9th Asian Biological Inorganic Chemistry Conference
Stephen Riady Centre, UTown,
National University of Singapore, Singapore
www.asbic9.org

Technical Programme
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Welcome Message 1

Committees 2

Plenary Speakers 4

Keynote Speakers 8

Invited Speakers 10

Technical Workshop 13

Exhibitors 14

Technical Programme

- Sunday, 9 December 2018 17
- Monday, 10 December 2018 18-23
- Tuesday, 11 December 2018 24-29
- Wednesday, 12 December 2018 31-33
- Thursday, 13 December 2018 35-39
- Poster Sessions 40-48

Programme Overview & Floor Plan (detachable sheet)
Welcome to the 9th Asian Biological Inorganic Chemistry Conference!

We are excited to host this important event on the Biological Inorganic Chemistry conference calendar and we thank you for your strong support and enthusiasm. This is the 9th AsBIC conference with the previous meetings held in Auckland (2016), the Gold Coast (2014), Hong Kong (2012), Kaohsiung (2010), Jeju (2008), Nanjing (2006), Goa (2004), and Okazaki (2002). AsBIC conferences have grown from strength-to-strength and this year, we are pleased to welcome approximately 350 attendees from more than 30 countries including 7 plenary, 22 keynote, and 91 invited speakers; 47 paper presentations; and 150 posters.

AsBIC conferences are about sharing knowledge, exchanging ideas, and building friendships among the diverse representatives from the wide range of countries that constitute our bioinorganic chemistry community. As a multiracial city-state at the crossroads of the world, we hope that Singapore will provide the appropriate setting for this blending of opinions, ideas, and philosophies. We hope that you will maximize the numerous opportunities available for you to interact with the thought-leaders and opinion-shapers at this conference, and forge deep bonds with your peers and friends as you chart new research directions.

We have lined up a series of social activities to complement the exciting conference schedule. For example, all participants will be given a free entrance pass to the Lee Kong Chian National History Museum, the only museum of its kind in Singapore. We also have thematic lunches across the various days that would introduce you to our unique local hawker fare and cuisine. In addition, we invite you to join us for a Fruit Fest to sample distinctive local fruits such as the much-maligned durian.

The conference would not have been possible without the strong support from the National University of Singapore and Nanyang Technological University chemistry departments, and from our main sponsors: the Singapore Tourism Board, Perkin Elmer, and ThermoFisher Scientific. Finally, we would like to convey our gratitude to Ms Linda Janti Oei (conference secretary), as well as Mr Ivan Boo and Ms Fong Lee (conference secretariat), for their many contributions to making this conference a success.
COMMITTEES

ASIAN BIOINORGANIC CHEMISTRY STEERING COMMITTEE

Hongzhe SUN, University of Hong Kong, Hong Kong SAR (Chair)
Wee Han ANG, National University of Singapore, Singapore
Sue BERNERS-PRICE, Griffith University, Australia
Zijian GUO, Nanjing University, China
Christian HARTINGER, University of Auckland, New Zealand
Shinobu ITOH, Osaka University, Japan
Way-Zen LEE, National Taiwan Normal University, Taiwan
Shyamalava MAZUMDAR, TATA Institute for Fundamental Research, India
Wonwoo NAM, Ewha Women’s University, South Korea
Chew Hee NG, International Medical University, Malaysia
Yoshiihito WATANABE, Nagoya University, Japan
Xiaoda YANG, Peking University, China

CONFERENCE ORGANISING TEAM

Wee Han ANG, National University of Singapore (Chair)
Bengang XING, Nanyang Technological University (Co-Chair)
Linda Janti OEI, National University of Singapore (Secretary)
Kiat Hwa CHAN, Yale-NUS College
Edith Sau Han CHAN, National University of Singapore
Wai Yip FAN, National University of Singapore
Han Vinh HUYNH, National University of Singapore
Weng Kee LEONG, Nanyang Technological University
Giorgia PASTORIN, National University of Singapore
Fangwei SHAO, Nanyang Technological University
Han Sen SOO, Nanyang Technological University
Thomas WALCZYK, National University of Singapore
Yaw Kai YAN, National Institute of Education
John Hon Kay YIP, National University of Singapore
Ivan BOO, INMEET CMS (Conference Secretariat)
Fong LEE, INMEET CMS (Conference Secretariat)
ANTI-CANCER METAL MEDICINES WITH N-HETEROCYCLIC CARBENE LIGANDS

The clinical success of cisplatin has led to tremendous advances in new metal coordination compounds for anti-cancer applications. The distinct planar coordination geometry and coordination unsaturation of d⁶ and d¹⁰ metal ions render their metal complexes to be unique scaffolds for the design of new diagnosis and therapy for treatment of cancers. Ligands with C donor atom(s) such as N-heterocyclic carbene (NHC) are used to construct cationic gold(III), Au(I), Pd(II), Pt(II) and Ir(III) complexes with good stability and cell permeability under physiological conditions. N-heterocyclic carbene ligands are able to stabilize metal ions against demetallation and render the metal complexes to be strongly emissive in solutions through suppression of excited state structural distortion. The rich luminescent properties of metal-N-heterocyclic carbene complexes are convenient spectroscopic handles for tracking of the complexes inside the cells and can be used for the detection of biomolecules and in vivo thermal-shift proteomics, and transcriptomic profiling to identify the direct molecular targets of anti-cancer metal complexes. The anti-cancer pincer type d⁶ metal complexes have been found to engage multiple anti-cancer targets, which is beneficial for the design of new chemotherapy for drug resistant cancers. We have also developed chemical formulation strategies to the research on highly cytotoxic anti-cancer metal complexes with an objective to lower the toxic side effects.

LIGHT-MEDICINE

Biomineralization is an important tactic by which biological organisms produce hierarchically structured inorganic minerals with marvellous functions. Biomineralization studies typically focus on the mediation function of organic matrices on inorganic minerals, which helps scientists to design and synthesize bioinspired functional materials. However, the presence of inorganic minerals may also alter the native behaviours of biological organisms and in nature, biomineralization plays a key role in promoting organism evolution. Accordingly, it represents another tactic that scientists can utilize to improve biologicals with functional materials. Typical achievements in this newly emerging research area include biomineralized vaccines, which are "thermostable vaccines that do not need refrigeration", and biomineralized algae for the biological photosynthesis of hydrogen. Besides, the inorganic mineral phase produced by target cell calcification can be used as an alternative drug-free chemotherapy of cancers. These results represent the achievement of successful biological functional improvements using inorganic materials. It is suggested that the rationally designed organism-material hybrid complex can shed light on solving several global problems. The successful modification of biological systems using materials is based on the regulatory effect of materials on organisms, which can be extended to understand the recognition of organic molecules by using inorganic compounds. Unlike previous studies, our study integrates materials and biological science to achieve a more comprehensive view of the mechanism and applications of biomineralization, which highlights the material-based regulation of life systems.

ARTIFICIAL METALLOENZYMES: CHALLENGES AND OPPORTUNITIES

In stark contrast to enzymes, predictably exploiting second coordination sphere interactions remains challenging in homogeneous catalysis. To overcome this challenge, artificial metalloenzymes offer an attractive means to engineer proteins as host for coordination complexes. In this context, the biotin-streptavidin technology has proven versatile in the past decade. Such artificial metalloenzymes can be improved either by chemical (varying the spacer between the biotin and the metal moiety) or genetic- (mutation of (strept)avidin) means. These chemogenetic schemes were applied to optimize the performance for eight different catalyzed transformations as well as reaction cascades in the presence of natural enzymes. This talk will summarize our efforts to complement both homogenous and enzymatic catalysis with artificial metalloenzymes. Particular emphasis will be set on controlling second coordination sphere interactions to improve catalytic performance in vivo.
Japan
Osaka University
Kazuya KIKUCHI

PLENARY SPEAKERS

Tuesday, 11 Dec 2018
4:15 pm - 5:15 pm | Plenary Lecture 5

BIO-INSPIRED ELECTROCATALYSTS

Metalloenzymes are the best known electrocatalysts for most known chemical transformations. Decades of persistent attempts of mimicking their reactivity (both rate and selectivity) using small molecule analogues have resulted in deeper understanding of the factors that contribute to their efficacy. In particular, enzymes that catalyze transformations that require multiple electrons and protons have been particularly difficult to mimic in homogeneous solutions. With the development of new in situ analytical techniques to probe electrocatalysts (e.g. SERRD-RDE), direct information on the rate limiting steps in electrocatalysis has been obtained and, subsequently, appropriate changes in the design of the catalysts have allowed remarkable enhancements in their electrocatalytic activity.

Efficient electrocatalysts for facile and selective reduction of oxygen to water and electrochemical analogues of cytochrome P450 has been discovered which show reactivity and turnover rates similar to those of the native enzyme. The mechanistic investigations have revealed similarities between O2 reduction and CO2 reduction and the designing principles employed to affect efficient O2 reduction can be easily translated to CO2 reduction resulting in some of the best known electrocatalysts for the reduction of CO2 to CO.

Wednesday, 12 Dec 2018
9:00 am - 10:00 am | Plenary Lecture 6

IN VIVO CHEMICAL PROBES FOR MRI AND FLUORESCENCE IMAGING

One of the great challenges in the post-genome era is to clarify the biological significance of intracellular molecules directly in living cells. If we can visualize a molecule in action, it is possible to acquire biological information, which is unavailable if we deal with cell homogenates. One possible approach is to design and synthesize chemical probes that can convert biological information to chemical output. In this talk, molecular design strategies for MR and fluorescence imaging probes are introduced. MRI (Magnetic Resonance Imaging) is an imaging technique using nuclear magnetic resonance phenomenon. MRI has been clinically used since it yields highly spatial resolution images of deep regions in living animal bodies. A novel 19F MRI contrast agent, fluorine accumulated silica nanoparticle for MRI contrast enhancement (FLAME) is developed, which is composed of a perfluorocarbon core and a robust silica shell. FLAME has advantages such as high sensitivity, stability, modification of the surface, and biocompatibility. The activatable derivative of FLAME will also be introduced. Intravital imaging by two-photon excitation microscopy (TPEM) has been widely utilized to visualize cell functions. The combination of the rationally designed small molecular probes with a fluorescent protein as a reporter of cell localization enabled quantitation of osteoclast activity and time-lapse imaging of its in vivo function.

Thursday, 13 Dec 2018
9:00 am - 10:00 am | Plenary Lecture 7

NITRIC OXIDE ASSISTED FIRST ROW TRANSITION METALS FOR HYDROGENASE-INSPIRED HER ELECTROCATALYSIS

The versatile organometallic type active sites in biology that harbor intact metallo-sulfur units are inspirations for biomimetic studies. Experimental and computational studies address key questions in a structure-function analysis of bioinspired electrocatalysts for the HER. Combinations of NNNS or (NO)FeNS as redox-active donors to (η5-C5H5)Fe(CO)+ or [Fe(NO)]+ receptors, generate a series of bimetallics, gradually “softened” by increasing nitrosylation, from 0 to 3, by the non-innocent NO ligands. The Ni2NS•Fe(NO)2 and (NO)NiNS•Fe(NO)2 complexes are isolated and structurally characterized in two redox levels, yielding information regarding key steps of electrocatalytic cycle.

Computational modeling of experimental structures and likely transient intermediates that connect the electrochemical events find roles for electron delocalization by NO, as well as Fe-S bond dissociation that produce a terminal thiolate as pendant base well positioned to facilitate proton uptake and transfer. Localized electron density features in relatively harder donor-receiver adducts, [NNNS•Fe(NO)]+ and [NNNS•(η5-C5H5)Fe(CO)]+, allow dihydrogen production via proton/hydride coupling by internal S-H-•••H-Fe units. However, more delocalized electron density as observed in soft-soft donor-receiver adducts, (NO)FeNS•Fe(NO)2 complex, produce dihydrogen by converting H-•••H via reductive elimination from two Fe-H, derived from the highly delocalized, doubly reduced [Fe3(NO)]+ derivative. The Ni2Fe complex, featuring built in pendant bases, resulted in a pinched – Sδ−δ−δ−δ−δ−δ−δ- arrangement, that accounts for their inactivity in proton reduction electrocalatysis.
KEYNOTE SPEAKERS

Alison BUTLER  
University of California at Santa Barbara  
USA

Chris CHANG  
University of California at Berkeley  
USA

Eva FREISINGER  
University of Zurich  
Switzerland

Hiroshi FUJII  
Nara Women’s University  
Japan

Dan GIBSON  
The Hebrew University of Jerusalem  
Israel

Zijian GUO  
Nanjing University  
China

Trevor HAMBLEY  
The University of Sydney  
Australia

Michael HANNON  
Birmingham University  
UK

Kien Voon KONG  
National Taiwan University  
Taiwan

Wen-Feng LIAW  
National Tsing Hua University  
Taiwan

Mi Hee LIM  
Korea Advanced Institute of Science and Technology  
South Korea

Zongwan MAO  
Sun Yat-Sen University  
China

Wonwoo NAM  
Ewha Womans University  
South Korea

Tapan Kanti PAINE  
Indian Association for the Cultivation of Science  
India

Kenneth RAYMOND  
University of California at Berkeley  
USA

Ulrich SCHATZSCHNEIDER  
Julius-Maximilians-Universität Würzburg  
Germany

Naoki SUGIMOTO  
Konan University  
Japan

Yu-Kyoung OH  
Seoul National University  
South Korea

Xiaogang QU  
Changchun Institute of Applied Chemistry, CAS  
China

Michele SALMAIN  
Sorbonne Université  
France

Jonathan SESSLER  
University of Texas at Austin  
USA

Gary Ka-Leung WONG  
Hong Kong Baptist University  
Hong Kong
INVITED SPEAKERS

Janice ALDRICH-WRIGHT
Western Sydney University, Australia

Shin AOKI
Tokyo University of Science, Japan

Shigetoshi AONO
Institute of Molecular Science, Japan

Ho Yu AU-YEUNG
University of Hong Kong, Hong Kong

Sue BERNERS-PRICE
Griffith University, Australia

Kiat Hwa CHAN
Yale-NUS College, Singapore

Hui CHAO
Sun Yat-Sen University, China

Loic J. CHARBONNIERE
Université de Strasbourg CNRS, France

Ming-Hsi CHIANG
Academia Sinica, Taiwan

Jia Min CHIN
University of Hull, UK

Shu Sin CHNG
National University of Singapore, Singapore

Guido CLEVER
TU Dortmund University, Germany

Maria CONTEL
City University of New York, USA

Loi DO
University of Houston, USA

Chunying DUAN
Dalian University of Technology, China

Jason ENGLAND
Nanyang Technological University, Singapore

Wei-Yue FENG
Chinese Academy of Sciences, China

Yoshiaki FURUKAWA
Keio University, Japan

Christian GAIDDON
Université de Strasbourg, France

Jinghao GAO
Xiamen University, China

Felipe GARCIA
Nanyang Technological University, Singapore

Gasser GILLES
PSL University, France

Dominic HARE
Florey Institute of Neuroscience and Mental Health, Melbourne, Australia

Christian HARTINGER
University of Auckland, New Zealand

Takashi HAYASHI
Osaka University, Japan

Tsunehiko HIGUCHI
Nagoya City University, Japan

Shiro HIKICHI
Kanagawa University, Japan

Yutaka HITOMI
Doshisha University, Japan

James HOESCHELE
Eastern Michigan University, USA

Seungwoo HONG
Sookmyung Women’s University, South Korea

Hua-Fen HSU
National Cheng Kung University, Taiwan

Sodio C. N. HSU
Kaohsiung Medical University, Taiwan

Chen-Hsiung HUNG
Academia Sinica, Taiwan

Koichiro ISHIKAWA
Hokkaido University, Japan

Shinobu ITOH
Osaka University, Japan

Sun Hee KIM
Korea Basic Science Institute, South Korea

Masahto KODERA
Doshisha University, Japan

Takamitsu KOHZUMA
Ibaraki University, Japan

Takahiko KOJIMA
University of Tsukuba, Japan

Ga-Lai LAW
The Hong Kong Polytechnic University, Hong Kong

Way-Zen LEE
National Taiwan Normal University, Taiwan

Yun Ho LEE
KAIST, South Korea

Hong LIANG
Guangxi Normal University, China

Ying-Wu LIN
University of South China, China

Dan Dan LIU
Hebei University, China

Hongke LIU
Nanjing Normal University, China

Yangzhong LIU
University of Science & Technology of China, China

Kenneth Kam-Wing LO
City University of Hong Kong, Hong Kong

Pui Chi, Gigi LO
National Taiwan Normal University, Taiwan

Tsai-Te LU
National Tsing Hua University, Taiwan

Amrit MAJUMDAR
Indian Association for the Cultivation of Science, India

Juan MAREQUE-Rivas
University of Swansea, UK

Shigeyuki MASAOKA
Institute of Molecular Science, Japan

Shyamalava MAZUMDAR
TATA Institute for Fundamental Research, India

Yuji MIKATA
Nara Woman’s University, Japan

Yuanzeng MIN
University of North Carolina at Chapel Hill, USA

Diego MONTAGNER
Maynooth University, Ireland

Isabel MOURA
Universidade Nova de Lisboa, Portugal

José MOURA
Universidade Nova de Lisboa, Portugal

Chandan MUKHERJEE
IIT, Guwahati, India

Chew Hee NG
International Medical University, Malaysia

Dennis K.P. NG
The Chinese University of Hong Kong, Hong Kong

Dimitrios PANTAZI
Max Planck Institute for Chemical Energy Conversion, Germany

Ashis K. PATRA
Indian Institute of Technology Kanpur, India

Clotilde POLICAR
Ecole Normale Superieure, France

Yun OU
Virginia Commonwealth University, USA

Michael REITHOFER
University of Vienna, Austria

Luca RONCONI
National University of Ireland, Galway, Ireland

Junhyeok SEO
Gwangju Institute of Science and Technology, South Korea

Fangwei SHAO
Nanyang Technological University, Singapore

Hisashi SHIMAOKI
Kyushu University, Japan

Yoshitsugu SHIRO
University of Hyogo, Japan

Roland SIGEL
University of Zurich, Switzerland
QUANTIFYING THE UPTAKE OF METAL BASED THERAPY DRUGS USING SINGLE CELL ICP-MS

Chady STEPHAN
PerkinElmer, Canada

Metallic-based cancer therapy drugs have been around for several years, the most widely used being platinum-based drugs. However these come with severe side effects due to the non-specific targeting of these drugs. The therapeutic effect of cancer treatment is related to the amount of drug that interacts with each individual cancer cell. Traditional drug research techniques, such as conventional inductively coupled plasma mass spectrometry (ICP-MS), have been limited to cell ensemble measurements, which require homogenization of a given cell population for quantitative analysis. However, understanding how many cells are taking up the drug and how much is in each individual cell is vital to understanding the effectiveness of the drug.

This workshop will introduce PerkinElmer’s new and innovative NexION® Single Cell (SC) ICP-MS solution, which allows the rapid analysis of individual cells for the uptake of metal-based therapy drugs and discuss the following:

- SC-ICP-MS advantages for the quantification of metal uptake into cell
  - Quantification of the metal mass in individual cells
  - The distribution of the metallic drug throughout the population
  - The number or percentage of cells that have taken up the drug

- Examples of drug uptake by SC-ICP-MS
  - Uptake of Cisplatin into resistant and non-resistant stains of ovarian cancer cells
  - Uptake of targeted Au NP drugs into cancerous bladder cells

- Hands-on experience with the NexION SC-ICP-MS system
EXHIBITORS

Table Top Display E1
Bruker Singapore Pte Ltd
http://www.bruker.com

Table Top Display D1
Perkin Elmer Singapore Pte Ltd
http://www.perkinelmer.com/

Table Top Display C1
Wiley-VCH Verlag GmbH & Co. KGaA, Germany
www.wiley-vch.de
Opening Ceremony
Auditorium

4:00 pm – 5:00 pm
Guest-of-Honour:
Professor Barry HALLIWELL
Chairman of Biomedical Research Council, A*STAR;
Senior Advisor, Academic Appointments and Research Excellence, Office of the Senior Deputy President and Provost,
Tan Chin Tuan Centennial Professor, National University of Singapore, Singapore

PL Auditorium
Chaired by Han Vinh HUYNH

5:00 pm - 6:00 pm | Plenary Lecture 1
CHEMICAL BIOLOGY OF ANTI-CANCER METAL-CARBENE COMPLEXES. MECHANISM,
TARGET IDENTIFICATION AND IN VIVO STUDIES.
Chi-Ming CHE
The University of Hong Kong, Hong Kong S.A.R. (China)

6:00 pm – 8:30 pm | Welcome Reception | Foyer of Auditorium
<table>
<thead>
<tr>
<th>Lecture Theatre 50</th>
<th>Chaired by Yangzhong LIU</th>
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<tbody>
<tr>
<td>10:15 am - 10:45 am</td>
<td>Keynote</td>
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<tr>
<td>TARGETING STRATEGIES FOR METAL-BASED ANTICANCER AGENTS</td>
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<td>Trevor HAMBLEY</td>
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<td>The University of Sydney, Australia</td>
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<th>Lecture Theatre 51</th>
<th>Chaired by Way-Zen LEE</th>
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<tr>
<td>10:15 am - 10:45 am</td>
<td>Keynote</td>
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<tr>
<td>BIOMIMETIC APPROACHES TO SELECTIVE CATALYTIC OXIDATIONS BY NONHEME IRON COMPLEXES</td>
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<td>Tapan Kantii PAINE</td>
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<td>Indian Association for the Cultivation of Science, India</td>
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<th>Lecture Theatre 52</th>
<th>Chaired by Ho Yu AU-YEUNG</th>
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<tr>
<td>10:15 am - 10:45 am</td>
<td>Keynote</td>
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<tr>
<td>TEXAPHYRINS AS DRUG CANDIDATES: LIFE DEATH AND ATTEMPTS AT RESURRECTION</td>
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<tr>
<td>Jonathan L. SESSLER</td>
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<td>University of Texas at Austin, USA; Shanghai University, China</td>
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<th>Chaired by Jing ZHAO</th>
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<tr>
<td>10:15 am - 10:45 am</td>
<td>Keynote</td>
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<tr>
<td>ORGANOMETALLICS-BASED SERS REPORTERS</td>
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<td>Kien Voon KONG</td>
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<td>National Taiwan University, Taiwan</td>
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10:00 am – 10,15 am | Tea Break | Foyer of Auditorium

12:00 pm – 1:00 pm | Lunch | Foyer of Auditorium
Lecture Theatre 50
Chaired by Diego MONTAGNER

1:00 pm - 1:20 pm | Invited
GOLD-BASED ANTIBODY DRUG CONJUGATES AS POTENTIAL CHEMOTHERAPEUTICS FOR BREAST CANCER
Maria CONTEL
Brooklyn College, The City University of New York, USA

1:20 pm - 1:40 pm | Invited
NEW STRUCTURAL MOTIFS IN THE DESIGN OF ORGANOMETALLIC ANTICANCER AGENTS: BIOMOLECULE INTERACTION AND IMPACT ON THE MODE OF ACTION
Christian HARTINGER
University of Auckland, New Zealand

1:40 pm - 2:00 pm | Invited
METAL-ARENE COMPLEXES: ANTICANCER AND OTHER INTERESTING PROPERTIES
Hongke LIU
Nanjing Normal University, China

2:00 pm - 2:15 pm | Oral
DEVELOPMENT OF NOVEL METHODOLOGIES FOR THE SYNTHESIS OF RU(II)-ARENE ANTICANCER AGENTS
Priyambar PAIRA
VIT Vellore, India

2:15 pm - 2:30 pm | Oral
SYNTHESIS AND EVALUATION OF BIOLOGICAL ACTIVITIES OF ORGANOMETALLIC CONJUGATES OF MONASTROL
Damian PLAZUK
University of Lodz, Poland

2:45 pm – 4:15 pm | Poster Session 1 & Tea Break | Foyer of Auditorium
Poster Session 1 (refer to pg 40 for list of posters)

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Lecture Theatre 51
Chaired by Tsai-Te LU

1:00 pm - 1:30 pm | Keynote
METAL-OXYGEN INTERMEDIATES IN DIOXYGEN ACTIVATION CHEMISTRY
Worwoon NAM
Ewha Womans University, South Korea

1:30 pm - 1:50 pm | Invited
APPLICATION OF IMIDAZOLE-BASED CHELATING LIGANDS TO FUNCTIONAL SYNTHETIC COMPLEXES MIMICKING THE DIOXYGEN ACTIVATING NON-HEME IRON SPECIES
Shiro HIKICHI
Kanagawa University, Japan

1:50 pm - 2:10 pm | Invited
NITRIC OXIDE DIOXYGENATION REACTION AND NITRITE REDUCTION BY IRON AND MANGANESE COMPLEXES HOUSING TAML FRAMEWORK
Seungwoo HONG
Sookmyung Women’s University, South Korea

2:10 pm - 2:30 pm | Invited
UTILITY OF ANTHRACENE SCAFFOLD FOR MODELING OF THE [Fe]-HYDROGENASE ACTIVE SITE
Junhyeok SEO
Gwangju Institute of Science and Technology, South Korea

2:30 pm - 2:50 pm | Invited
ACTIVATIONS OF DIOXYGEN AND NITROGEN OXIDES: CORRELATIONS OF N-CONFUSED PORPHYRIN PLATFORMS WITH BIOLOGICAL ACTIVE POCKETS
Chen-Hsiung HUNG
Institute of Chemistry, Academia Sinica, Taipei, Taiwan

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Lecture Theatre 52
Chaired by Jing ZHAO

1:00 pm - 1:20 pm | Invited
MOLECULAR DESIGN OF METAL COMPLEXES FOR TUMOR TARGETING
Zijian GUO
Nanjing Normal University, China

1:20 pm - 1:40 pm | Invited
DINUCLEAR PLATINUM-NUCLEOBASE COMPLEXES FOR PROTEIN RECOGNITION
Yun QU
Virginia Commonwealth University, USA

1:40 pm – 2:00 pm | Invited
TRANSITION METAL COMPLEXES IN BIOMIMETIC AND CATALYTIC APPLICATIONS
Chandan MUKHERJEE
Indian Institute of Technology Guwahati, India

2:00 pm - 2:20 pm | Invited
HYDROGEN PEROXIDE AS A BIOLOGICALLY-RELEVANT REDUCTANT AND HYDRIDE DONOR
Andrew Gregory TENNYSON
Clemson University, USA

2:25 pm - 2:40 pm | Invited
TRANSMETALATION WITH A TITANIUM(IV) COMPOUND TRANSFORMS BIOFUNCTIONAL COPPER INTO A CYTOTOXIC AGENT
Arthur David TINOCO
University of Puerto Rico Rio Piedras, Puerto Rico

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Lecture Theatre 53
Chaired by Wai Yip FAN

1:00 pm - 1:30 pm | Keynote
MOLECULAR DESIGN OF METAL COMPLEXES FOR TUMOR TARGETING
Zijian GUO
Nanjing Normal University, China

1:30 pm - 1:50 pm | Invited
BIOMOLECULAR PROBES AND CELLULAR REAGENTS DERIVED FROM LUMINESCENT RHENIUM(II), RUTHENIUM(II), AND IRIDIUM(III) COMPLEXES
Kenneth Kam-Wing LO
City University of Hong Kong, Hong Kong S.A.R. (China)

1:50 pm - 2:10 pm | Invited
SINGLET OXYGEN-RESPONSIVE MOLECULES FOR PHOTODELIVERY OF NEUROTRANSMITTERS
Youngmin YOU
Ewha Womans University, South Korea

2:10 pm - 2:25 pm | Invited
DOPAMINE LUMINESCENT DETECTION IN BIOLOGICAL MATRIX BY A COPPER(II) COMPLEX
Ho Yu AU-YEUNG
The University of Hong Kong, Hong Kong S.A.R. (China)

2:25 pm - 2:40 pm | Oral
A NEW BIFUNCTIONAL CHELATOR FOR BISMUTH AND LEAD RADIOPHARMACEUTICALS: A MACROCYCLIC LIGAND WITH SEMICARBAZONE PENDANT GROUPS
Brett Michael PATERSON
Monash University, Australia

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Monday, 10 Dec 2018
**A3 Lecture Theatre 50**
Chaired by Diego MONTAGNER

5:15 pm - 5:35 pm | Invited
*RUTHENIUM COMPLEXES AS MODULATOR OF METABOLISM AND IMMUNOTHERAPY IN GASTRIC CANCER*
Christian GAIDDON
Université de Strasbourg, France

5:35 pm - 5:50 pm | Oral
*TARGETING BREAST CANCER STEM CELL VULNERABILITIES USING RUTHENIUM(II)-ARENE SCHIFF-BASE (RAS) COMPLEXES*
Maria BABAK
National University of Singapore, Singapore

5:50 pm - 6:05 pm | Oral
*METALS IN MEDICINE: PHENOTYPIC CHANGES INDUCED IN BREAST CANCER CELLS TREATED WITH METAL COMPLEXES*
Andria May YAOURTIS
The University of Sydney, Australia

6:05 pm - 6:20 pm | Oral
*CAN FUSOBACTERIUM NUCLEATUM ADHESION PROTEINS INCREASE THE PROOXIDATIVE ACTIVITY OF METAL IONS?*
Kamila STOKOWA-SOLTYS
University of Wroclaw, Poland

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**B3 Lecture Theatre 51**
Chaired by Tapan Kanti PAINE

5:15 pm - 5:35 pm | Invited
**RUTHENIUM COMPLEXES AS MITOCHONDRIA-TARGETING ANTICANCER AGENTS**
Hui CHAO
Sun Yat-Sen University, China

5:35 pm - 5:55 pm | Invited
**NEW T*PP LIPOPHILIC CATIONS FOR ENHANCED MITOCHONDRIAL UPTAKE**
Felipe GARCIA
Nanyang Technological University, Singapore

5:55 pm - 6:15 pm | Invited
**EPIGENETIC MODULATION AND MULTIPLE TARGETING OF ANTICANCER METAL COMPLEXES**
Chew Hee NG
International Medical University, Malaysia

6:15 pm - 6:30 pm | Oral
**TARGETING EPIGENETIC CHANGES: MULTITARGETED VORINOSTAT (SAHA)-DERIVED METAL COMPLEXES WITH POTENT ANTICANCER AND HISTONE DEACETYLASE INHIBITORY ACTIVITY**
Muhammad HANIF
University of Auckland, New Zealand

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**C3 Lecture Theatre 52**
Chaired by Kien Voon KONG

5:15 pm - 5:35 pm | Invited
**TITANIUM AND SILICA-BASED LIQUID MARBLES AND DRY LIQUIDS FOR ENVIRONMENTAL APPLICATIONS**
Jia Min CHIN
University of Hull, UK, Institute of Inorganic Chemistry, University of Vienna, Austria

5:35 pm - 5:55 pm | Invited
**ELECTROCATALYSTS IMMOBILIZED WITHIN LIPOSOMES FOR ENERGY CONVERSION IN NEUTRAL AQUEOUS MEDIA**
Ming-Hsi CHIANG
Academia Sinica, Taiwan

5:55 pm - 6:15 pm | Invited
**PHOTOINDUCED METHANE HYDROXYLATION USING PHOTOSYSTEM II RECONSTITUTED MEMBRANES CONTAINING PARTICULATE METHANE MONOXYGENASE**
Hidehiro ITO
Tokyo Institute of Technology, Japan

6:15 pm - 6:30 pm | Oral
**TARGETING EPIGENETIC CHANGES: MULTITARGETED VORINOSTAT (SAHA) - DERIVED METAL COMPLEXES WITH POTENT ANTICANCER AND HISTONE DEACETYLASE INHIBITORY ACTIVITY**
Muhammad HANIF
University of Auckland, New Zealand

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**D3 Lecture Theatre 53**
Chaired by Wei XIA

5:15 pm - 5:35 pm | Invited
**BIOLOGICAL INORGANIC CHEMISTRY FOR CANCER IMMUNOTHERAPY**
Juan MAREQUE-RIVAS
Swansea University, UK

5:35 pm - 5:55 pm | Invited
**METAL AND METAL OXIDE NANOPARTICLES ACT AS SUPPLEMENTARY AGENTS THAT AFFECT GUT HOMEOSTASIS**
Wei-Yue FENG
Institute of High Energy Physics, Chinese Academy of Sciences, China

5:55 pm - 6:15 pm | Invited
**TAILORED LANTHANIDE-DOPED UPCONVERSION NANOMATERIALS FOR SENSING AND BIOAPPLICATIONS**
Lining SUN
Shanghai University, China

6:15 pm - 6:30 pm | Oral
**ATOMICALLY PRECISE HYBRID NANOPARTICLES WITH MULTIVALENT CAPABILITIES**
Alexander M. SPOKOYNY
University of California Los Angeles, USA

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**Monday, 10 Dec 2018**

6:30 pm – 8:30 pm | AsBIC Steering Committee Dinner
Tuesday, 11 Dec 2018

9:00 am - 10:00 am | Plenary Lecture 4
MODIFICATION OF ORGANISMS BY INORGANIC MATERIALS
Rui Kang TANG
Zhejiang University, China

10:00 am – 10:15 am | Tea Break | Foyer of Auditorium

10:15 am - 10:45 am | Keynote
PLATINUM ANTICANCER AGENTS; FROM MAGIC BULLETS TO CLUSTER BOMBS
Dan GIBSON
The Hebrew University of Jerusalem, Israel

10:45 am - 11:05 am | Invited
PLATINUM ANTICANCER DRUGS: THE MECHANISTIC STUDY AND NEW DRUG DESIGN
Yangzhong LIU
University of Science and Technology of China, China

11:05 am - 11:25 am | Invited
FUNCTIONALIZATION AND DELIVERY OF PT(IV) ANTICANCER PRODRUGS
Guangyu ZHU
City University of Hong Kong, Hong Kong (S.A.R.P) China

11:25 am - 11:45 am | Invited
TRANIPLATIN AND MONO-ETHACRAPLATIN: TWO RECENT EX AMPLES OF DUAL-ACTION PLATINUM(IV) ANTICANCER PRO-DRUGS
Diego MONTAGNER
Maynooth University, Ireland

11:45 am - 12:00 pm | Oral
A PHOTOACTIVE PLATINUM(IV) ANTICANCER COMPLEX INHIBITS THIOREDOKIN-THIOREDOKIN REDUCTASE SYSTEM ACTIVITY BY INDUCED OXIDIZATION OF THE PROTEIN
Yao ZHAO
Institute of Chemistry, CAS, China; Anhui Normal University, China

12:00 pm – 1:00 pm | Lunch | Foyer of Auditorium

12:00 pm – 1:00 pm | Technical Workshop | Seminar Room 1

Refer to pg 13 for for more details
<table>
<thead>
<tr>
<th>Lecture Theatre 50</th>
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<tr>
<td><strong>Chaired by Taotao ZOU</strong></td>
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<td><strong>CHEMICAL TOOLS AND TACTICS TO STUDY MULTIPLE FACETS IN ALZHEIMER’S DISEASE</strong></td>
<td><strong>CATCHING A GLIMPSE OF SUB-METALATED METALLOTHIONEIN SPECIES</strong></td>
<td><strong>CHIRAL RECOGNITION OF AGEING DISEASE RELATED G-QUADRUPLEX AND AMYLOID AGGREGATION</strong></td>
<td><strong>CRITICAL FACTORS IN DETERMINING THE REACTIVITY OF HYPOCHLORITE ADDUCTS OF METAL COMPLEXES</strong></td>
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<td>Mi Hee LIM</td>
<td>Eva FREISINGER</td>
<td>Xiaogang QU</td>
<td>Hiroshi FUJII</td>
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<td>Korea Advanced Institute of Science and Technology, South Korea</td>
<td>University of Zurich, Switzerland</td>
<td>Changchun Institute of Applied Chemistry, CAS, China</td>
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<td><strong>THE THERAPEUTIC EFFECT OF ANTI-DIABETIC VANADYL COMPLEXES ON ALZHEIMER’S DISEASE</strong></td>
<td><strong>A STRUCTURAL PERSPECTIVE ON NICKEL DELIVERY TO UREASE</strong></td>
<td><strong>THE DIVERSE ROLE OF MOLYBDENUM- AND TUNGSTEN-ENZYMES</strong></td>
<td><strong>MANGANESE-COMPLEXES AS SOD-MIMICS: FROM DESIGN TO EVALUATION IN CELLS: AN INORGANIC CELLULAR CHEMISTRY STORY</strong></td>
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<td>Xiaoda YANG</td>
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<td>José J. G. MOURA</td>
<td>Clotilde POLICAR</td>
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<td>The Chinese University of Hong Kong, Hong Kong (S.A.R.), China</td>
<td>Universidade Nova de Lisboa, Portugal</td>
<td>Laboratoire des biomolécules, LBM, Département de chimie, École normale supérieure, PSL University, Sorbonne Université, CNRS, France</td>
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<td><strong>ANTI-ALZHEIMER’S DISEASE POTENTIAL OF METAL COMPLEXES</strong></td>
<td><strong>THE MOLECULAR MECHANISM OF GALLIUM UPTAKE BY PSEUDOMONAS AERUGINOSA</strong></td>
<td><strong>ARTIFICIAL METALLOPROTEINS CONSTRUCTED WITH PROTEIN ASSEMBLIES FOR BIONANO APPLICATIONS</strong></td>
<td><strong>NONHEME MANGANESE(III)-SUPEROXO COMPLEXES: SYNTHESIS, CHARACTERIZATION AND REACTIVITY</strong></td>
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<td>Xiaohui WANG</td>
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<td>Takafumi UENO</td>
<td>Way-Zen LEE</td>
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<td>Nanjing Tech University, China</td>
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<td>Tokyo Institute of Technology, Japan</td>
<td>National Taiwan Normal University, Taiwan</td>
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<td><strong>ZN(II) INDUCED METAL DETOXIFICATION AND ANTIBIOTIC RESISTANCE BY HISTIDINE KINASE CZCS IN PSEUDOMONAS AERUGINOSA</strong></td>
<td><strong>ZINC PROTEINS AS VERSATILE MACROMOLECULAR LIGANDS</strong></td>
<td><strong>CUPIN PROTEINS AS VERSATILE MNII SPIN-LABELS FOR NANOMETER-SCALE DISTANCES MEASUREMENTS BY HIGH-FIELD PULSE EPR</strong></td>
<td><strong>SYNTHETIC MODEL PLATFORMS WITH MNII SPIN-LABELS FOR NANOMETER-SCALE DISTANCES MEASUREMENTS BY HIGH-FIELD PULSE EPR</strong></td>
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<td>Hao CHEN</td>
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<td>Osaka Prefecture University, Japan</td>
<td>Laboratoire des Biomolécules, Département de chimie, École Normale Supérieure, PSL University, Sorbonne Université, CNRS, France</td>
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<td><strong>INVESTIGATING THE MULTI-FUNCTIONAL ROLES OF BACTERIOFERRITIN FROM MYCOBACTERIUM TUBERCULOSIS</strong></td>
<td><strong>THE RICH CHEMISTRY OF WEAK INTERACTION IN BLUE COPPER PROTEIN</strong></td>
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<td>Abhinav MOHANTY</td>
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<td>National Institute of Technology, Rourkela, India</td>
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2:45 pm – 4:15 pm | **Poster Session 2 & Tea Break** | 2:45 pm – 4:15 pm | 2:45 pm – 4:15 pm |

Refer to pg 44 for list of posters
Lecture Theatre 50
Chaired by Maria BABAK

5:15 pm - 5:35 pm | Invited
AURANOFIN INHIBITS VIRULENCE IN PSEUDOMONAS AERUGINOSA
Shu Sin CHING
National University of Singapore, Singapore

5:35 pm - 5:55 pm | Invited
GOLD: NOT JUST JEWELRY...
Luca RONCONI
National University of Ireland Galway, Galway, Ireland

5:55 pm - 6:10 pm | Oral
GOLD AND PLATINUM COMPLEXES CONTAINING N-HETEROCYCLIC CARBENE LIGANDS: ANTI-CANCER AGENTS AND LUMINESCENT BIOLOGICAL PROBES
Taotao ZOU
Sun Yat-sen University, China

Lecture Theatre 51
Chaired by Jason ENGLAND

5:15 pm - 5:35 pm | Invited
CHARACTERIZATION OF SHORT-LIVED REACTION INTERMEDIATES OF NITRIC OXIDE REDUCASES BY TIME-RESOLVED TECHNIQUES
Yoshitsugu SHIRO
University of Hyogo, Japan

5:35 pm - 5:55 pm | Invited
NITRIC OXIDE DYNAMICS CONTROLLED BY FORMATION OF PROTEIN COMPLEX IN DENITRIFICATION
Takehiko TOSHA
RIKEN SPring-8, Japan

5:55 pm - 6:10 pm | Oral
LIGAND-METAL BOND IN CYTOCHROME C: INSIGHTS FROM STATIC AND TIME-DEPENDENT X-RAY SPECTROSCOPY
Thomas KROLL.
SLAC National Accelerator Laboratory, USA

6:10 pm - 6:30 pm | Invited
MODIFICATION OF THE Cu2S2 CORE OF THE SUBUNIT II OF CYTOCHROME C OXIDASE: EFFECTS ON METAL BINDING AND STABILITY OF THE PROTEIN
Shyamalava MAZUMDAR
Tata Institute of Fundamental Research, India

Lecture Theatre 52
Chaired by Xiaogang QU

5:15 pm - 5:35 pm | Invited
THE TERMINAL ENZYME OF DENITRIFICATION
Isabel MOURA
Universidade Nova de Lisboa, Portugal

5:35 pm - 5:55 pm | Invited
HYDROXYLATION OF LINEAR ALKANES BY NON-HEME DI-IRON ALKANE HYDROXYLASE (ALKB)
Steve YU
Academia Sinica, Taiwan

5:55 pm - 6:10 pm | Oral
MYOGLOBIN RECONSTITUTED WITH MANGANESE PORPHYCENE FOR ARTIFICIAL METALLOENZYME CATALYZING C–H BOND HYDROXYLATION
Koji OOHORA
Osaka University, Japan; PRESTO, JST, Japan

6:10 pm - 6:30 pm | Invited
SPECIFIC HEME BINDING IN IRON REGULATORY PROTEINS AND THEIR FUNCTIONAL SIGNIFICANCE
Koichiro ISHIMORI
Hokkaido University, Japan

Lecture Theatre 53
Chaired by Felipe GARCIA

5:15 pm - 5:35 pm | Invited
ANTITUMOR METAL COMPLEXES BASED ON TRADITIONAL CHINESE MEDICINES ACTIVE INGREDIENT ALKALOIDS AND THEIR DERIVATIVES
Hong LIANG
Guangxi Normal University, China

5:35 pm - 5:50 pm | Oral
HALF-SANDWICH COMPLEXES OF QUINAZILIN-4-(3H)-ONE AS NEW ANTI-PROLIFERATIVE ACTIVE AGENTS
Michal LOMZIK
University of Lodz, Poland

5:50 pm - 6:05 pm | Oral
DEVELOPMENT OF BISMUTH THIOLATES AS POTENT BROAD-SPECTRUM INHIBITORS AGAINST B1 AND B2 METALLO-β-LACTAMASES
Runming WANG
The University of Hong Kong, Hong Kong S.A.R. (China)

6:05 pm - 6:20 pm | Oral
DESIGN PRO-DRUG BASED ON THE LYS199 RESIDUE IN IIA SUB-DOMAIN OF HUMAN SERUM ALBUMIN
Feng YANG
Guangxi Normal University, China
9:00 am - 10:00 am | Plenary Lecture 6
IN VIVO CHEMICAL PROBES FOR MRI AND FLUORESCENCE IMAGING
Kazuya KIKUCHI
Osaka University, Japan

10:00 am – 10:30 am | Graeme Hanson-AsBIC Early Career Researcher Award 2018
EMERGENCE AND EVOLUTION OF METALLOENZYMES
Woon Ju SONG
Seoul National University, South Korea

10:30 am – 11:00 am | Tea Break | Foyer of Auditorium
Wednesday, 12 Dec 2018

A7 Lecture Theatre 50
Chaired by Shu Sin CHNG
11:00 am – 11:30 am | Keynote
DISCOVERING NEW SIDEROPHORES THROUGH GENOME MINING
Alison BUTLER
University of California, Santa Barbara, USA

11:30 am - 11:50 am | Invited
BISMUTH COMPLEXES AS INHIBITORS AGAINST METALLO-BETA-LACTAMASE
Hongzhe SUN
The University of Hong Kong, Hong Kong S.A.R. (China)

11:50 am - 12:10 pm | Invited
METALLOCENE-CONTAINING COMPLEXES AS ANTIPARASITIC AND ANTIFUNGAL DRUG CANDIDATES
Gilles GASSER
PSL University, France

12:10 pm - 12:25 pm | Oral
CONJUGATION OF PLATINUM INTO MEfloquine PROMOTES ANTIMALARIAL ACTIVITY AGAINST ASEXUAL STAGE
Diogo Rodrigo MagalhaesMOREIRA
RIDERZ, Instituto Goncalo Moniz, Salvador, Brazil

12:25 pm - 12:40 pm | Oral
DESIGN AND DEVELOPMENT OF ANTIMICROBIAL BISMUTH-NANOCELLULOSE COMPOSITES
Phil ANDREWS
Monash University, Australia

B7 Lecture Theatre 51
Chaired by Thomas WALCZYK
11:00 am - 11:20 am | Invited
STRUCTURE AND FUNCTION OF TRANSCRIPTIONAL REGULATOR ADOPTING HEME AS A SIGNALING MOLECUE
Shigetoshi AONO
Institute of Molecular Science, Japan; Exploratory Research Center on Life and Living Systems, Japan

11:20 am - 11:40 am | Oral
REGIONAL IRON DISTRIBUTION AND SOLUBLE FERROPROTEIN PROFILES IN THE HEALTHY HUMAN BRAIN
Erin Jessica MCALLUM
Melbourne Dementia Research Centre at the Florey Institute of Neuroscience and Mental Health and the University of Melbourne, The Florey Institute of Neuroscience and Mental Health, Australia

11:40 am - 11:50 am | Oral
STRUCTURAL BASIS FOR ENHANCEMENT OF HUMAN IRON UPTAKE BY DUODENAL FERRIC REDUCTASE WITH ASCORBATE
Hitomi SAWAI
University of Hyogo, Japan; RIKEN SPring-8 Center, Japan

11:50 am - 12:10 pm | Invited
ULTRABRIGHT LANTHANIDE NANOPARTICLES FOR MICROSCOPY AND FLUOROIMMUNOLOGY
Loïc Joanny CHARBONNIÈRE
CNRS, France

12:10 pm - 12:30 pm | Invited
DESIGN OF PERSISTENT LUMINESCENCE NANO PROBES FOR BIOMEDICAL APPLICATIONS
Quan YUAN
Wuhan University, China

12:30 pm - 12:50 pm | Invited
STUDIES ON THE SMART LUMINESCENT MATERIALS BASED ON RARE EARTH COMPLEXES
Yu TANG
Lanzhou University, China

C7 Global Learning Room
Chaired by Youngmin YOU
11:00 am – 11:30 am | Keynote
EBNA1-TARGETED INHIBITORS: THE NEW WAY FORWARD TO END EPSTEIN-BARR VIRUS ASSOCIATED CANCER
Gary Ka-Leung WONG
Hong Kong Baptist University, Hong Kong S.A.R. (China)

11:30 am - 11:50 am | Invited
LUMINESCENT LANTHANIDE PROBES AS TARGETED THERANOSTIC AND BIOIMAGING AGENTS
Ashis Kumar PATRA
Indian Institute of Technology Kanpur, India

11:50 am - 12:10 pm | Invited
ULTRABRIGHT LANTHANIDE NANOPARTICLES FOR MICROSCOPY AND FLUOROIMMUNOLOGY
Loïc Joanny CHARBONNIÈRE
CNRS, France

12:10 pm - 12:30 pm | Invited
DESIGN OF PERSISTENT LUMINESCENCE NANO PROBES FOR BIOMEDICAL APPLICATIONS
Quan YUAN
Wuhan University, China

12:30 pm - 12:50 pm | Invited
STUDIES ON THE SMART LUMINESCENT MATERIALS BASED ON RARE EARTH COMPLEXES
Yu TANG
Lanzhou University, China

1:00 pm – 2:00 pm | Lunch | Foyer of Auditorium
2:00 pm – 6:00 pm | Excursions

12:15 pm – 3:00 pm | Luncheon *
*A special luncheon for Plenary & Keynote Speakers will be hosted at the Ocean Restaurant by Cat Cora, Resorts World Sentosa.
Thursday, 13 Dec 2018

**PL Auditorium**  
Chaired by John H. Dawson

9:00 am - 10:00 am | Plenary Lecture 7  
NITRIC OXIDE ASSISTED FIRST ROW TRANSITION METALS FOR HYDROGENASE-INSPIRED HER ELECTROCATALYSIS
Marcetta DARENSBOURG  
Texas A&M University, USA

**AW Auditorium**  
Chaired by Christian HARTINGER

10:00 am – 10:30 am | Graeme Hanson-AsBIC Early Career Researcher Award 2018  
TRANSLATION OF BIOINSPIRED COORDINATION COMPLEXES & MATERIALS INTO BIOMEDICAL APPLICATIONS  
Tsai-Te LU  
National Tsing Hua University, Taiwan

10:30 am – 11:00 am | Tea Break | Foyer of Auditorium
Thursday, 13 Dec 2018

A8 Lecture Theatre 50
Chaired by Guangyu ZHU

11:00 am – 11:30 am | Keynote
LANTHANIDES IN BIOLOGY AND MEDICINE
Kenneth RAYMOND
University of California, Berkeley, USA

11:30 am - 11:50 am | Invited
IRIDIUM SIMCATS TO THE RESCUE
Loi H. DO
University of Houston, USA

11:50 am - 12:10 pm | Invited
PHOTOPHYSICAL AND BIOLOGICAL ACTIVITY OF CYCLOMATALATED IRIDIUM(III) COMPLEX-PEPTIDE CONJUGATES SYNTHESIZED BY POST-COMPLEXATION FUNCTIONALIZATION
Shin AOKI
Tokyo University of Science, Japan

12:10 pm - 12:25 pm | Oral
BIOORTHOGONAL PHOTOACTIVATION OF METAL-BASED ANTICANCER PRODRUGS
Alessio TERENZI
Donosta International Physics Center, Spain

12:25 pm - 12:40 pm | Oral
PHOTO-TRIGGERABLE TRACELESS STAUDINGER-BERTOZZI LIGATION REACTION: A VERSATILE PHOTO-CONTROLLABE TOOL FOR PEPTIDE SYNTHESIS
Michael H. W. LAM
City University of Hong Kong, Hong Kong S.A.R. (China)

B8 Lecture Theatre 51
Chaired by Weng Kee LEONG

11:00 am – 11:30 am | Keynote
ARTIFICIAL METALLOENZYMES DESIGN FOR ASYMMETRIC CATALYSIS IN AQUEOUS MEDIA
Michèle SALMAIN
Sorbonne Université, France

11:30 am - 11:50 am | Invited
ASSEMBLY AND ENZYMATIC FUNCTIONAL SIMULATION OF METAL-ORGANIC ARCHITECTURES
Chunying DUAN
Dalian University of Technology, China

11:50 am - 12:10 pm | Invited
BIOCOMPATIBLE METAL CATALYSIS
Jing ZHAO
Nanjing University, China

12:10 pm - 12:30 pm | Invited
SELECTIVE CO2 CONVERSION AT A SINGLE NICKEL CENTER
Yunho LEE
KAIST, South Korea

12:30 pm - 12:50 pm | Invited
DEVELOPMENT OF USEFUL FUNCTIONAL MOLECULES BASED ON BIOINSPIRED COMPLEXES
Yutaka HITOMI
Doshisha University, Japan; JST PRESTO, Japan

12:50 pm - 1:10 pm | Invited
BIOORGANOMETALLIC B12 AS BIOINSPIRED CATALYST FOR GREEN ORGANIC SYNTHESIS
Hisashi SHIMAKOSHI
Kyushu University, Japan

C8 Global Learning Room
Chaired by Gilles GASSER

11:00 am – 11:30 am | Keynote
CLICK FUNCTIONALIZATION OF PEPTIDES AND PROTEINS: NEW TOOLS FOR INORGANIC CHEMICAL BIOLOGY
Ulrich SCHATZSCHNEIDER
Julius-Maximilians-Universität Würzburg, Germany

11:30 am - 11:50 am | Invited
THE GROUP 13 METALLOSALENS IN BIOLOGICAL STUDIES
Jun-Long ZHANG
Peking University, China

11:50 am - 12:05 pm | Oral
METAL-NTA-BASED FLUORESCENCE PROBES FOR LABELING PROTEINS INSIDE LIVING CELLS
Hongyan LI
The University of Hong Kong, Hong Kong S.A.R. (China)

12:05 pm - 12:20 pm | Oral
DUAL FLUOROPHORE HYBRIDIZATION: RATIOENTIC SENSOR DESIGN AND CELL IMAGING
Weijiang HE
Nanjing university, China

12:20 pm - 12:40 pm | Invited
FLUORESCENT DETECTION OF INTRACELLULAR CADMIUM ION BY CARBOHYDRATE-PENDANT POLYQUINOLINE LIGANDS
Yuji MIKATA
Nara Women’s University, Japan

12:40 pm - 12:55 pm | Oral
AUTOFLUORESCENCE-FREE TARGETED TUMOR IMAGING BASED ON PERSISTENT LUMINESCENCE NANOPARTICLES
Jie WANG
Wuhan University, China

1:00 pm – 2:00 pm | Lunch | Foyer of Auditorium

1:00 pm – 2:00 pm | SBIC Assembly | Auditorium
Lecture Theatre 50
Chaired by Fangwei SHAO
2:00 pm - 2:30 pm | Keynote
THE WORLD OF NON-CANONICAL NUCLEIC ACIDS
Naoki SUGIMOTO
Konan University, Japan

2:30 pm - 2:50 pm | Invited
FROM THEORETICAL CALCULATIONS TO SINGLE MOLECULES: A METAL-ION-DIRECTED SPLICE-SITE RNA-RNA INTERACTION
Roland K. O. SIGEL
University of Zurich, Switzerland

2:50 pm - 3:10 pm | Invited
TRANSITION METAL BINDING G-QUADRUPEX DNA
Guido H. CLEVER
TU Dortmund University, Germany

3:10 pm - 3:25 pm | Oral
EFFICIENT HYDROLYTIC CLEAVAGE OF DNA AND ANTIPROLIFERATIVE EFFECT ON HUMAN CANCER CELLS BY COMPLEXES OF CU(II) AND ZN(II)
Aditya Prasad KOLEY
Birla Institute of Technology and Science, Pilani, India

3:25 pm - 3:40 pm | Oral
SELECTIVE RECOGNITION OF DNA G-QUADRUPEX AND I-MOTIF STRUCTURES BY A THIAZOLE ORANGE APPENDED CYCLEN IN THE PRESENCE OF CU(II) ION
Rajendran VENUGOPAL
Central University of Tamil Nadu, India

3:40 pm - 3:55 pm | Oral
REDOX-CATALYZING DEOXYRIBOZYMES COMPOSED OF HEME AND DNAS
Yasuhiro YAMAMOTO
University of Tsukuba, Japan

Lecture Theatre 51
Chaired by Muhammad HANIF
2:00 pm - 2:20 pm | Invited
MYOGLOBIN RECONSTITUTED WITH A CORRINOID METAL COMPLEX
Takashi HAYASHI
Osaka University, Japan

2:20 pm - 2:40 pm | Invited
RATIONAL DESIGN OF FUNCTIONAL HEME ENZYMES IN MYOGLOBIN USING POST-TRANSLATIONAL MODIFICATIONS (PTMS)
Ying-Wu LIN
University of South China, China

2:40 pm - 3:00 pm | Invited
NEW INSIGHTS INTO TYROSINASE MECHANISM
Shinobu ITOH
Osaka University, Japan

3:00 pm - 3:20 pm | Oral
DEVELOPMENT OF RHENIUM CARBONYL-DRUG-PEPTIDE NANOPARTICLES FOR THERANOSTIC APPLICATIONS
Kiat Hwa CHAN
Yale-NUS College, Singapore

3:20 pm - 3:40 pm | Invited
METAL-DEFICIENCY IN CU/ZN-SUPEROXIDE DISMUTASE: A POTENTIAL CAUSE OF MOTOR NEURON DISEASE, ALS
Yoshiaki FURUKAWA
Keio University, Japan

3:40 pm - 4:00 pm | Invited
BIOMOLECULE/ORGANELLE-TARGETED ANTI-TUMOR METAL COMPLEXES
Zong-Wan MAO
Sun Yat-Sen University, China

Global Learning Room
Chaired by Han Sen SOO
2:00 pm - 2:30 pm | Keynote
TRANSITION METAL SIGNALING: BIOINORGANIC CHEMISTRY BEYOND ACTIVE SITES
Christopher J. CHANG
University of California at Berkeley, USA

2:30 pm - 2:50 pm | Invited
BIO-INSPRIRED COPPER COMPLEXES FOR UNDERSTANDING THE CATALYTIC MECHANISM OF COPPER NITRITE REDUCTASE
Sodio C. N. HSU
Kaohsiung Medical University, Taiwan

2:50 pm - 3:10 pm | Invited
BIOINSPIRED DICOPPER COMPLEXES: CATALYTIC HYDROXYLATIONS OF INERT HYDROCARBONS WITH HYDROGEN PEROXIDE
Masahito KODERA
Doshisha University, Japan

3:10 pm - 3:30 pm | Invited
A STABLE END-ON (η¹) SUPEROXOCOPPER(II) COMPLEX THAT DISPLAYS APPRECIABLE SUBSTRATE REACTIVITY
Jason ENGLAND
Nanyang Technological University, Singapore

3:30 pm - 3:50 pm | Invited
DINITROSYL IRON COMPLEXES (DNICS): SYNTHESIS TOWARD UNVEILING THE CATALYTIC ROLES OF DNICS
Wen-Feng LIAW
National Tsing Hua University, Taiwan

4:00 pm – 4:30 pm | Tea Break | Foyer of Auditorium

Auditorium
Chaired by Hongze SUN
4:30 pm – 5:30 pm | AsBIC Outstanding Achievement Award 2018
Susan J. BERNERS-PRICE
Griffith University, Australia

5:30 pm – 6:30 pm | Prize Presentation, Closing & Handover Ceremony | Auditorium
6:30 pm - 7:00 pm | Proceed to Banquet
7:00 pm – 11:00 pm | Banquet at Faber Peak (ticketed event)
ID: 334 METAL COMPLEXES AS SELECTIVE FLUORESCENT STAINS FOR EXTRACELLULAR VESICLES Kartika WARDHANI The University of Sydney, Australia

ID: 335 PLATINUM(IV) PRODRUGS WITH DNA-REPAIR PROTEIN IN BRCA-PROFICIENT CANCER CELLS AS MAJOR TARGET Shuren ZHANG Nanyang University, China

ID: 361 PT(IV) PRODRUG INHIBIT NUCLEOTIDE EXCISION REPAIR PATHWAY TO CIRCUMVENT CISPLATIN RESISTANCE Zhigang WANG Shenzhen University, China; City University of Hong Kong, Hong Kong S.AR. (China)

ID: 366 A MULTIFACETED STUDY OF RU(II) ARENE ANTICANCER DRUGS: MECHANISMS OF ACTION, BIOLOGICAL TARGETS AND IMMUNOGENICITY Thomas Jeffery STEWART University of Sydney, Australia

ID: 373 DEVELOPMENT OF ANTICANCER RUTHENIUM (II) ARENE SULFIDOXARYLATO COMPLEXES Liam STEPHENS Monash University, Australia

ID: 380 CROSS-LINKING ALLOSTERIC SITES ON THE NUCLEOSOME CORE PARTICLE Lucinda K. BATCHELOR EPFL, Switzerland

ID: 393 IS BISMUTH REALLY THE ‘GREEN’ METAL? EXPLORING THE ANTIMICROBIAL ACTIVITY AND CYTOTOXICITY OF ORGANO-BISMUTH COMPOUNDS Philip ANDREWS Monash University, Australia

ID: 394 CROSS-LINKING ALLOSTERIC INTER-HISTONE SITES IN THE NUCLEOSOME WITH HETERO-BINUCLEAR METALLOAGENTS Louis DEFALCO, JR. School of Biological Sciences, Nanyang Technological University, Singapore

ID: 409 DESIGN AND SYNTHESIS OF CISPLATIN ANALOGUES Kiriko TERAI International Christian University, Japan

ID: 422 DESIGN OF THERANOSTIC METAL COMPLEXES FOR MITOCHONDRIA-TARGETED AND CANCER-SPECIFIC THERAPY Qian CAO Sun Yat-Sen University, China

ID: 445 NEW WATER-SOLUBLE COPPER(II) COMPLEXES WITH MORPHOLINE-THIOSEMICARBAZONE HYBRIDS: INSIGHTS INTO THE ANTI-CANCER AND ANTIBACTERIAL MODE OF ACTION Maria BABAK National University of Singapore, Singapore

ID: 223 HYDROGEN PEROXIDE ACTIVATABLE CHELATORS FOR ALLEVIATING COPPER(II) INDUCED CELLULAR TOXICITY Ananya RAKSHIT Tata Institute of Fundamental Research, India

ID: 237 METAL-CO ARE EFFICIENT MULTIMODAL PROBES FOR CLASSICAL FLUORESCENCE, IR-IMAGING, AND X-FLUORESCENCE IMAGING Clioilicopol CAR Laboratoire des biomolécules, LBM, Département de chimie, École normale supérieure, PSL University, Sorbonne Université, CNRS, France

ID: 345 A FRET-BASED RADIOMETRIC LABILE ZINC(II) SENSOR: 3D FLUORESCENT IMAGING, FLOW CYTOMETRIC TRACKING AND CISPLATIN-MODIFIED ZINC(II) FLUOROTRACING IMAGING Yuncong CHEN Nanjing University, China

ID: 358 USING FLUORESCENT ARRAYS TO MONITOR ANALYTES IN BIOLOGICAL FLUIDS Linda MITCHELL The University of Sydney, Australia

ID: 372 FLUORESCENT COBALT BASED PROBES FOR STUDYING THE CELLULAR REDOX ENVIRONMENT Natallia TRINH The University of Sydney, Australia

ID: 382 ENGINEERING FERRITIN NANOCAGE TO UNRAVEL ITS SELF-ASSEMBLY, IRON(II) ENTRY, TRANSIT AND EXIT Rabindra Kumar BEHERA National Institute of Technology Rourkela, India

ID: 392 CAN COPPER IONS MODULATE THE SELF-ASSEMBLY OF AMYLOID-B? Ewelina STEFANIAK Institute of Biochemistry and Biophysics Polish Academy of Sciences, Poland
Tuesday, 11 Dec 2018
Poster Session 2
Foyer of Auditorium
2:45 pm - 4:15 pm

ID: 108
REVEALING THE IMMUNE PERTURBATION OF BLACK PHOSPHORUS NANOSENSORS TO MACROPHAGES BY UNDERSTANDING THE PROTEIN CORONA
Jianbin MO
Nanjing University, China

ID: 212
HIGHLY POROUS BOVINE SERUM ALBUMIN HYDROGEL/BEADS FOR REMOVAL OF ORGANIC, INORGANIC AND BACTERIAL COMPONENTS FROM WATER
Aekta UPADHYAY
IIT Bombay, India

ID: 242
AN INJECTABLE, SELF HEALING AND STRESS SUSTAINABLE HYDROGEL OF BSA AS FUNCTIONAL BIODEGRADABLE MATERIAL FOR CONTROLLED DRUG DELIVERY IN CANCER CELLS
Aekta UPADHYAY
IIT Bombay, India

ID: 224
COPPER PHOSPHATE MORINGA OLEIFERA COAGULANT PROTEIN (MOPC) HYBRID NANOFLOWERS FOR SELECTIVE DETECTION AND REMOVAL OF INORGANIC, TOXIC METAL IONS AND ORGANIC DYES FROM WATER
Sririlata POLEPALLI
Indian Institute of Technology Bombay, India

ID: 245
DEVELOPMENT OF BIODEGRADABLE NANOPHOTOSENSITIZERS: A DEVICE DESIGNED FOR PHOTODYNAMIC THERAPY APPLICATIONS
Seema KIRAR
National Institute of Pharmaceutical Research and Education
Mohali Punjab India, India

ID: 258
A DUAL-TARGETED MODULATOR OF Aβ AGGREGATION AND NEUROINFLAMMATION AGAINST ALZHEIMER’S DISEASE
Tao YANG
Nanjing University, China

ID: 259
NANOPARTICLE-BASED DELIVERY OF HUMAN PROTEASEOMES FOR THE TREATMENT OF ALZHEIMER’S DISEASE
Jung Hoon LEE
Seoul National University College of Medicine, South Korea

ID: 274
PREPARATION OF FLUORESCENT POLYMER DOT FROM THE CARBONIZED OF MNO2 NANOSHEETS ENCAPSULATED HYALURONIC ACID FOR SMART REDOX-RESPONSIVE RELEASE OF PACLITAXEL
Benny RYPLIDA
Korea National University of Transportation, South Korea

ID: 275
IMMOBILIZATION OF TUNGSTEN CATALYST BY CATECHOL CHEMISTRY IN PROCESSING MICROREACTORS FOR EFFECTIVE KILLING OF BACTERIA BY NEAR-INFRARED LIGHT
Pham Thi My PHUONG
Korea National University of Transportation, South Korea

ID: 276
BIODEROGICALLY BIODEGRADABLE AGGREGATION AND NEUROINFLAMMATION AGAINST ALZHEIMER’S DISEASE: A DUAL-TARGETED MODULATOR OF Aβ NANOCARRIER SYSTEMS LOADED WITH MIR-34A FOR THE TREATMENT OF BONE METASTASIS OF BREAST CANCER THROUGH REGULATING BONE MICROENVIRONMENTS
Seung Yeon YI
Ewha Womans University, South Korea

ID: 321
NATURE AND BIO-INSPRED, CONJUGATED MATERIALS FOR HIGH PERFORMANCE PLASTIC ORGANIC ELECTRONICS
Mohammed AL-HASHIMI
Texas A&M University at Qatar, Qatar

ID: 332
GADOLINIUM OXIDE-CONTAINING MINERALIZED NANOPARTICLES AS A CONTRAST AGENT FOR MULTIMODAL IMAGING
Kyun Hee University, South Korea

ID: 341
INTRACELLULAR NO-RELEASING MINERALIZED NANOPARTICLES FOR CANCER CHEMOTHERAPY
Kyun Hee University, South Korea

ID: 352
TRANSGLUTAMINASE MEDIATED PEGLYATION OF NANOBODIES FOR TARGETED NANO-DURG DELIVERY
Hai HUANG
University of Science and Technology of China, Hefei, China
<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
<th>Author</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>342</td>
<td>EFFECT OF PHOSPHATE BUFFER ON THE FENTON REACTION-A DFT STUDY</td>
<td>Hsing-Yin CHEN</td>
<td>Kaohsiung Medical University, Taiwan</td>
</tr>
<tr>
<td>344</td>
<td>DIRECT NITROSOATION OF CYS RESIDUES IN BIOMOLECULES THROUGH COBALT-NO COMPLEX</td>
<td>Chien-Wei CHIANG</td>
<td>Wuhan University, China</td>
</tr>
<tr>
<td>353</td>
<td>RHENIUM CARBONYL COMPLEXES WITH 2-PYRIDYL-1,2,3-TRIAZOLE DERIVED LIGANDS: APPLICATIONS IN CATALYSIS AND PHOTOPHYSICAL STUDIES</td>
<td>Helene C BERTRAND</td>
<td>Laboratoire des Biomolécules, Département de Chimie, École Normale Supérieure, PSL University, Sorbonne Université, CNRS, France</td>
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<tr>
<td>355</td>
<td>NONHEME MANGANESE(III) SUPEROXO MIMICS: SYNTHESIS, CHARACTERIZATION AND REACTIVITY</td>
<td>Yen-Hao LIN</td>
<td>National Taiwan Normal University, Taiwan</td>
</tr>
<tr>
<td>356</td>
<td>INTERPLAY OF ELECTRONIC COOPERATIVITY AND EXCHANGE COUPLING IN REGULATING THE REACTIVITY OF DIIRON(IV)-OXO COMPLEXES TOWARDS C-H AND O-H BOND ACTIVATION</td>
<td>Mursaleem ANSARI</td>
<td>IIT Bombay, India</td>
</tr>
<tr>
<td>359</td>
<td>AN UNPRECEDENTED NONHEME COBALT(III)-PEROXYNITRITO COMPLEX WITH LONGEVITY AND ITS INSIGHT FOR CONVERSION TO NITRATE PRODUCT</td>
<td>Ting-Yi CHEN</td>
<td>Department of Chemistry and Instrumentation Center, National Taiwan Normal University, Taiwan</td>
</tr>
<tr>
<td>363</td>
<td>OXIDATION OF METHANE BY AN N-BRIDGED HIGH-VALENT DIIRON–OXO SPECIES: ELECTRONIC STRUCTURE IMPLICATIONS ON THE REACTIVITY</td>
<td>Mursaleem ANSARI</td>
<td>IIT Bombay, India</td>
</tr>
<tr>
<td>372</td>
<td>REDOX-ACTIVE BEHAVIOR OF A PPP LIGAND WITH A COBALT CENTER</td>
<td>Seji KIM</td>
<td>KAIST, South Korea</td>
</tr>
<tr>
<td>378</td>
<td>PHOTOCHEMICAL REACTION OF AMINO ACID SCHIFF BASE METAL COMPLEX WITH HYDROXYL GROUP AND TITANIUM OXIDE COMPOSITE</td>
<td>Yoshiito MIYAGAWA</td>
<td>Tokyo University of Science, Japan</td>
</tr>
<tr>
<td>379</td>
<td>ANALYSIS OF FLUORIDE CONCENTRATION IN A CASCADE TANK SYSTEM IN ANURADHAPURA, SRI LANKA</td>
<td>Wikum Widuranga KUMBUKGOLLA</td>
<td>Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka, Sri Lanka</td>
</tr>
<tr>
<td>383</td>
<td>SUPRAMOLECULAR METALLOGELS DERIVED FROM NUCLEOTIDE COORDINATION WITH INTRINSIC PEROXIDASE ACTIVITY FOR CONTROLLED RELEASE OF DRUG</td>
<td>Neha THAKUR</td>
<td>Indian Institute of Technology Indore, India</td>
</tr>
<tr>
<td>386</td>
<td>A NOVEL METAL-LIGAND COOPERATION EMPLOYING A P-P BOND AS A REDOX RESERVOIR AND AN ACTIVE REACTION SITE</td>
<td>Yeong-Eun KIM</td>
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