Indian Society of Hypertension Conference for the paper entitled "Impact of Vitamin D Supplementation on Lipid Profile and Clinical Status in Coronary Artery Disease Patients" during 26-28th September 2014. She got first prize for paper presentation at RAPCOPINC 2014 International conference held at Ramanbhai Patel College of Pharmacy, Changa during 27-28th February 2014. Also she got first prize for the paper "Memory enhancing herbal medicines in Indian market: A survey" in 17th Annual Conference (Gujarat Chapter) of Indian Pharmacological Society held at S. K. Patel College of Pharmaceutical education and research, on 19th Jan, 2003. Till now she successfully guided 45 M.pharm students and currently 4 M.pharm students and 6 PhD students are there under her guidance. She is reviewer of The Journals like International Journal of Ayurveda Research, Journal of Basic and Clinical Research, Journal of Pharmacy and Pharmacotherapeutics, BMC research, etc. She is lifetime member of Indian Pharmaceutical Association (IPA), Indian Pharmacological Society (IPS), Indian Society for Technical Education (ISTE), Association of Pharmacy Teachers of India (APTI), Indian Pharmacy Graduate Association (IPGA), LMCP ALUMNI Association & Research Society

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