

# Symposium on Advanced Biological Inorganic Chemistry

November 4-7, 2009

## Programme

<b>Venue: Homi Bhabha Auditorium Wednesday Nov 4, 2009</b>			
9:00	9:20		INAUGURATION
9:20	10:00	PL1	G.W. Canters (3) <i>Approaching the limit of single enzymes</i>
10:00	10:30		TEA
10:30	11:10	PL2	B. Ludwig (5) <i>Surf1, associated with Leigh syndrome in humans, binds heme a during bacterial COX biogenesis</i>
11:10	11:40	KL1	Y. Naruta (48) <i>Dioxygen Activation on Chemical Models of Heme Enzymes</i>
11:40	12:05	IL1	T. Ogura (175) <i>Protein dynamics of cytochrome c oxidase as studied with resonance raman spectroscopy</i>
12:05	12:30	IL2	S. de Vries (70) <i>Proton pumping by cytochrome oxidases involves the conserved tryptophan<sup>272</sup></i>
12:30	12:55	IL3	S. Aono (35) <i>Structure and function of aldoxime dehydratase containing a heme as the active center for dehydration reaction</i>
12:55	13:10	OL1	A. Dey (190) <i>Functional Models of Cytochrome c Oxidase and Nitric Oxide Reductase: Design → Spectroscopy → Mechanistic Insight</i>
13:10	14:10		LUNCH
14:10	14:50	PL3	A.G Wedd (17) <i>Molecules of Copper Metabolism and Resistance</i>
14:50	15:15	IL4	D. Dasgupta (61) <i>Metal binding ability of aureolic acid group of antibiotics and its consequence upon their activity inside the cell</i>
15:15	15:30	OL2	Zhiguang Xiao (80) <i>Distinct Reaction Mechanisms of CueO from E. coli as Cuprous Oxidase and Phenol Oxidase</i>

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15:30	15:45	OL3	A.K. Sau (60) <i>A mechanistic study of the roles of metal ions and a unique motif in the catalysis of helicobacter pylori arginase</i>
15:45	16:00	TEA	
16:00	17:00	SPL1	J.S. Valentine (2) <i>Manganese: a versatile antioxidant element</i>
17:00	17:30	TEA	
17:30	18:10	PL4	K.D. Karlin (21) <i>Copper and heme-copper dioxygen and nitrogen monoxide adducts and chemistry</i>
18:10	18:25	OL4	Tanya Das (189) <i>Immune editing by CuNG: Ancient metal as a modern weapon against cancer</i>

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<b>Thursday, Nov 5, 2009</b>			
09:00	9:40	PL5	S.I. Chan (4) <i>Learning from nature to develop a catalyst for the facile conversion of methane to methanol</i>
9:40	10:10	KL2	D.M. Dooley (29) <i>Experimental and computational approaches to the structures and functions of copper-containing oxidases</i>
10:10	10:30	TEA	
10:30	11:10	PL6	Russ Hille (7) <i>The Chemical Mechanism and Origin of Catalytic Power in Xanthine Oxidoreductase</i>
11:10	11:40	KL3	T. Nishino (154) <i>Xanthine Oxidoreductase, a molybdoflavoprotein: Properties of behavior of various type inhibitors and application of these to the ALS transgenic mice</i>
11:40	12:05	IL5	C. Schulzke (117) <i>Temperature Dependent Electrochemistry of Analogous Molybdenum and Tungsten Cofactor Models</i>
12:05	12:30	IL6	M. Chikira (45) <i>Interaction of Dinuclear Cationic Schiff Base Metal Complexes with DNA</i>
12:30	12:55	IL7	M. Palaniandavar (55) <i>Non-covalent DNA Binding and DNA Cleavage and Anticancer Activities of Mixed Ligand Cu(II) and Ru(II) Complexes of Diimines</i>

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12:55	13:10	OL5	A.S. Kumbhar (165) <i>Metal polypyridyl complexes and their interactions with DNA</i>
13:10	14:10	LUNCH/POSTER	
14:10	14:50	PL7	S. Fukuzumi (15) <i>Bioinspired Artificial Photosynthetic Systems for Cutting CO<sub>2</sub> Emission</i>
14:50	15:15	IL8	S. Hirota (31) <i>Proteins, peptides and inorganic compounds incorporated with photo-triggering and photo-regulating properties</i>
15:15	15:30	OL6	M Ravikanth (105) <i>Core-modified porphyrin building blocks and covalent and noncovalent unsymmetrical porphyrin arrays</i>
15:30	17:30	TEA/POSTER	
17:30	18:10	PL8	Y. Watanabe (28) <i>Hydrogen Peroxide-Dependent Cytochrome P450 from Bacillus Subtilis (P450<sub>BSβ</sub>)</i>
18:10	18:25	OL7	S.P. Rath (83) <i>Modulation of iron displacements and axial ligand orientations in a nonplanar porphyrinic environment</i>

<b>Venue: Homi Bhabha Auditorium</b>			
<b>Friday, Nov 6, 2009</b>			
9:00	9:40	PL9	J.T. Groves (41) <i>- How Nature Uses Oxygen - Lessons from Enzymes and Model Compounds</i>
9:40	10:10	KL4	H. Masuda (51) <i>Activation of Dioxygen by Dinuclear Cu or Fe Complexes with cis-1,3,5-Triaminocyclohexane Ligands as a Metallo-enzyme Model</i>
10:10	10:30	TEA	
10:30	11:10	PL10	L. Banci (01) <i>Copper transport and homeostasis in mitochondria within a mechanistic systems biology perspective</i>
11:10	11:40	KL5	R. Banerjee (71) <i>Enzymes as escorts in organometallic cofactor trafficking</i>

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11:40	12:05	IL9	Nils Metzler-Nolte (98) <i>Labelling of bioactive peptides with organometallic compounds: from basic chemistry to biomedical applications</i>
12:05	12:30	IL10	K. Kikuchi (262) <i>Development of bio-imaging probes, which convert biological signals to chemical output</i>
12:30	12:55	IL11	P. Sen (113) <i>Regulation of Ca<sup>2+</sup>-ATPase by a synthetic calcium channel blocker, 2,4-DPH : Aiming towards a targeted cancer therapy</i>
12:55	13:10	OL8	S. Mazumdar (56) <i>Bioinorganic research at TIFR: The CuA of cytochrome c oxidase, the cytochrome P450 and the Wilson's disease</i>
13:10	14:10	<b>LUNCH/POSTER</b>	
14:10	14:40	KL6	E.C. Theil (149) <i>Ferritins and nature's feedback loop to manage Fe &amp; O in protein nanocages</i>
14:40	15:05	IL12	T. Ueno (33) <i>Bioinorganic functions designed in the protein nanocage of ferritin</i>
15:05	15:30	IL13	G.Li (65) <i>Applications of electrochemical technique to biological inorganic chemistry</i>
15:30	15:50	<b>TEA</b>	
15:50	16:20	KL7	R.N. Mukherjee (53) <i>Transesterification of 2-hydroxypropyl-p-nitrophenylphosphate using phenoxo-bridged dinuclear Co<sup>II</sup>, Ni<sup>II</sup>, and Zn<sup>II</sup> complexes</i>
16:20	16:35	OL9	D. Chatterjee (161) <i>Prospects of Ruthenium polyaminocarboxylate complexes as Metallo-pharmaceuticals</i>
16:35	16:50	OL10	N Rajesh (172) <i>Bio-based composites for the removal of chromium from industrial waste water</i>
16:50	17:00	<b>BREAK</b>	
17:00	18:00	SPL2	T. Ramasami (110) <i>Some Excitements at cross-borders of Science</i>
18:00	18:25	<b>TEA</b>	

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<b>Saturday, Nov 7, 2009</b>			
9:00	9:40	PL11	W.W. Nam (6) <i>Metal-Oxygen Intermediates in Dioxygen Activation by Chemical Models of Heme and Nonheme Monooxygenases</i>
9:40	10:10	KL8	P Comba (69) <i>Oxygen activation with non-heme iron complexes: ligand control of structure, electronics and reactivity</i>
10:10	10:30	TEA	
10:30	11:00	KL9	T. Shimizu (16) <i>Mechanisms of gas-sensing and intra-molecular signal transduction of a heme-based Oxygen-sensor enzyme, Ec DOS</i>
11:00	11:25	IL14	H Nakajima (34) <i>A Signal Transduction Mechanism Inspired by Natural Sensor Protein</i>
11:25	11:50	IL15	S de Visser (137) <i>Cis- and Trans- ligand effects on substrate monooxygenation by iron(IV)-oxo oxidants</i>
11:50	12:15	IL16	G Mugesh (84) <i>Binuclear zinc hydrolases and their synthetic mimics</i>
12:15	12:40	IL17	C. Pulla Rao (101) <i>Bioinorganic Aspects of the Conjugates of Calix[4]arenes &amp; Carbohydrates</i>
12:40	12:55	OL11	V. Subramanian (164) <i>Engineering and redesigning of metalloproteins and metalloenzymes: a computational chemistry perspective</i>
12:55	13:10	OL12	C.V Sastri (103) <i>Redox behaviour of non-heme metal complexes: a pulse radiolysis study</i>
13:10	14:10	LUNCH/POSTER	
14:10	14:40	KL10	Y.Lu (26) <i>Why are there so few metal ion sensors that are being used practically and what can we do about it?</i>
14:40	15:05	IL18	H Sun (011) <i>Biocoordination chemistry of Ni(II) and Zn(II) in chaperones HypA and GroES</i>
15:05	15:30	IL19	Michio Iwaoka (191) <i>Redox-coupled folding of proteins by using small organic selenium reagents</i>
15:30	15:45	TEA	

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15:45	16:25	PL12	J. E. Penner-Hahn (37) <i>Inorganic Physiology: Distribution and Speciation of            Metal Ions in Biological Systems</i>
16:25	17:00	Discussion on Posters and Concluding Remarks	
17:00	17:30	TEA	