

ISCB LIFETIME ACHIEVEMENT AWARD

ISCB LIFETIME ACHIEVEMENT AWARD IN CHEMICAL SCIENCES

Prof.M.S.Shingare

Emeritus Scientist, CSIR,
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Dr. M. S. Shingare has been acting as an Emeritus scientist CSIR-HRDG at Department of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Before this, he served the department of chemistry and university for 40 years in various capacities, viz. Lecturer, Reader, Professor and Senior Professor. He shouldered the responsibilities as Head, Dept. of Chemistry, Dept. of Chemical Technology and Director, Board of Colleges and University Development. He worked in various activities like University Senate, Academic Council and Management Council. He noticeably contributed not only to chemistry but to overall growth of university and specially Department of chemistry.

Professor Shingare's contributions as a researcher have been reflected through his published research in various peer reviewed international journals with high impact and citations. He worked in multifarious areas and contributed significantly to the synthetic organic chemistry by providing several scalable and cost effective synthetic protocols for value added materials. He has received recognition for his efforts in developing unique alternative protocols for efficient and safe conduct of Knoevenagel, Biginelli, Suzuki, Heck reactions and many more.

So far, he has published more than 250 research articles in the journals of national and international repute. He has authored reference books published by CRC press, Taylor & Francis group and Lambert Academic Publishing. He guided 50 students for their Ph.D. degree in chemistry and all his students have occupied better positions as Professor, Research scientist in academic and corporate sectors.

Professor Shingare received financial support from funding agencies including DST, CSIR, and UGC. Under his leadership as a Head, DST-FIST and UGC-SAP programs at Department of chemistry. Because of his keen interest and awareness for updateness department received recognition as leading department producing CSIR/UGC-NET qualifying students in every academic year.

In view of his research and academic contribution, Government of Maharashtra bestowed him an Ideal Teacher Award in 2010. He is also recipient of Govt. of India, Home Ministry, for his research contribution for advancing the analytical techniques for Forensic materials. His scientific and interdisciplinary contribution in chemistry was recognized by Royal Society of chemistry, UK and honored him as FRSC.

ISCB AWARD FOR EXCELLENCE-2017

ISCB AWARD FOR EXCELLENCE-2017, IN THE AREA OF DRUG RESEARCH

Prof. Michael D. Threadgill

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Professor Mike Threadgill completed his first degree in Natural Sciences at the University of Cambridge in 1974; he followed this with a qualification in teaching (PGCE) from the University of Durham (1975). After a period in the research laboratories of Roche Products Ltd. (part of Hoffman-La Roche), he returned to Cambridge to research for his PhD in porphyrin array chemistry “Synthetic Studies Related to Cytochrome Oxidase” under the supervision of Professor Sir Alan R. Battersby; the PhD was awarded in 1981. He was awarded the DSc degree for his research in medicinal and biological chemistry by the University of Bath in 1998.

He has nearly forty years of experience in medicinal chemistry, focussing on cancer and related diseases, with other interests in drug metabolism and isolation and characterisation of natural products. He has over 150 publications in refereed journals, has published five book chapters and has five patents granted or applied for. His journal publications have achieved a total of 3414 citations, with average citations / paper = 22.3 and an H-index of 34.

During his career, he has led or been involved in a wide variety of research projects; he believes passionately in the value of diverse national and international collaboration to share skills, facilities and expertise. His research has seen many highlights. While a Research Fellow at Aston University, he did key work on the elucidation of the metabolism of drugs and toxins carrying N-methyl groups in the human liver, leading to understanding of the unusual mechanisms of action and hepatotoxicity of the candidate anti-cancer drug N-methylformamide (taken to clinical trial by the team) and establishing the mechanism by which the common solvent DMF is hepatotoxic in occupationally exposed factory workers. At the MRC Radiobiology Unit, he led the medicinal chemistry towards identification of RB6145 as a candidate radiosensitising drug and bioreductively activated cytotoxin. After joining the University of Bath in 1990, he achieved the design of molecules that target clusters of boron atoms selectively to hypoxic tumours, for potential applications in BNCT; ^{11}B NMR spectroscopy was used for the first time to demonstrate the biodistribution *in vivo*. However, the major theme of his work over the last 20 years has been structure-based design and development of isoform-selective inhibitors of the poly(ADP-ribose)polymerases (PARPs), a family of enzymes whose individual members have key regulatory roles in a wide range of cellular systems and diseases. His group carried out medicinal chemistry around the isoquinolin-1-one core, which led to the identification of 5-aminoisoquinolin-1-one (5-AIQ) as an inhibitor of PARP-1 with exquisite potency *in vivo* in models of cancer metastasis, inflammation and ischaemia-reperfusion injury (especially in haemorrhagic shock). Recently, his group have developed the most potent and selective inhibitors of the tankyrases, with activity in early models of fibrosis and diabetes, in addition to antiproliferative activity.

He is currently Professor of Medicinal Chemistry at the University of Bath, where he is also the University Ombudsman for Postgraduate Research Students, with pastoral responsibility for all PhD students at the University. Previously, he held positions at Aston University and the MRC Radiobiology Unit. He is a Fellow of the Royal Society of Chemistry, a Chartered Chemist, Honorary Fellow of the Indian Society of Chemists & Biologists and Vice-President of the Groupement des Pharmacochimistes de l'ArcAtlantique.

ISCB AWARD FOR EXCELLENCE-2017

ISCB AWARD FOR EXCELLENCE-2017, IN THE AREA OF CHEMICAL SCIENCES

Dr. A. Ajayghosh

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Dr. Ayyappanpillai Ajayaghosh is the Director of the CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram, India and is a Professor and the Dean of Chemical Sciences, Academy of Scientific and Innovative Research (AcSIR).

Born in Quilon, Kerala, Ajayaghosh obtained his Master's degree in chemistry (1984) and a Ph. D (1989) from Calicut University. He joined the Regional Research Laboratory, CSIR (presently CSIR-NIIST), as a Scientist in 1988. Subsequently, he was the Alexander von Humboldt Fellow at the Max Plank Institute for Strahlen Chemie, Germany (1994-96) and a visiting faculty to many universities and research institutions abroad.

His research contributions are in the interdisciplinary areas of organic photoresponsive materials, supramolecular chemistry, molecular self-assembly, organogels and molecular probes and sensors. He has developed a new class of functional soft materials namely pi-gels having potential applications in energy harvesting, sensing and security materials. He has developed several fluorescent probes for sensing and imaging of biological specimen. His scientific contributions are recognized with the prestigious Shanti Swarup Bhatnagar Prize for Chemical Sciences (2007), the Infosys Science Prize (2012), the Silver Medal of the Chemical Research Society of India (2013), the TWAS Prize for Chemistry (2013) and the J. C. Bose National Fellowship (2015). He is the first chemist to receive the Infosys Science Prize.

He has published over 150 research articles, five book chapters, filed 11 patents and supervised 20 Ph. Ds. His publications are cited over 10000 times with an average citation of 60/paper having an H-index of 50.

He is a Fellow of all the major Science Academies of India. In addition, he is an honorary fellow of the Kerala Academy of Sciences, a fellow of the Royal Society of Chemistry London and is a fellow of The World Academy of Sciences. Since 2013, he serves as an Associate Editor of PCCP, a RSC Journal and a senior editor of the Bulletin of the Chemical Society of Japan. He has been in the Editorial Board of Chemistry: An Asian Journal, Chem.Photochem and Accounts of Chemical Research. He is a member of several academic and institutional bodies and a member of various selection committees.

In addition to his research responsibilities, Ajayaghosh is actively involved in the science education, science popularization, and in science awareness programmes.

ISCB YOUNG SCIENTISTS AWARD-2017

ISCB YOUNG SCIENTISTS AWARD-2017 IN CHEMICAL SCIENCES

Dr. Ravi P Singh

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Over the years, Dr. Ravi P Singh has contributed to the field of synthetic organic chemistry by developing strategies for the synthesis of chiral natural products, newer asymmetric organocatalysts and methodologies for synthetic transformation. Dr. Singh's Ph.D. work utilized the chiron approach towards the stereoselective total syntheses of Dihydrokawain-5-ol, (+)-Cardiobutanolide, (+)-Pentenocin-B and Halicholactone. His postdoctoral work from Corey group at Harvard University, USA, has contributed to the development of chiral Lewis acid catalyzed Diels Alder reactions and its applications in total synthesis of small molecules (Fumagillin and Quinuclidine analog). Further, from Prof. Deng's group he has contributed to the development of asymmetric methodologies by using Cinchona alkaloid based catalyst.

At the Department of Chemistry, IIT-Delhi Dr. Singh's group is engaged in exploring the different facets of catalysis, especially asymmetric catalysis of the fundamentally important organic transformation and C-H activation. His focus in selective asymmetric catalysis, is designing of new chiral catalytic systems and exploring them for the synthesis of functionally and chirally rich molecules. His group is involved in designing amine based organic molecules, which can be further explored as chiral auxiliary/catalyst. Recently, they have explored a small chiral amine for asymmetric vinylogous Mukaiyama Michael reaction of cyclic enones with 2-silyloxy furans by using Asymmetric Aminocatalysis (*Chem. Commun.* **2015**, 51, 13941). Also, his group has recently demonstrated that the direct aldol reaction of 3-alkylidene oxindoles with various oxoesters can be catalyzed by bifunctional cinchona alkaloid/thiourea catalysts to provide diastereomerically and enantiomerically enriched aldol adducts. The reaction is an example of simple alternative to the classical vinylogous aldol reaction of 3-alkenyl-2-silyloxyindoles. Adding to the diversity of vinylogous reactions, Dr. Singh's group reported a highly stereoselective method for the Lewis acid-catalyzed vinylogous substitution of hydroxyl of diarylmethyl alcohol with 3-alkenyl-2-silyloxyindoles, which affords broadly substituted α -alkylidene- β -diaryl-2-oxindoles products with high efficiency and complete β -site and *Z*-selectivity. The reaction displays very wide substrate scope for the reactants, benzhydryl alcohol and 3-alkenyl-2-silyloxyindoles. (*Adv. Synth. Catal.* **2016**, accepted). Furthermore, his group is attempting to generate the chiral secondary and tertiary carbon center generation through vinylogous Mannich reaction (*Org. Lett.* **2014**, 16, 648).

Another area in synthetic chemistry being explored in Dr. Singh's lab is of C-H activation via economical and greener alternatives. More specifically, his group has developed direct C-H activation strategies for intramolecular C-H coupling reaction for heteroarene synthesis (*Chem. Commun.* **2015**, 51, 7065), intramolecular dehydrogenative coupling of various 1,2-diarylethylenes for phenanthrene synthesis (*J. Org. Chem.* **2016**, 81, 5663).

and Pd-catalyzed site selective intramolecular cross coupling of *N*-substituted pyrrole-azoles.

Total Citaion :~600

Average Citation : 30

H index : 9

Selected publications; LAST FIVE YEARS

1. V. Gupta, V. U. BhaskaraRao, T. Das, K. Vanka and **Ravi P. Singh**, "Intramoleculardehydrogenative coupling of 2,3-diarylacrilic compounds: Access to substituted phenanthrenes". **J. Org. Chem.**,**2016**, *81*, 5633.
2. Amol P. Jadhav, Devalina Ray, V. U. BhaskaraRao and **Ravi P. Singh**, "Copper-catalyzed direct cross-coupling of carbon/heteroatom-hydrogen with N-Tosylhydrazones".**Eur. J. Org. Chem.**,**2016**, 2369.
3. V. U. BhaskaraRao, Krishna Kumara and **Ravi P. Singh**, "An Efficient Aldol-Type Direct Reaction of Isatins with TMSCH₂CN".**Org. Biomol. Chem.****2015**, *13*, 9755.
4. Amol P. Jadhav, V. U. BhaskaraRao, P. Singh Rajesh G. Gonnade and **Ravi P. Singh**, "Asymmetric Vinylogous Michael Reaction of Cyclic Enones with Silyloxy Furans". **ChemCommun.** **2015**, *51*, 13941-13944.
5. D. Ray, T. Manikandan, A. Roy, Krishna N. Tripathi, **Ravi P. Singh**, "Ligand–Promoted IntramolecularDehydrogenative Cross-Coupling with Cu Catalyst: A Direct Access to Polycyclic Heteroarenes".**ChemCommun.** **2015**, *51*, 7065-7068.
6. V. U. BhaskaraRao, Amol P. Jadhav, DnyaneshwarGarad, and **Ravi P. Singh**. "Asymmetric VinylogousMannich Reaction of Silyloxy Furans with N-tert-ButanesulfinylKetimines". **Org. Lett.**, **2014**, *16*, 648-651.

ISCB YOUNG SCIENTISTS AWARD-2017

ISCB YOUNG SCIENTISTS AWARD-2017 IN CHEMICAL SCIENCES

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ISCB YOUNG SCIENTISTS AWARD-2017

ISCB YOUNG SCIENTISTS AWARD-2017 IN BIOLOGICAL SCIENCES

Dr. Amit Mishra

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Dr. Amit Mishra completed his M.Sc. in Biotechnology with honour's from Devi Ahilya University, Indore. He then joined PhD in Neuroscience at Cellular and Molecular Neuroscience Unit, National Brain Research Centre, India under the supervision of Prof. NiharRanjan Jana. He investigated the role of key players in protein quality control mechanism: E3 ubiquitin ligase and molecular chaperones. The major focus of Amit research projects has been the study of "Molecular Pathogenesis Mechanism of Various E3 Ubiquitin Ligases and Chaperones Implicated in Neurodegenerative Diseases, Neurodevelopmental Disorders and Ageing".

In 2008, he moved to The Max Planck Institute of Biochemistry (Munich, Germany) as a post-doctoral fellow with Max Planck Society Fellowship. In 2010, he moved back to India and joined as a faculty at the Indian Institute of Technology (IIT) Jodhpur. As a faculty at the Indian Institute of Technology Jodhpur, Dr. Amit Mishra was awarded for prestigious Ramalinganswami Fellowship from the Department of Biotechnology, India. Recently his candidature was selected for the National Academy of Sciences, India (NASI)-Young Scientist Platinum Jubilee Award, Department of Science and Technology (DST)-Japan Society for the Promotion of Science (JSPS) fellowship, International-India and Japan. In IIT Jodhpur Dr. Mishra published 28 prestigious international publications, some of them were recognized as cover page stories of respective journals.

Recently at young age he was selected as Fellow of The Royal Society of Medicine, London and also awarded by "Young Scientist Award" Biotech Research Society India (BRSI), India for his research contribution in these findings: **1) Differential scales of protein quality control: cellular strategies of protein quality control and a survival company under multifactorial toxic events:**2) Cell cycle regulatory E3 ubiquitin ligases implicated in cell cycle regulation and cancer pathways. He was awarded the prestigious Innovative Young Biotechnologist Award (IYBA)-Department of Biotechnology India.

The, Indian Society of Chemists and Biologists, India is privileged to honour Dr. Amit Mishra with 'Young Scientist Award in Biological Sciences' of the society for the year 2017 for his outstanding contributions in Cellular Protein Quality Control Mechanism Implicated in Ageing and Neurodegeneration.

Total Citations: 626

Average Citation: 24

H Index: 14

I-10 Index: 15

Selected publications (LAST FIVE YEARS):

1. ArpitaTawani, Ayeman Amanullah, **Amit Mishra** and Amit Kumar (2016) Evidences for piperine inhibiting cancer by targeting human G-quadruplex DNA sequences
Scientific Reports

2. Vibhuti Joshi, Ayeman Amanullah, Arun Upadhyay, Ribhav Mishra, Amit Kumar and **Amit Mishra***(2016) A Decade Of Boon Or Burden: What Has The CHIP Ever Done For Cellular Protein Quality Control Mechanism Implicated in Neurodegeneration And Ageing?
Frontiers in Molecular Neuroscience

3. Subodh Kumar Mishra, ArpitaTawani, **Amit Mishra** and Amit Kumar (2016) G4IPDB: A database for G-quadruplex structure forming nucleic acid interacting proteins.
Scientific Reports

4. Ayeman Amanullah, Arun Upadhyay, Deepak Chhangani, Vibhuti Joshi, Ribhav Mishra, Koji Yamanaka and **Amit Mishra***(2016) Proteasomal Dysfunction Induced By Diclofenac Engenders Apoptosis Through Mitochondrial Pathway.
Journal of Cellular Biochemistry

5. Arun Upadhyay, Ayeman Amanullah, Deepak Chhangani, Vibhuti Joshi, Ribhav Mishra and **Amit Mishra*** (2016) Ibuprofen Compromises Proteasomal Functions Induces Apoptosis through Mitochondrial Abnormalities.
Molecular Neurobiology

6. Deepak Chhangani, Fumito Endo, Ayeman Amanullah, Arun Upadhyay, Seiji Watanabe; Ribhav Mishra, Koji Yamanaka* and **Amit Mishra*** (2016) Mahogunin ring finger 1 confers cytoprotection against mutant SOD1 aggresomes and defective in an ALS mouse model.
Neurobiology of Disease

7. Arun Upadhyay, Ayeman Amanullah, Deepak Chhangani, Ribhav Mishra and **Amit Mishra***(2015) Selective Multifaceted E3 Ubiquitin Ligases Barricade Extreme Defense: Potential Therapeutic Targets For Neurodegeneration And Ageing.
Ageing Research Reviews

8. Arun Upadhyay, Ayeman Amanullah, Deepak Chhangani, Ribhav Mishra, AmitPrasad and **Amit Mishra***(2015)Mahogunin ring finger-1 (MGRN1), A Multifaceted Ubiquitin Ligase:Recent Unraveling of Neurobiological Mechanisms.
Molecular Neurobiology

9. Deepak Chhangani, Arun Upadhyay, Ayeman Amanullah, Vibhuti Joshi, and **Amit Mishra*** (2014) Ubiquitin ligase ITCH recruitment suppresses the aggregation and cellular toxicity of cytoplasmic misfolded proteins.
Scientific Reports

10. Deepak Chhangani, Nobuyuki Nukina, Masaru Kurosawa, Ayeman Amanullah, Vibhuti Joshi, Arun Upadhyay and **Amit Mishra*** (2014) Mahogunin ring finger 1 Suppresses Misfolded Polyglutamine Aggregation and Cytotoxicity.
BBA-Molecular Basis of Disease

11. Deepak Chhangani, SachinChinchwadkar and **Amit Mishra*** (2014) Autophagy coupling interplay: Can improve cellular repair & aging?

Molecular Neurobiology

12. Deepak Chhangani and **Amit Mishra*** (2013) Mahogunin ring finger-1 (MGRN1) Suppresses Chaperone-Associated Misfolded Protein Aggregation and Toxicity.

Scientific Reports

13. Deepak Chhangani and **Amit Mishra*** (2013) Protein Quality Control System in Neurodegeneration: A Healing Company Hard to Beat but Failure is Fatal.

Molecular Neurobiology

14. Deepak Chhangani.,NiharRanjan Jana; **Amit Mishra*** (2013) Misfolded Proteins Recognition Strategies of E3 Ubiquitin Ligases and Neurodegenerative Diseases.

Molecular Neurobiology

15. **Amit Mishra***, MeghaMaheshwari; Deepak Chhangani, Noriko Fujimori Tonou, Fumito Endo, Ajay P Joshi, Nihar R Jana and Koji Yamanaka* (2013) E6-AP association promotes SOD1 aggresomes degradation and suppresses toxicity.

Neurobiology of Aging

16. Deepak Chhangani, Ajay Prakash Joshi, **Amit Mishra*** (2012) E3 Ubiquitin Ligases in Protein Control Mechanism.

Molecular Neurobiology