Programme Booklet

Newton-Bhabha Fund Researcher Links Workshop

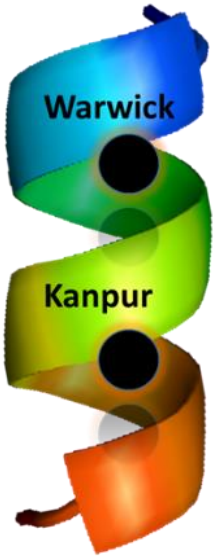
on

Peptides, Proteins and Metals in Disease and Therapy

6-8 November 2017

Indian Institute of Technology Kanpur, India

Workshop Coordinators: Prof. Peter Sadler and Prof. Sandeep Verma.
Mentors: Prof. Peter O'Connor, Prof. Subramaniam Ganesh, Prof. Govindasamy Mugesh, Dr. John Viles, Dr. Joanna F. Collingwood.



Welcome

We hope you will enjoy this workshop. The topic is based on our belief that metals play vital roles in the life of all organisms and are becoming increasingly important in therapy. Understanding the interactions between metal ions and proteins and peptides in particular presents many challenges from the standpoint of basic biochemistry to therapeutic approaches. The need to elucidate both the thermodynamics (equilibria) and kinetics of metal-ligand interactions, metal- and ligand-centred redox processes, on a wide range of times scales from nanoseconds to years, stretches the application of state-of-the-art techniques to the limit.

We will discuss not only the general theme of metals in biology and medicine, but also specific areas where improved understanding of metal-peptide and metal-protein interactions could lead to major advances in the diagnosis and treatment of diseases, including Alzheimer's, and Parkinson's.

We are looking forward to hearing about your exciting research during talks and posters. Importantly, we hope all participants will contribute strongly to the Workshop discussions.

Interdisciplinary research thrives on collaborations, and we will discuss opportunities for India-UK cooperation to make significant contributions to future research in this field.

Professor Sandeep Verma and Professor Peter Sadler, Workshop Coordinators.

The Indian Institute of Technology, Kanpur

Indian Institute of Technology, Kanpur, established in 1959, is one of the premier institutions established by the Government of India. The aim of the Institute is to provide meaningful education, to conduct original research of the highest standard and to provide leadership in technological innovation. The Department of Chemistry, Indian Institute of Technology Kanpur is one of the premier departments in the country today. The strength of the department has been and continues to be excellence in research and teaching.

The department faculty is extremely well qualified, and motivated with a strong commitment to teaching and research. The commitment to research is reflected in the large number of projects sponsored by the Ministry of Human Resources and Development, Department of Science and Technology, Department of Atomic Energy, Department of Space and Council of Scientific and Industrial Research. The alumni of the Department occupy high positions in industry and academia, in India and abroad. Their accomplishments have been outstanding and reflect on the quality training imparted at the undergraduate and graduate level.

The University of Warwick

The University of Warwick, established in 1965, is a leading UK research University belonging to the prestigious Russell group and is comfortably positioned in the top 10 of UK universities. According to the UK Government's Research Excellence Framework (REF2014) 87% of Warwick's research was rated as 'world-leading' or 'internationally excellent'. The Warwick vision is to be a world-class university – one with a dynamic, enterprising approach to solving global challenges; one that enables students to create their place in the world; one that defines the university of tomorrow. The Department of Chemistry at Warwick is one of the top Chemistry Departments in the UK, and is a thriving, highly collaborative and interdisciplinary unit within a Science Faculty of nine departments. At the 2014 REF exercise the department was ranked 6th overall for research quality with 98% of the department's research classified as "world-leading" or "internationally excellent".

Warwick Chemistry's research strategy is based on collaboration, drawing on relevant aspects of Warwick's Global Research Priorities (GRPs) and extensive strategic engagement with industry, while maintaining core disciplinary excellence across our Research Themes of: Analytical Science & Instrumentation; Chemical Biology; Interfaces and Materials; Polymer Chemistry; Synthesis and Catalysis; Theory and Simulation. Research excellence at Warwick Chemistry is evidenced by the significant number of research grant and fellowship awards made to the department by both national and international agencies, including the UK Research Councils, the Royal Society, and from the European Union, which currently includes six highly prestigious European Research Council (ERC) grants and ten Marie Curie international fellowships. The department strives for teaching excellence for a student community which includes 500 undergraduate students, 20 postgraduate taught students, 170 PhD students and 80 postdoctoral researchers. Many Warwick Chemistry graduates work in research or teaching, but many go on to work in Medicine, Pharmaceuticals, and Government, Finance and Management. We supply many industries where objective thinking, advanced numeracy, excellent time management and an analytical mind sets them above their peers.

Welcome from the British Council

About the British Council

The British Council is the UK's international organisation for cultural relations and educational opportunities. We create friendly knowledge and understanding between the people of the UK and other countries. Using the UK's cultural resources we make a positive contribution to the countries we work with – changing lives by creating opportunities, building connections and engendering trust. We work with over 100 countries across the world in the fields of arts and culture, English language, education and civil society. Each year we reach over 20 million people face-to-face and more than 500 million people online, via broadcasts and publications. Founded in 1934, we are a UK charity governed by Royal Charter and a UK public body. The majority of our income is raised delivering a range of projects and contracts in English teaching and examinations, education and development contracts and from partnerships with public and private organisations. Eighteen per cent of our funding is received from the UK government.
About UK/India 2017UK/India2017 is a year-long celebration of the long-standing relationship between India and the UK, which will see a vast programme of cultural exchange and activity take place in cities across both countries. Working with a huge number of partners and institutions, the British Council is developing a programme of cultural activity which will connect and inspire people in both countries; and strengthen and celebrate the UK and India's cultural ties. For more information on UK/India 2017 please visit www.britishcouncil.in

About the Newton Fund

The Newton Fund builds research and innovation partnerships with 17 partner countries to support their economic development and social welfare, and to develop their research and innovation capacity for long-term sustainable growth. It has a total UK Government investment of £735 million up until 2021, with matched resources from the partner countries.

The Newton Fund is managed by the UK Department for Business, Energy and Industrial Strategy (BEIS), and delivered through 15 UK delivery partners, which include the Research Councils, the UK Academies, the British Council, Innovate UK and the Met Office.

For further information visit the Newton Fund website (www.newtonfund.ac.uk) and follow via Twitter: @NewtonFund.

Researcher Links Workshops

Newton Bhabha Researcher Links workshops, initiative run in partnership with the Royal Society of Chemistry (RSC) provides opportunities for early-career researchers from the UK and India to interact, learn from one another, and builds long-lasting working relationships through workshops in areas that directly benefit Indian economic and social prosperity. To date British Council India has supported 15 workshops addressing key areas like Clean water through advanced and affordable materials, Advanced Nanomaterials for Energy, Health and Sustainability, Urban Air Pollution in Indian and UK cities and Nano Bio-materials for Water Purification. These workshops would benefit over 500 early career researchers by 2018.

Welcome from the Royal Society of Chemistry

The Royal Society of Chemistry is proud to be a partner in this British Council Newton Fund Researcher Links Workshop. The aims of the British Council Researcher Links programme strongly align with our international strategy. Working with partners around the world to ensure a flourishing future for global chemistry is central in our mission to advance excellence in the chemical sciences.

Through our operational alliance with the British Council, we are very proud to be one of the organisations involved in co-funding the Newton Fund Researcher Links programme. Welcome from the Royal Society of Chemistry In 2016 we supported six workshops in India, on topics such as antimicrobial resistance, biomaterials for water purification, catalysis for sustainability, and nanomaterials for energy and air pollution. In 2017 we are supporting nine. The Royal Society of Chemistry is the world's leading chemistry community, advancing excellence in the chemical sciences. With over 54,000 members and a knowledge business that spans the globe, we are the UK's professional body for chemical scientists, supporting and representing our members and bringing together chemical scientists from all over the world.

Tackling the Emergence of Antimicrobial Resistance: Increasing Awareness and Facilitating Research Networks, Chandigarh, November 2016.

Urban Air Pollution in Indian and UK Cities: Characterization and Prediction of Chemically Reactive Air Pollutants, Delhi, December 2016.

A not-for-profit organisation with a heritage that spans 175 years, we have an ambitious vision for the future. We invest in educating future generations of scientists. We raise and maintain standards. We partner with industry and academia, promoting collaboration and innovation. We advise government on policy. And we promote the talent, information and ideas that lead to great advances in science.

We are tremendously proud of our association with Indian science. Many Indian scientists sit on our journal editorial and advisory boards, and India is the second highest contributor to our journals.

We have an active member community, strong relationships with academia, government and industry, and staff members in our Bangalore office committed to supporting our many activities here. Please do contact us if you would like to learn more about the many ways in which you can benefit from membership of the Royal Society of Chemistry, including international funding opportunities. In a complex and changing world, chemistry and the chemical sciences are essential. They are vital in our everyday lives and will be vital in helping the world respond to some of its biggest challenges. We wish you a successful and enjoyable workshop, and hope that it will lead to new friendships, opportunities and collaborations.

Workshop Coordinators

Prof. Peter J. Sadler

Peter Sadler obtained his BA, MA and DPhil at the University of Oxford. Subsequently he was a Medical Research Council Research Fellow at the University of Cambridge and National Institute for Medical Research. From 1973-96 he was Lecturer, Reader and Professor at Birkbeck College, University of London, and from 1996-2007 Crum Brown Chair of Chemistry at the University of Edinburgh. In June 2007 he took up a Chair in Chemistry at the University of Warwick as Head of Department, where he is now a Professorial Research Fellow.

He is a Fellow of the Royal Society of Edinburgh (FRSE) and the Royal Society of London (FRS), and EPSRC RISE Fellow (Recognising Inspirational Scientists and Engineers). Recently he was a European Research Council Advanced Investigator, and Mok Hing-Yiu Distinguished Visiting Professor at the University of Hong Kong.

His research interests are centred on the coordination chemistry of metals in medicine, in particular on the design of organometallic anticancer complexes, photoactivated chemotherapeutic agents, catalytic drugs, and metal neurochemistry.

Prof. Sandeep Verma

Sandeep Verma is the current Head and Shri Deva Raj Endowed Chair Professor at the Department of Chemistry, Indian Institute of Technology, Kanpur. His current research interests include chemical biology of amyloidogenic protein aggregates, biomaterials for intracellular delivery of gaseous neurotransmitters, and bioinspired nanomaterials.

He has received several awards and recognition, which include Materials Research Society of India "MRSI Annual Prize" (2018), National Prize for Research on Interfaces of Chemistry and Biology, C.N.R. Rao Education Foundation (2017), J C Bose National Fellowship, DST, Government of India (2013), Ranbaxy Research Award in Pharmaceutical Sciences (2013), Shanti Swarup Bhatnagar Prize (2010), Swarnajayanti Fellowship (2005). He is Fellow of the Indian National Science Academy (INSA), Indian Academy of Science (IAS), and National Academy of Sciences, India (NASI). He is also an Associate Editor of Chemical Communications (RSC, UK).

Mentors

Prof. Peter B. O'Connor

Professor Peter O'Connor joined the University of Warwick in early 2009 from Boston University where he was the Assistant Director of the School of Medicine's Center for Biomedical Mass Spectrometry. He spent the decade from 1999-2009 building this resource (with the help of Profs Catherine Costello and Joe Zaia) into one of the world's leading mass spectrometry groups – particularly in biomedical collaborations, FTICR instrumentation research, and glycobiology. Before Boston, he spent 2 years at IonSpec, a mass spectrometry company, 2 years as a PDRA at the FOM Institute for Atomic and Molecular Physics in Amsterdam, and received his PhD from the lab of Prof. Fred W. McLafferty at Cornell University.

Peter O'Connor's research focuses on designing and improving Fourier-Transform Ion Cyclotron Resonance (FTICR) mass spectrometers (MS) from an instrumental, fundamental understanding of methods, and applications viewpoint. His research is highly interdisciplinary, spanning chemistry, biochemistry, medicine, bioinformatics, and electrical engineering.

Prof. Subramaniam Ganesh

Professor Subramaniam Ganesh is currently a Professor and Dean of Research and Development at the Indian Institute of Technology (IIT), Kanpur. He obtained his Ph.D. from the Banaras Hindu University, Varanasi, in the year 1996. Prior to joining IIT Kanpur, Ganesh served as a post-doctoral staff scientist at the RIKEN Brain Science Institute, Japan. A major research focus of Ganesh's group is to identify and characterize molecular players in neurodegenerative pathways. His group has made significant contributions in understanding the pathophysiology of Lafora neurodegenerative disorder, and has identified potential intervention strategies.

Prof. Govindasamy Mugesh

G. Mugesh is a Professor at the Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore. He received his PhD from the Indian Institute of Technology, Bombay, in 1998 with Prof. H. B. Singh. After postdoctoral studies, he became Assistant Professor in 2002 at the Indian Institute of Science, Bangalore. His research interests include the chemistry of thyroid hormone metabolism, development of novel therapeutics for endothelial dysfunction and neurodegenerative diseases, and nanomaterials for biological applications.

His recent efforts are directed toward the development of synthetic compounds and nanomaterials that can maintain the reactive oxygen species (ROS) homeostasis and redox regulation in cellular signalling under disease conditions.

Mugesh received several awards and recognition, which include National Prize for Research on Interfaces of Chemistry and Biology, C.N.R. Rao Education Foundation (2017), J. C. Bose National Fellowship, DST, Government of India (2015), Shanti Swarup Bhatnagar Prize (2012), AstraZeneca Excellence in Chemistry Award (2011), Swarnajayanti Fellowship (2006-07). He is Fellow of the Indian National Science Academy (INSA), Indian Academy of Science (IAS), and National Academy of Sciences, India (NASI).

About IISc: The Indian Institute of Science (IISc), established in 1909, is a premier and one of the top-ranking institutions for advanced scientific and technological research and education in India. Since its inception, IISc has laid a balanced emphasis on the pursuit of basic knowledge in science and engineering, as well as on the application of its research findings for industrial and social benefit. The Institute has around 500 faculty and 4000 students, who contribute to a broad spectrum of research in science and engineering. In addition to Government funding, IISc has strong collaboration with industries, which include the new Centre for Brain Research (CBR) supported by Mr. and Mrs. Kris Gopalakrishnan for translational research on diseases of the aging human brain.

Dr. John Viles

Dr Viles received his Ph.D. from the University of London in 1994 and continued his research with Prof P Sadler (FRS) and Dame Prof J Thornton (CBE, FRS) studying metallo-proteins using NMR. In 1997 he took up a post-doctoral position with Prof P Wright at the Scripps Research Institute, California. In collaboration with the Nobel Laureate, Prof S Prusiner, he has published a number of significant papers on structure and function of the prion protein. Prions are the novel infectious agent of BSE and CJD in humans. He returned to the UK in 2000 to take up a lectureship position at Queen Mary and is currently a reader in biochemistry at Queen Mary, University of London.

Dr John Viles has an active research program studying protein misfolding associated with amyloid formation in neurodegenerative diseases. His team uses a range of biophysical techniques to study the fundamental process that influence neurotoxic oligomer and amyloid plaque formation. Approaches include, bimolecular spectroscopies, including NMR, CD, IR and EPR to study protein structure, misfolding and stability. In addition, florescent dyes, transmission electron microcopy and antibody binding are used to study the factors that influence the kinetics of fibre and oligomer formation.

Dr. Joanna F. Collingwood

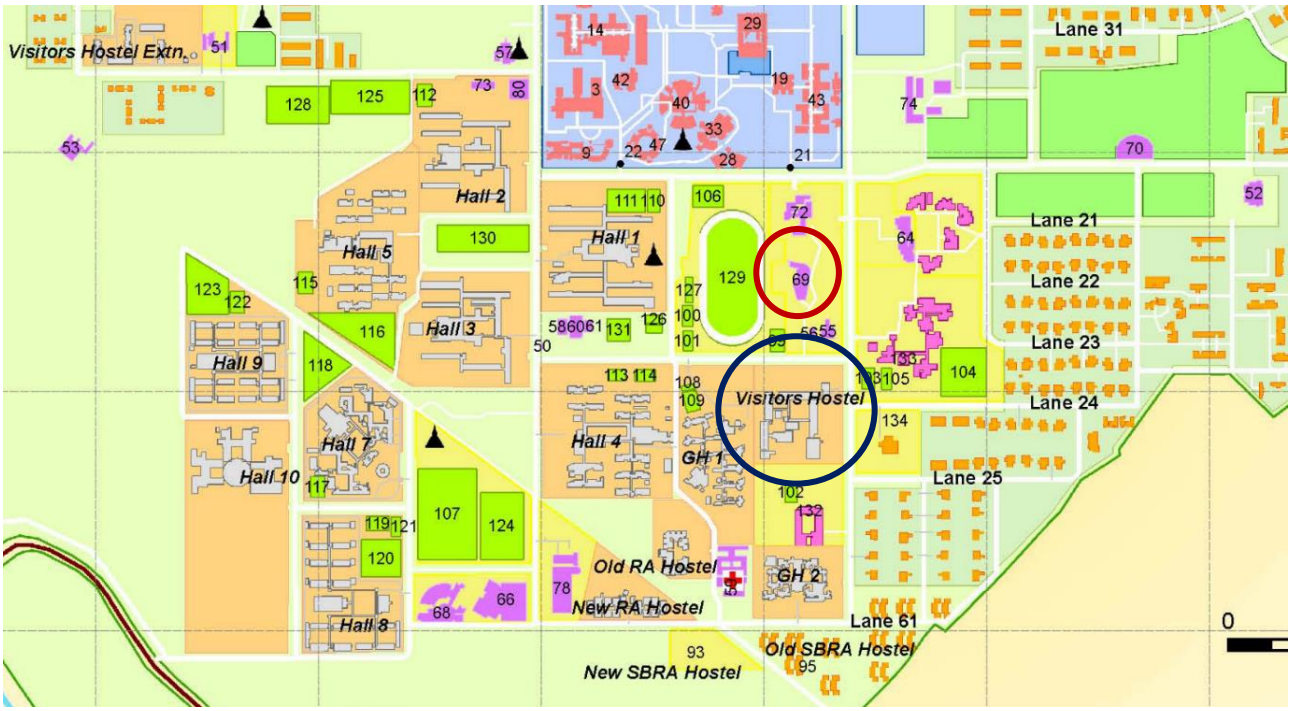
Dr. Joanna Collingwood is an Associate Professor at the University of Warwick. She studies the role of metals in neurodegenerative disorders, with particular focus on the use of advanced synchrotron X-ray spectromicroscopy (XRM) and magnetic resonance imaging (MRI) to characterize nanoscale iron compounds and protein deposition in the human brain. The research also includes systems modelling of iron metabolism in health and disease.

Information for Participants

Accommodation

Everybody will be staying at the **Visitors Hostel** (blue circle) in IITK campus. In case of exigent circumstances participants may have to stay in the Faculty Apartments (Near RA hostels, entry 92 in the map).

Map of IITK



Conference venue

All talks and poster sessions will be held in Outreach Building (entry 69 in the map; 5 minutes walk from Visitors Hostel, red circle).

Internet Access

Each participant will be given a temporary user ID and password for the duration of their stay here with which they will be able to access wifi anywhere in the campus. For this facility, a **photocopy of some identification document** is required (i.e. passport).

Food

Date	Meal	Time	Location
All Days	Breakfast	7:30 AM - 9:00 AM	Visitors hostel dining room
All Days	Lunch	12:30 PM- 2:00 PM	Visitors hostel dining room
5/11/2017	Dinner	6:00 PM- 7:00 PM	Visitors hostel dining room.
6/11/2017	Dinner	6:00 PM- 7:00 PM	Lawns of House No. 654 (Entry 140, Lane 35 in map)
7/11/2017	Dinner	07:30 PM Onwards	Visitors Hostel Lawns
8/11/2017	Dinner	6:00 PM- 7:00 PM	Lawns of House No. 654 (Entry 140, Lane 35 in map)

PROGRAMME

(KN= Keynote Lecture, ECR= Early Career Research, P= Poster, RT= Round Table Discussion)

Sunday 5th November 2017 (Day 0)	
Arrival	
6:00 – 7:00 p.m.	Dinner (Visitors Hostel Dining Room)
Monday 6th November 2017 (Day 1)	
Session 0: Welcome	
09:00 – 09:30 a.m.	Professor S. Verma (Indian Institute of Technology, Kanpur) Representative (British Council) Dr. Rajesh Parishwad (Royal Society of Chemistry, Bangalore)
Session 1: Metals in Biology and Medicine Chair: Prof. Sandeep Verma (Indian Institute of Technology, Kanpur)	
9:30 – 10:10 a.m.	KN1- Prof. Peter Sadler (University of Warwick) Peptides, Proteins and Metals in Disease and Therapy
10:10 – 10:30 a.m.	ECR1- Dr. V. Venkatesh (Indian Institute of Science, Bangalore) Metallodrugs for Therapeutic Applications
10:30 – 10:50 a.m.	Tea / Coffee
10:50 – 11:30 a.m.	KN2- Prof. Peter O'Connor (University of Warwick) Ultra-High Resolution Mass Spectrometry of Peptides and Proteins

11:30 – 11:50 a.m.	ECR2- Dr. P. Sivaperumal (ICMR- National Institute of Occupational Health) Recent advancements in identification and Quantification of Diagnostic Markers by LC /MS
11:50 – 12:10 p.m.	ECR3- Dr. Chris Wootton (University of Warwick) Exploring biomolecules, metallodrugs and their interactions via the use of UHR-FTICR Mass Spectrometry
12:10 – 12:30 p.m.	RT1-What we the major limitations in the experimental techniques available for the study of the speciation of metals and their complexes with peptides and proteins?
LUNCH: 12:30 p.m. – 02:00 p.m. (VH)	
Session 2: Peptides as Drugs and Delivery Agents Self-assembly and aggregation of peptide structures; Peptide-peptide recognition; Peptide-conjugated nanoparticle Chair: Professor Pete O'Connor (University of Warwick)	
02:00 – 02:40 p.m.	KN3-Prof. Sandeep Verma (Indian Institute of Technology, Kanpur) Peptide aggregates as vehicles for nitric oxide release in neuronal cells
02:40 – 03:00 p.m.	ECR4- Dr. Nidhi Gour (Indian Institute of Advanced Research) Disruption of diphenylalanine fibres and a nanoparticle based assay for assessing its disassembly
03:00 – 03:20 p.m.	ECR5- Dr. Paul Wilson (University of Warwick) Engineering novel therapies for potent but restrictively toxic antimicrobial peptides
03:20 – 03:40 p.m.	ECR6- Dr. A. Shanmugarathinam (Bharathidasan Institute of Technology Anna University) Formulation and Characterisation of Ritonavir loaded Ethylcellulose Buoyant Multiparticulates
03:40 – 04:00 p.m.	Tea / Coffee
04:00 – 04:40 p.m.	KN4- Dr. John Viles (Queen Mary, University of London) Metal Ions, Amyloid Proteins and Alzheimer's Disease
04:40 – 05:00 p.m.	ECR7- Dr. Matthew Mold (Keele University) Intracellular tracing of amyloid vaccines through direct fluorescent labelling
05:00 – 05:20 p.m.	ECR8- Dr. Rakesh Yadav (Banasthali University)

	Pharmacological evaluation of some newer pyrimidine analogues as anti-Alzheimer's agents
05:20 – 05:40 p.m.	ECR9- Dr. Frederik Lermyte (University of Warwick) Native mass spectrometry of amyloid-beta interaction with metal cations
05:40 – 06:00 p.m.	RT2-How can the understanding of metal biochemistry lead to major advances in medicine?
Dinner: 06:00 – 07:00 p.m. (VH)	
07:30 – 09:00 p.m.	Poster Session-1 **NB: The posters will be on display throughout the workshop.** P1- Dr. Riccardo Bonsignore (Cardiff University) Aquaporins as drug targets for gold based compounds: Interaction of metal compounds with human proteins P2- Dr. Rianne Lord (University of Bradford) Ruthenium (III) dihalide complexes: dichloride to diiodide exchange, generating cytotoxic and cancer selective single trans isomers P3- Dr. Namrata Singh (Indian Institute of Technology, Kanpur) NifEN Protein: Role as a Molybdate Reductase in Biosynthesis of the Iron-Molybdenum Cofactor in Nitrogenase P4- Dr. Ruchi Gaur (Indian Institute of Technology, Kanpur) A combined experimental and theoretical investigation of nitrato-bridged homodinuclear complexes with DNA: Nuclease activity, topoisomerase inhibition and Apoptotic study P5- Dr. Anais Pitto-Barry (University of Bradford) Synthesis and encapsulation of highly hydrophobic and electron-deficient complexes into a water-soluble polymer for biomedical applications P6- Dr. Clare-Louise Towse (University of Bradford) Protective and Pathological Conformations of Isomerized Humanin (Role of isomerisation in amyloidogenesis) P7- Surya Rajan (University of Warwick)

	Detection of Iron and Myelin by MRI in Alzheimer's Disease P8- James P.C. Coverdale (University of Warwick) Asymmetric Os(II) transfer hydrogenation catalysis in cancer cells P9- Dr. Graeme Stasiuk Dual modal SERS/Fluorescence probes for mitochondria
Tuesday 7th November 2017 (Day 2)	
Session 3: Transition Metal Ions; Alkali and Alkaline Earth Metal Ions; Metallo-proteins and Metallo-enzymes Chair: Prof. G. Mugesh (Indian Institute of Technology, Kanpur)	
09:00 – 09:40 a.m.	KN5- Prof. G. Mugesh (Indian Institute of Technology, Kanpur) Synthetic Compounds and Nanomaterials for ROS Homeostasis and Redox Regulation
09:40 – 10:00 a.m.	ECR10- Dr. Andrew Jamieson (University of Glasgow) Peptide tools for investigating zinc dependent metallo-enzymes
10:00 – 10:20 a.m.	ECR11- Dr. Anbu Sellamuthu Kooduthurai (University of Birmingham) Spin labelled metallo coiled coil peptides
10:20 – 10:40 a.m.	ECR12- Dr. Sudeshna Ghosh (Indian Institute of Technology, Kanpur) A crystallographic view of small heat shock protein (HspA)
10:40– 11:00 a.m.	Tea / Coffee
Session 4: Outreach to Schools/Industry 11:00 – 12:30 p.m. Details to be confirmed	
LUNCH: 12:30 p.m. – 02:00 p.m. (VH)	
02:30 – 02:50 p.m.	ECR 13- Dr. Saptarshi Mukherjee (Indian Institute of Science Education and Research, Bhopal) Luminescent Copper Nanoclusters as a Nanothermometer, Specific Cell-Imaging Probe and Selective Metal Ion Sensor
02:50 – 03:10 p.m.	ECR 14- Dr. Nandini Bhandaru (Indian Institute of Technology, Kanpur) Effect of Surface and Confinement on the Self-Assembly of Peptides
03:30 – 04:00 p.m.	RT3- Peptides, proteins and nanoparticles

04:30 – 06:30 p.m.	Poster Session-2 Posters P1-P9
Dinner: 7:00 p.m. onwards	
Wednesday 8th November 2017 (Day 3)	
Session 5: Implications for Health and Disease (medical) Molecular pathology of amyloid-related diseases; Trace metals in medicine; Diagnostic markers and new therapies Chair: Dr John Viles (Queen Mary, University of London)	
09:00 – 09:40 a.m.	KN6- Prof. S. Ganesh (Indian Institute of Technology, Kanpur) Molecular Players in Neurodegenerative Pathways
09:40 – 10:00 a.m.	ECR15- Dr. Kogularamanan Suntharalingam (King's College London) Taking the cancer stem cell gamble with metal complexes
10:00 – 10:20 a.m.	ECR16- Dr. Vishal Rai (Indian Institute of Science Education and Research) Native proteins can be labeled at single-site using chemical methods
10:20 – 10:40 a.m.	ECR17- Dr. Ria Sanyal (Indian Institute of Science, Bangalore) GTP cyclohydrolase-1 (GTPCH-1) and GTPCH-1 Feedback Regulatory Protein(s) (GFRP) and their role in Endothelial Dysfunction
10:40– 11:00 a.m.	Tea / Coffee
11:00 – 11:20 a.m.	ECR18- Dr. Graeme Stasiuk (University of Hull) Dual modal imaging agents of zinc
11:20 – 11:40 a.m.	ECR19- Dr. Ashutosh Kumar Mishra (Indian Institute of Technology, Hyderabad) Oligonucleotide-Peptide Conjugate as delivery vehicle for DNA based therapeutics
11:40 – 12:30 p.m.	KN7- Dr. Joanna Collingwood (Video Link, University of Warwick) RT4- What roles do metals and peptides play in neurological and other diseases?
LUNCH: 12:30 p.m. – 02:00 p.m. (VH)	
Session 6: New advances	

Chair: Prof. S. Ganesh (Indian Institute of Technology, Kanpur)	
2:00 – 2:20 p.m.	ECR20- Dr. Arindam Mukerjee (Indian Institute of Science Education and Research, Kolkata) Progressive ligand design to impart cytotoxicity through more than one pathway against cancer: Design of Pt and Ru metal complexes
2:20 – 2:40 p.m.	ECR21- Dr. James Walton (Durham University) Anticancer Metal Complexes : HDAC Enzyme Inhibitors and Pyridylphosphinate Complexes
2:40 – 3:00 p.m.	ECR22- Dr. Neelam V. Dwivedi (Indian Institute of Technology, Bombay) Ferrite-cochleate and Ferrite-silica-insulin nanocomposites for glucose reduction
3:00 – 3:20 p.m.	ECR23- Dr. Abhijit Patra (Indian Institute of Science Education and Research, Bhopal) Molecular interactions-driven pyridoindole-based multifunctional bioprobe for switchable fluorescence and specific targeting of lipid droplets
3:20 – 3:40 p.m.	ECR24- Dr. Aravind Kumar Rengan (IIT Hyderabad and Bio-nanotechnology) Metallic Nanomedicine : A Novel Prospectus In Cancer Theranostics
3:40 – 4:00 p.m.	Tea / Coffee
4:00 – 5:20 p.m.	RT5- Overview of Workshop- what breakthroughs are needed in this field, from chemistry to medicine? How could collaborations help? Summary and Conclusions Plans for Future Cooperation Feedback
Dinner: 06:00 – 07:00 p.m.	
Thursday 9th November 2017 (Day 4)	
Breakfast 08:00 – 09:30 a.m. (VH)	
Departure	

Workshop Coordinators and Mentors

Name	Institution	Email
Prof. Peter Sadler	University of Warwick	p.j.sadler@warwick.ac.uk
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Prof. Subramaniam Ganesh	Indian Institute of Technology Kanpur	sganesh@iitk.ac.in
Dr. Joanna F. Collingwood	University of Warwick	J.F.Collingwood@warwick.ac.uk
Prof. Govindasamy Mugesh	Indian Institute of Science Bangalore	mugesh@ipc.iisc.ernet.in
Dr. John Viles	Queen Mary University of London	j.viles@qmul.ac.uk

Acknowledgements

We thank Dr. Frederik Lermyte for his help with the initial planning of this Workshop, including the design of the Workshop poster and website, and our Workshop secretaries, Lizzie Bolitho (University of Warwick) and Namrata Singh (Indian Institute of Technology, Kanpur).