 Positron emission tomography (PET) can be used for the diagnosis and characterisation of breast cancer. The figure above shows a PET image of a positron-emitting copper cage amine complex tethered to an antibody (trastuzumab) selectively binding to a breast tumour xenograft in a mouse model.
INTRODUCTION FROM THE HEAD OF SCHOOL

The year 2014 was the International Year of Crystallography which the School of Chemistry celebrated by holding a series of public lectures and with an exhibition, ‘Reflections: tales from within the crystal’, which featured specimens, models and instrumentation from our historical collection.

The year also saw the completion of the major phase of the Chemistry building program, which was celebrated with a public lecture by 2009 Nobel Laureate and crystallographer, Ada Yonath, who opened the Chemistry East Wing Research Laboratories.

Research continues to be a strength of the School, with strong performance in Australian Research Council grants and over $9.5M in project funding. The acquisition of University of Melbourne startup company, Fibrotech, by Shire, was a commercialization highlight. Shire will undertake further development of Fibrotech’s lead product, which was first synthesized in the Williams laboratory in the School of Chemistry.

Our cohort of research students continues to grow, with over 200 students currently enrolled, many of whom are co-authors on journal publications. Our staff and students continue to be recognised for their accomplishments, including 2014 Selby Research Award which was granted to Dr Lars Geerlig and Chancellor’s Prize awarded to PhD student, Brandon MacDonald.

Professor Rob Lamb from the School of Chemistry was appointed Executive Director of the Canadian Light Source. Professor Andrew Holmes, a pioneer in organic electronics, became the 18th president of the Australian Academy of Science. Professor Holmes is a Melbourne Laureate Professor Emeritus in the School of Chemistry. The School also appointed Gavin Reid, an alumnus of the School, as new Professor of Bioanalytical Chemistry in 2014.

Our teaching program has benefited from the new teaching laboratories and upgrade of student spaces. The School undergraduate numbers continue to increase with record numbers of undergraduate enrolments in 2014. The Chemistry Outreach Program continues to be a huge success led by Mick Moylan, whose success in outreach activities was recognized by a Dean’s Award for Excellence in Engagement.

We said farewell to Dr Valda McRae who passed away early in the year. Her contributions to the School were recognized by a Melbourne University Chemical Society lecture held in her honour.

The School continues to show strong performance in teaching, research and engagement and I thank all members of the School for their support. 2015 promises to be a busy year as we prepare for increased student numbers and to celebrate the contributions of chemistry during the International Year of Light.

Professor Frances Separovic FAA
OUR PEOPLE

ACADEMIC

Head of School
Frances Separovic

Professors
Muthupandian Ashokkumar
Evan Bieske (APF)
Ken Ghiggino
Franz Grieser (APF)
Spas Dimitrov Kolev
Robert Lamb
Richard Alfred O’Hair
Gavin Reid
Mark Antony Rizzacasa
Carl Herbert Schiesser
Jonathan Michael White

Associate Professors and Readers
Brendan Francis Abrahams
Rachel Caruso (Future Fellow)
Paul Donnelly (Future Fellow)
Michelle Louise Gee
Craig Hutton
Trevor Alexander Smith
Uta Wille
Spencer Williams (Future Fellow)

Senior Lecturers
Stephen Peter Best
Colette Boskovic

Lecturers
Angus Anthony Gray-Weale
Alessandro Soncini

ARC Laureate Fellow and Professor
Paul Mulvaney

Future Fellows
Georgina Such
Wallace Wong

ARC Research Fellow
George Khairallah

ARC Australian Postdoctoral Fellows
Christopher Ritchie (DECRA)
Lars Goergik (DECRA)
James Hutchison (DECRA)

Tutors
Penelope Commons
Sonia Horvat
Alice Lamb
Michael Moylan (Outreach Fellow)

Research Associates
Gojko Buncic
Dehong Chen
James Cochrane
Jade Cottam
Gareth Dickenson
Augustine Doronila
Viktoras Dryza (ASI ARENA Fellow)
Alex Duan
Maria Ines Gameiro Almeida
Christian Gunawan
Amber Hancock
David Hayne
Clare Henderson
Yuning Hong (McKenzie Fellow)
Joel Hooper
Timothy Hudson
David John Jones
Marco Lista (McKenzie Fellow)
Sean Murphy
Tich-Lam Nguyen
Asif Noor
Adabelle Ong
Sandra Osburn
Brett Paterson (Victorian Postdoctoral Fellow)
Tatiana Pinedo Rivera
Marc Antoine Sani
Colin Skene
Willem Van den Huevel (McKenzie Fellow)
Phillip Van der Peet
Huabin Wang
Xingzhan Wei
Keith White
Alex Wu
Zhiguang Xiao
Yanlin Zhang
Nicholas Zia

HONORARY APPOINTMENTS

Honorary Professional Fellow & Laureate Professor Emeritus
Andrew Bruce Holmes

Emeritus Professors
Donald William Cameron
Francis Patrick Larkins

Professorial Fellows
Robert Cattrall
Roger Francis Martin
Ezio Rizzardo
Richard Robson
Margaret Sheil
Peter Robert Taylor
John Desmond Wade
Robert Oliver Watts
John Webb
Anthony Gordon Wedd
Principal Fellows
Christopher Burns
William David McFadyen
Ian McKelvie
Peter McTigue
Richard Morrison
Geoffrey Scollary
Peter Tregloan

Senior Fellows
Robert Craig
Akhter Hossain
John Lambert
Xuehua Zhang

Fellows
Richard David Harcourt
Alessandro Martucci
Anastasios Polyzos
Suzanne Reichman
Denis Scanlon
Gerard Wilson

Visitors
Gregor Anderluh (Wilsmore)
Peter Baeuerle
Philip Blower (Wilsmore)
Daryl Bornhop
Adelia Maria Lima da Silva
Michael Grunze (Wilsmore)
Terry Lybrand
Patrick Masset
Christine McKenzie
Elena Mena-Osteritz
Cathal O’Connell

Ron Steer
Hermin Sulistiyarti
Ken Suslick (Wilsmore)
Regine von Klitzing
Gerhard Wagner (Harvard Fellow)

PROFESSIONAL
West Precinct Manager (until 20 Jul)
Eugene Fredericks

Acting West Precinct Manager (from 21 July)
Maria Castle

West Precinct Facilities Manager
Paul Beardsley

Renee Beale
Vicki Burley
Gregory Ellis
Robert Gable
Sue Hickey
Ross Lineham
Jenny Long
Brendan Mangan
Bryan McGowan
Alf Meilak
Elizabeth Mills
Peter Mills
Des Odgers
Jennifer Scott
Alexandra Strich
Doug Taylor
Joe Tyler
Sioe See Volaric

Chemistry Staff & PhD students enjoying the end of year get together at Edinburgh Gardens, Fitzroy Melbourne. Photo Credit: Alex Strich
VALE VALDA MCRAE

Sadly Dr Valda McRae passed away on Friday 3 January. Valda was a great stalwart of the School over many decades. Valda completed her PhD in Chemistry as a part-time student whilst working as a demonstrator and later senior demonstrator in the early 1960’s. From 1966 to 1968 Valda went to the University of Leicester as a postdoctoral fellow. On returning to Australia with her husband Jack in 1968, she worked in the Science Faculty Office, as Assistant to the Sub-Dean and then Sub-Dean; and then worked in Chemistry as principal tutor, lecturer and senior lecturer (1988). Her research interests, after returning to the School in 1974, were in analytical and radiochemistry. From 1995 to 2000, Valda was the Executive Manager of the School of Chemistry. Once retired, Valda spent much of her time working on the School archives and history, and in 2003 edited the Lady Masson Lectures. In 2008, Valda published Chemistry @ Melbourne 1960–2000, a history of four decades in the School, and in 2013, From Chalk and Talk to Powerpoint, an account of the first 1000 meetings of the Melbourne University Chemical Society. She is greatly missed by her friends and colleagues at the University of Melbourne.

RICHARD O’HAIR ELECTED FELLOW OF ANZSMS

Prof. Richard O’Hair has been elected as an inaugural Fellow of the Australian New Zealand Society for Mass Spectrometry (ANZSMS). Fellow status recognises and honours the contribution of distinguished members of ANZSMS to the field of mass spectrometry and their enduring support of the Society.

SHIP-SHAPE INHIBITORS IN THE WILLIAMS GROUP

Mannosidases are glycoside hydrolases that catalyze the hydrolysis of a diverse range of polysaccharides and glycoconjugates, with applications in the pharmaceutical, detergent, food, biofuels and oil and gas industries. Using a combination of computational chemistry, inhibitor design and synthesis, and X-ray crystallography of inhibitor/enzyme complexes, Dr Rohan Williams and Assoc. Prof. Spencer Williams, along with collaborators at York, Newcastle and Barcelona, (Angew. Chem. Int. Ed., 2014, 53:1087-1091) have shown that so-called mannoimidazole-type inhibitors are energetically poised to report faithfully on mannosidase transition-state conformation. Using the newly synthesized mannobiose-derived mannimidazole (ManMIm) direct evidence was provided for the conformational itinerary used by poorly characterized mannosidases and provided elusive, direct evidence in support of a boat-shaped transition state.

EDITORIAL ROLE FOR MARK RIZZACASA

Prof. Mark Rizzacasa has been invited to join the Editorial Advisory Board of ACS Medicinal Chemistry Letters, which is a companion journal to J. Med. Chem.

ROB LAMB, CEO OF CANADIAN SYNCHROTRON

Prof. Rob Lamb from the School of Chemistry has been appointed Chief Executive Officer of the Canadian Light Source. The CLS represents one of the largest scientific investments made in Canada and is one the most advanced synchrotron light sources in the world. Rob was previously the Chair of the Board of the Australian Synchrotron Research Programme and subsequently founding Director of the Australian Synchrotron, which is located in Clayton, Victoria.

NEW RESEARCH LABORATORIES

Stage 2 East, the final stage of the laboratory redevelopment in Chemistry, was completed in February 2014. The new research laboratories on Level 2 of the East Wing of the Chemistry Building include excellent analytical and instrumentation areas.

QS WORLD UNIVERSITY RANKINGS SUBJECT 2013/14

The discipline of Chemistry at the University of Melbourne was ranked top in Australia and 26 in the world according to the QS World University Rankings by Subject 2013/14.

RESEARCH PRIZE TO PHD STUDENT

Congratulations to Boskovic group PhD student, Michele Vonci, who won a student poster prize at the recent Southampton-Australia-New Zealand Workshop on Molecular Magnetism “SANZMAG-1” meeting at the University of Sydney.
RSC BOOK ON BIOLOGICAL SOLID-STATE NMR
The Royal Society of Chemistry were delighted to announce publication of the new book, Advances in Biological Solid-State NMR: Proteins and Membrane-Active Peptides by Prof. Frances Separovic (School of Chemistry) and Akira Naito.

EDUCATION WEEK GRANT
Mick Moylan received a grant from the Department of Education and Early Childhood Development to fund visits to schools during Education Week. The grant will allow students to investigate properties of chemical elements and get a better understanding of the way properties change across the Periodic Table.

GRIMWADE PRIZE TO CHRIS BURNS
The 2013 Grimwade Prize has been awarded to Dr Chris Burns (WEHI) for ‘The discovery and development of the dual JAK1/JAK2 inhibitor CYT387 (Momelotinib)’. The Grimwade Prize was established in 1905 by the Hon. Frederick Sheppard Grimwade, a drug wholesaler and part owner of Felton, Grimwade & Co. The company later became Felton, Grimwade and Bickfords Pty Ltd, the largest drug wholesaler in Victoria.

LAUNCH OF CHEMISTRY VIRTUAL MUSEUM
The School of Chemistry has set up a Virtual Museum to display items from the Chemistry Cultural Collection, which can be seen at http://museum.chemistry.unimelb.edu.au. The Virtual Museum was launched at the Valda McRae Lecture held at the Melbourne University Chemical Society (MUCS) meeting on 2 April 2014 and initially funded by a Scholarly Information Grant awarded to Michelle Gee.

MUCS: VALDA MCRAE MEMORIAL LECTURE
The Melbourne University Chemical Society, MUCS, hosted a Lecture in honour of Dr Valda McRae on 2 April 2014 in the Cuming Theatre. Emeritus Prof. Don Cameron delivered the Lecture, entitled “What possible use can nuclear magnetic resonance spectroscopy have for chemistry?”

MS PROVIDE INSIGHTS INTO INSECTICIDE RESISTANCE
By using twin ion mass spectrometry, researchers in the School of Chemistry led by Prof. Richard O’Hair in collaboration with the Batterham Lab in Bio21 have explained how fruit flies express a single gene at high levels to rid themselves of a common insecticide. The research was published in Analytical Chemistry 2014, 86: 3525-3532 and also highlighted in Chem & Eng News.

THE CHEMISTRY OF CURIOSITY
Article in the Voice explores the winding career path of Prof. Frances Separovic, Head of Chemistry at the University of Melbourne.

ACQUISITION OF UOM STARTUP FIBROTEC BY SHIRE
Fibrotech Therapeutics, a start-up company co-founded by Assoc. Prof. Spencer Williams (School of Chemistry, Bio21 Institute) and colleagues from the Department of Medicine, University of Melbourne, has been acquired by Irish Pharmaceutical company Shire Plc. Fibrotech has developed a new class of antifibrotic agents with potential to treat the fibrosis prevalent in chronic kidney disease, chronic heart failure, pulmonary fibrosis and arthritis. Shire will undertake further development of Fibrotech’s lead product FT011, first synthesized in the Williams laboratory. Shire has agreed to purchase Fibrotech for an upfront payment of $US75M, and additional payments contingent upon meeting development and regulatory milestones.

LADY MASSON MEMORIAL LECTURE MAY 2014
The 30th Lady Masson Memorial Lecture, given by Dr Daniela Stock, Victor Chang Cardiac Research Institute, was held in the Masson Theatre on 14 May 2014. The lecture, entitled “Visualising biological power converters at atomic resolution,” was visually exciting and stimulating and the theme fitted well with the International Year of Crystallography.

ANDREW HOLMES – MELBOURNE LAUREATE PROFESSOR EMERITUS
The School of Chemistry is proud to announce that distinguished scientist, Andrew Holmes, was appointed as Melbourne Laureate Professor Emeritus. Prof. Holmes was previously a University Laureate Professor of Chemistry and his new title was awarded in recognition of his lifetime achievement and eminence as a public intellectual.
NEW SPECIES OF METAL-EATING PLANT DISCOVERED

Researchers from the University of the Philippines, Los Baños, and the School of Chemistry have discovered a new plant species with an unusual lifestyle - it eats nickel for a living - accumulating up to 18,000 ppm of the metal in its leaves without itself being poisoned, says Prof. Edwino Fernando, lead author of the report. Such an amount is a hundred to a thousand times higher than in most other plants. “Hyperaccumulator plants have great potentials for the development of green technologies, for example, phytoremediation and phytomining”, explains Dr Augustine Doronila of the School of Chemistry, University of Melbourne, who is also co-author of the report.

ACS PETROLEUM RESEARCH FUND GRANT TO MARK RIZZACASA

Congratulations to Prof. Mark Rizzacasa who was successful in obtaining an American Chemical Society (ACS) Petroleum Research Fund grant entitled “Catalytic Asymmetric Hydration of Alkenes with Chiral cis-beta Metallosalen Complexes”.

AINSE POSTGRADUATE RESEARCH AWARD TO MICHELE VONCI

Congratulations to Michelle Vonci, PhD student from the Boskovic lab, who has been successful in receiving an AINSE Postgraduate Research Award.

GO8-GERMANY JOINT RESEARCH GRANT TO WU & LAMB

Dr Alex Wu and Prof. Rob Lamb have been successful in the 2015-16 Group of Eight Australia – Germany Joint Research Co-operation Scheme and awarded a grant to establish a new collaboration with Prof. Rosenhahn at the Ruhr-Universität Bochum. The title of the project is ‘Novel ultra-rough antifouling surfaces through air engineering’. In addition they have also just been awarded considerable time on Europe’s largest light source - ESRF in the south of France.

Rinorea niccolifera Fernando, shown as nickel hyperaccumulator by a field test using filter paper impregnated with 1% dimethylglyoxime dissolved in 95% ethanol. Photo credit: Edwino S. Fernando
CHEMISTRY PIONEER TAKES OVER ACADEMY

A pioneer in organic electronics, Prof. Andrew Holmes, became the Australian Academy of Science’s new President. Prof. Holmes formally took over from Prof. Suzanne Cory at the annual general meeting in Canberra on 28 May to become the 18th president of the Academy. He is currently a Melbourne Laureate Professor Emeritus at the School of Chemistry, Bio21 Institute, in the University of Melbourne and a CSIRO Fellow. Prof. Holmes has been recognised for his ground breaking work on light-emitting polymers. These polymers play an important role in the field of flexible electronics and have applications in flat-screen televisions and solar cells. He has also been the recipient of a long list of awards including the Royal Society’s Royal Medal and the Descartes Prize. Prof. Holmes was elected to the Academy in 2006 and has served as Foreign Secretary since 2010. He is also a Fellow of the Royal Society of London and a Fellow of the Australian Academy of Technological Sciences & Engineering and a member of the School since 2004.

IRRTF GRANT AWARDS TO CHEMISTRY STAFF

Congratulations to Prof. Carl Schiesser and Assoc. Prof. Michelle Gee who were successful in obtaining International Research & Research Training Fund (IRRTF) grants from the University. Carl’s award is to build a “Selenium (Redox) Therapeutics” network involving Brazil, Italy, Denmark and Melbourne; and Michelle’s is for an “International Research Network for Development of Antibiotic Peptides” with institutions in Australia, India and Germany.

DONNELLY LAB RESEARCH FEATURED IN ANGEWANDTE CHEMIE

Research by Dr Brett Paterson and Dr Paul Donnelly has been published in Angewandte Chemie. The team, in collaboration with Christoph Hagemeyer and Karen Alt from Baker IDI Institute, used enzyme-mediated bioconjugation for the site-specific incorporation of a radioactive metal complex into an antibody that is selective for activated platelets. The new immunoconjugates were radiolabeled with the positron-emitting isotope Cu-64 and were used for diagnostic imaging of carotid artery thrombosis using positron emission tomography.

CRYSTALLOGRAPHY EXHIBITION – REFLECTIONS: TALES FROM WITHIN THE CRYSTAL

In celebration of the International Year of Crystallography 2014, the School of Chemistry held an exhibition of historical items from the Chemistry Cultural Collection related to the study of crystallography. The exhibition, called Reflections: tales from within the crystal, brought together crystal specimens, models and instruments used in the School throughout history to solve the mysteries that lie within the crystal.

Johann Kepler, who detailed the beautiful symmetry of ice crystals, piqued scientific interest in crystals over 400 years ago. By the 20th century, scientists discovered that X-rays could be used to determine the arrangement of atoms within the crystal, creating the field of crystallography. One hundred years on, advancements in instrumentation allow modern crystallographers to solve the structures of large complex molecules such as DNA, RNA and proteins.

The exhibition opened on Friday 25 July with a special preview viewing for 20 alumni and staff within the School, and was a popular addition to the University’s Cultural Treasures Weekend (26 - 27 July) with the exhibition viewed by over 200 people.

For more information about the Chemistry Cultural Collection visit: http://www.museum.chemistry.unimelb.edu.au
DEAN’S AWARDS FOR EXCELLENCE TO CHEMISTRY STAFF

Dean’s Award for Excellence in Research to Colette Boskovic
Dr Colette Boskovic has been selected as the recipient of the Dean’s Award for Excellence in Research (Teaching & Research) 2014. The award celebrates the outstanding achievements of a Faculty of Science staff member who is involved in both research and teaching.

Dean’s Award for Excellence in EH&S to Bryan McGowan
Bryan McGowan has been selected as the co-recipient of the Dean’s Award for Excellence in Environment, Health & Safety 2014. The award recognises the outstanding contribution of a Faculty of Science staff member to the management of environment, health and safety issues in the Faculty.

Dean’s Award for Excellence in Engagement to Mick Moylan
Mick Moylan has been selected as a recipient of a 2014 Dean’s Award for Excellence in Engagement (Outreach & Science Communication). The award celebrates ongoing, outstanding performance in engagement activities within the Faculty of Science and in the wider community.

HIGH PERFORMANCE COMPUTER TIME ACCESS GRANT SUCCESS
Dr Lars Goerigk was successful in gaining access to high-performance computer clusters with two recent grant applications for 2015: National Computational Merit Allocation Scheme for 520,000 CPU-hours at the National Computational Infrastructure in Canberra to undertake research on the quantum-chemical treatment of biomolecules and the development of new quantum-chemical methods for the treatment of electronic excited states; and Victorian Life Science Computation Initiative for 82,000 CPU-hours to undertake quantum-chemical research on biomolecules.

GAVIN REID – NEW PROFESSOR OF BIOANALYTICAL CHEMISTRY
Prof. Gavin Reid joined the School of Chemistry and is located at the Bio21 Institute. Gavin joined us from Michigan State University (MSU) and has a joint appointment with Department of Biochemistry & Molecular Biology. Over the past 25 years, Gavin has held a variety of research positions and academic appointments in Australia and the USA. He then obtained a PhD in Chemistry in 2000 from the University of Melbourne, under the joint supervision of Prof. R. O’Hair and Prof. R. Simpson. After post-doctoral research at Purdue University, he worked at the Ludwig Institute for Cancer Research. He then moved to MSU in 2004 as an Assistant Professor, where he was promoted to Associate Professor with tenure in 2009. Research in the Reid laboratory at MSU was broadly focused on: (i) the development of novel chemical, bio-analytical and mass spectrometry based methods and instrumentation for proteome and lipidome analysis; and (ii) the application of these strategies to identify biomarkers for the onset and progression of disease.

HEALY AWARDS TO PHD STUDENTS
Tom Healy Awards were presented to PhD students, Nicholas Kirkwood, Brendan Dyett and Anna Mularski, to enable them to travel to international conferences.

WILLE LAB RESEARCH HIGHLIGHTED IN CHEMISTRY WORLD
The magazine of the Royal Society of Chemistry, Chemistry World, has highlighted research from Assoc. Prof. Uta Wille’s lab. The article Nitrogen dioxide and ozone: a sinister synergy, discussed research from the group’s paper entitled “Oxidative damage of aromatic dipeptides by the environmental oxidants NO2• and O3•”. The research aims to understand environmental radicals and how they damage us by investigating the effects of exposing a series of dipeptides to NO2• and O3•. They found that a synergistic effect exists between NO2• and O3•, where their reaction to form nitrate leads to a host of other possible reaction products including toxic N2O5 and nitric acid. ‘One outcome of this study that I find particularly interesting,’ remarks Wille, ‘is that nitrogen dioxide can cleave and rearrange peptide bonds. This has never been observed before and shows that peptides are much more vulnerable to these pollutants than previously believed.’
CHANCELLOR’S PRIZE TO CHEMISTRY PHD STUDENT
The School of Chemistry congratulates Brandon MacDonald who has been awarded a Chancellor’s Prize for Excellence in the PhD thesis for 2013. Brandon completed his PhD, entitled “Solution Processed CdTe Nanocrystal Solar Cells”, under the supervision of Prof. Paul Mulvaney in the Nanoscience laboratory and Dr Jacek Jasieniak at the CSIRO, a former winner (2007). Brandon published 8 papers in high quality journals on the fabrication of a new form of photovoltaic device, which exhibited up to 10.4% energy conversion efficiency. The concepts were patented by CSIRO and the University of Melbourne. After completion of his PhD, Brandon joined QD Vision, a Boston start-up company developing quantum dot LED displays.

CHEMCOMM INTRODUCES RACHEL CARUSO AS ASSOCIATE EDITOR
Assoc. Prof. Rachel Caruso, from the School of Chemistry, is a new Associate Editor of the RSC journal, Chemical Communications. Rachel is a materials chemist with expertise in the fabrication of advanced porous functional materials. She currently leads the Advanced Porous Materials group with postdoctoral fellows and PhD students at both the University of Melbourne and CSIRO.

CNRS GRANT TO SANI & SEPAROVIC
Congratulations to Dr Marco Sani and Prof. Frances Separovic who were awarded a French National Centre for Scientific Research (CNRS) Researcher Visit grant for “The use of NMR to understand the association at cell membranes of proteins involved in Alzheimer’s disease”.

MARINE CORROSION AND FOULING CONFERENCE POSTER PRIZE
Congratulations to Jaimys Arnott from the Lamb group who won the top award for a poster presentation at the 50th Anniversary “International Congress on Marine Corrosion and Fouling” held in Singapore. This continues a winning streak for the group having picked up the same prize a couple of years earlier at the previous convention held in Seattle.

OPENING OF CHEMISTRY EAST WING RESEARCH LABORATORIES
The new research laboratories in the East Wing of the Chemistry Building were officially opened on 13 Aug 2014 in the presence of Nobel Laureate, Prof. Ada Yonath, who was awarded the prize for Chemistry in 2009. Prof. Yonath was assisted by the Provost, Prof. Margaret Sheil, the DVC, Prof. Jim McCluskey, and the Dean of Science, Prof. Karen Day.

The opening signifies the completion of the research laboratory redevelopment from basement to Level 5 in the East building. Together with modern chemistry research laboratories in Bio21 and teaching laboratories in the West Wing (officially opened in 2011), the School now has upgraded almost all of its research and learning spaces.

Photo credit: Roberto Fusetto

Jaimys Arnott (centre) is presented the ICMCF poster award
The School of Chemistry congratulates ARC DECRA Fellow, Dr Lars Goerigk, who is recipient of the 2014 Selby Research Award for his research program entitled, “Quantum-chemical optimization of DNA structures and related compounds”.

DYASON AWARD TO SPAS KOLEV

Prof. Spas Kolev has been successful with his application for a Dyason Fellowship for a project entitled, “Novel methods for coating metal substrates with gold nanoparticles using polymer inclusion membranes”, which will involve a visit to the School of Chemistry by Prof. Tony Spassov, Dean of the Faculty of Chemistry and Pharmacy, University of Sofia, Bulgaria.

NEW BOOK EDITED BY PROF. ANTHONY WEDD

Congratulations to Tony Wedd, who together with Wolfgang Maret from University College, London has edited a new book which is part of the RSC Metallobiology Series, “Binding, Transport and Storage of Metal Ions in Biological Cells”. This book is the first to comprehensively survey the molecular nature of the overall natural balance of metal ions in nutrition, toxicology and pharmacology and is an introduction to researchers in academia and Industry.

PUBLIC LECTURE BY NOBEL LAUREATE

In celebration of the International Year of Crystallography, the School of Chemistry hosted a public lecture by Prof. Ada Yonath who was awarded the 2009 Nobel Prize in Chemistry for her pioneering work on the structure of the ribosome. Prof. Yonath was here on a Miegunyah Distinguished Visiting Fellowship and spoke on ‘Chemical bases of life processes revealed by X-ray crystallography’ to an enthusiastic audience of almost 500 in the Copeland Theatre.

“Miegunyah Distinguished Visiting Fellow Lecture”
Professor Ada Yonath
Nobel Laureate in Chemistry

Chemical bases of life processes revealed by X-ray crystallography

5.30 pm Wednesday 13 August 2014
Copeland Theatre
Business & Economics Building
198 Berkeley Street
University of Melbourne

Register:
http://yonath.eventbrite.com.au

Enquiries: Jenny Long
T: 8344 7137
E: longj@unimelb.edu.au

IAN POTTER FOUNDATION AWARD TO LARS GOERIGK

Congratulations to Dr Lars Goerigk who was recently awarded an Ian Potter Travel Grant to support his attendance at the triennial congress of the World Association of Theoretical & Computational Chemists “WATOC 2014” in Santiago de Chile, Chile, 5-10 October 2014. WATOC is the biggest and most important meeting in this field and Lars will have the opportunity to present his results and get to know local researchers at the conference.

CHEMISTRY NOBEL LAUREATE ON UP CLOSE

Ribosomes: Unlocking the secrets to cellular protein factories. Nobel Laureate Prof. Ada Yonath discusses her work on understanding ribosomes, the protein factories that are found in every cell of every living organism. Presented by Dr Dyani Lewis.

CONTROLLED QUENCH OF NMR

After almost 20 years, the solid-state 300 MHz NMR was decommissioned to make way for upgraded equipment. A spectacular sight with plumes of vapour was seen from the Bio21 Institute’s ‘NMR Cave’ viewing platform on the morning of 10 September 2014, when the superconducting magnet, part of a 300 MHz NMR spectrometer system, was officially decommissioned.

ORGANIC POLYMER CHEMIST – INTERVIEW WITH ANDREW HOLMES

Recently Lab + Life Scientist interviewed Prof. Andrew Holmes (November 2014) Vol 25 (5) 6-10. Prof. Andrew Holmes reflects on the role serendipitous discovery has played in his successful research career as an organic chemist and how he is now stepping into the role as President of the Australian Academy of Science.
Welcome to 2014 McKenzie Fellow Yuning Hong

The 2014 McKenzie Fellows were officially welcomed with a lunch at University House attended by senior University staff, including Prof. John McKenzie, after whom the scholarships are named. This year, Dr Yuning Hong joined the School of Chemistry from Hong Kong University of Science & Technology, with a project titled ‘Fluorescence approaches to probing the conformational transition of intrinsically disordered proteins and investigation of their pathogenic mechanism’.

MNI Interdisciplinary Seed Funding to Yuning Hong

Dr Yuning Hong was successful in her grant application, ‘Developing biomarkers of proteostasis decline for translational medicine in neurodegenerative diseases’ funded by Melbourne Neuroscience Institute. Well done Yuning!

ARC Grant Success

Congratulations to the following members of the School on their success in the recent ARC grant schemes: Prof. Evan Bieske: Cold ions and fire; Dr Colette Boskovic: Smart molecular materials for sensors, displays and nanoscale devices; Assoc. Prof. Craig Hutton: New roles for thioamides in peptide synthesis; Prof. Richard O’Hair: Coinage metal nanoclusters: synthesis, structure and reactivity; Dr Alessandro Soncini: Spin detection and control in molecular nanomagnets at surfaces; Dr Lei Zhang (DECRA): Water oxidation catalysts for artificial photosynthesis; Assoc. Prof. Brendan Abrahams (DP with D’Alessandro, USyd) and Prof. Paul Mulvaney (LIEF with RMIT).

Go8-Germany Joint Research Grant to Lars Goerigk

Dr Lars Goerigk has been successful in the 2015-2016 Group of Eight Australia-Germany Joint Research Co-operation Scheme and awarded a grant to establish a new collaboration with Dr Tobias Schwabe at the University of Hamburg. The title of the project is “New efficient double-hybrid density functionals for the treatment of electronic excited states”.

Feutrill Travel Awards to Chemistry Research Students

Congratulations to the following research students who are recipients of a 2014 Feutrill Award, which helps support travel to an international conference in the area of Organic Chemistry: Aaron Brown for 20th International Conference on Organic Synthesis (ICOS-20) in Budapest in June-July 2014; Wenyi Li for 33rd European Peptide Symposium, Aug-Sep 2014, in Sofia, Bulgaria; and Sayali Shah & Gaetano Speciale for International Carbohydrate Symposium in Bangalore in January 2014.

Angewandte Cover for Mass Spec Team

The mystery of why water and salt contaminants destroy organometallic reagents has been solved thanks to new research conducted at the School of Chemistry. Organometallic compounds, such as Grignard reagents, are powerful tools used to help create new organic molecules both in the laboratory and in commercial chemical plants, although care is required to avoid contaminants in the reaction. The research team of Prof. Richard O’Hair, Dr George Khairallah and Dr Gabriel da Silva has used a powerful combination of electrospray ionisation coupled with multistage mass spectrometry and theoretical simulations to study how magnesium and lithium acetylides react with water under idealized near-vacuum conditions, and tracked the effect of adding individual salt molecules on the reaction rate. This approach allowed them to see that the addition of an individual salt molecule to an organometallic reagent dramatically enhances its reactivity towards water. Theory showed how the salt molecule provides a second metal centre, which plays an active role to alter the fundamental chemical transformations taking place when water attacks these organometallic compounds (Angewandte Chemie International Edition, 2014, 53:0979).
2014 was an exciting year as we held several “Friday Frothies” drinks, an ultimate Frisbee championship, trivia night, Cup Day BBQ and two new events that included a pizza night and a ten pin bowling evening. Friday Frothies were well attended and enjoyed by all. The pizza night was a huge success with positive feedback by all who attended. This event should definitely be repeated in 2015.

The ultimate Frisbee championship was an exciting event and well attended. It was well advertised and had plenty of players from both Bio21 and the Masson building. The CPS celebrated afterwards with a few post game drinks at Tsubu on main campus. The Ten Pin Bowling evening was a small event with about 20 students participating but thoroughly enjoyed by all.

The Cup Day BBQ drew a very large crowd with free food and the Cup Day Sweep were appealing. The trivia night was considered the best we have had. Thanks to Alex McDonald for finding the perfect venue, Bridie O’Reilly’s, in Brunswick. We had over 100 attendees and the Trivia Host was entertaining and humorous. We recommend the same venue and host for the coming year and possibly adding a movie night to the events list for 2015.

The CPS also assisted the School of Chemistry with an Easter Morning Tea and a BBQ held for undergraduate students from Tsinghua University, China. A Careers Symposium was organised together with BAMBI (biochemistry) and the Vet Science student societies. The annual School of Chemistry Christmas Party also was a huge success due to the enthusiastic help of the CPS. Good luck to the 2015 CPS committee.
STUDENT PRIZES AND AWARDS

AGILENT AWARD FOR EXCELLENCE
Katie Feng
Awarded to the student with the highest marks in the third year Chemistry research subject, with preference for student projects related to spectroscopy.

J S ANDERSON PRIZE
Jared Crabtree-Morton
Awarded to the student enrolled in the BSc (Honours), MSc or Postgraduate Diploma Chemistry, who is majoring in Chemistry and displays the greatest aptitude and potential for research.

JAMES CUMING MEMORIAL SCHOLARSHIP
Major: Jarad Crabtree-Morton
Minor: Jacob Rowan
Awarded to students who have fulfilled the requirements of the Bachelor of Science and who are enrolled to undertake further studies in the School of Chemistry through the BSc (Honours), MSc or Postgraduate Diploma Chemistry.

DIXON RESEARCH SCHOLARSHIP
Quentin Hong
Awarded to a fourth year student with the second highest results who is continuing on to a higher degree.

DULUX AUSTRALIA PRIZE
Stacey Rudd
Awarded by a selection committee to a Chemistry student who has completed the BSc, and is in the final year of the BSc (Honours), MSc or Postgraduate Diploma Chemistry.

DWIGHT PRIZE
James Ha
Awarded annually to the student with the highest aggregate marks in first year Chemistry subjects.

EXHIBITION PRIZE
Stanley Sim
Awarded annually to the student with the highest aggregate marks in first year Chemistry subjects.

THE THOMAS HEALEY AWARD
Christine Browne, Nicholas Kirkwood, Brendan Dyett and Anna Mularski
These PhD travel awards are given to enable students to attend a conference of international standing, at which the student will present the results of their research.

THE HUNTSMAN AUSTRALIA PRIZE
Peter McDonald
Awarded for an outstanding performance by a second year chemistry student proceeding to a major in 3rd year Chemistry.

THE ANDREW KIRBY AWARD FOR RESEARCH EXCELLENCE
Joses Grady Nathanael
Awarded to a Chemistry student entering a PhD in the School of Chemistry who has demonstrated excellent research potential in the BSc (Honours), MSc, MPhil or Postgraduate Diploma Chemistry who are continuing on to a higher degree in the School of Chemistry

THE MONICA ELIZABETH REUM MEMORIAL PRIZE
Jennifer Chambers
Awarded to a PhD student who submits for assessment an outstanding thesis in an area of Organic Chemistry.

THE RONALD RISEBOROUGH PRIZE
Lessa Evans
Awarded for the best research report in field of Applied Chemistry based on results achieved in BSc (Honours), MSc or Postgraduate Diploma Chemistry.

FRED WALKER SCHOLARSHIP
Liselle Aitkin
Awarded to a 3rd year student majoring in chemistry based on their averaged weighted third year results in Chemistry subjects, and who are continuing on in a BSc (Honours), MSc or Postgraduate Diploma in Science in the School of Chemistry.

C A TAYLOR PRIZE
Wenxiao Yue
Awarded to the most outstanding student in 2nd year Chemistry who is intending to major in Chemistry.

THE DR REX WILLIAMSON & FAMILY SCHOLARSHIP
Liselle Aitkin
Awarded to a 3rd year student for academic merit as determined by the highest third year BSc results in Organic Chemistry.
CHEMISTRY OUTREACH

The Chemistry Outreach Program gives school students and teachers access to fascinating and educational experiences in science and we particularly work with students in Years 9-12 and their teachers and run several public events throughout the year.

We were very pleased that the success of the program was recognised this year by the Dean’s Award for Engagement and grants from the Victorian Department of Education and the Faculty of Science to continue our work with schools.

Highlights from 2014 include a session on the chemistry of the *Breaking Bad* television series during National Science Week. Participants made the substance used in the show for the *Blue Sky* (coloured toffee) and gained an understanding of the care and good processes needed for successful chemical syntheses.

With the Chemistry Education Association, staff from the School of Chemistry coordinated responses from more than 150 teachers on the Year 11 and 12 VCE Chemistry Study Design which will form the curriculum for senior students in Victoria until 2020. We believe that our feedback to the Victorian Curriculum and Assessment Authority will ensure that chemistry remains a well-taught and academically rigorous subject in schools.

The biggest outreach event of the year is the Analytical Instrument Workshops, where Year 12 students come to the University to study and use some of our instrumentation to detect and measure components of food. This year they measured the amount of salt in soy sauce, the caffeine concentration of coke and also analyzed seawater, determining its calcium content.

Teachers find the workshops incredibly useful as the students get a realistic experience of hands-on chemistry and students travel from all over Victoria for this experience. Aside from a large contingent of metropolitan schools, this year we had students leave their schools as early as 5 am to make a day trip from as far as Echuca, Nathalia and even Murrayville on the South Australian border.

Year 11 students participating in a SEAMS Chemistry Session. Photo Credits: Diane Ruka Program Manager
## SUBJECTS

### FIRST YEAR

**Director:** Carl Schiesser  
**Coordinator:** Sonia Horvat

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CHEM10003</td>
<td>Chemistry 1</td>
<td>Carl Schiesser</td>
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<tr>
<td>CHEM10004</td>
<td>Chemistry 2</td>
<td>Carl Schiesser</td>
</tr>
<tr>
<td>CHEM10006</td>
<td>Chemistry for Biomedicine</td>
<td>Carl Schiesser</td>
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<tr>
<td>CHEM10007</td>
<td>Fundamentals of Chemistry</td>
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### SECOND YEAR

**Director:** Colette Boskovic

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<tr>
<td>CHEM20011</td>
<td>Environmental Chemistry</td>
<td>Spas Kolev</td>
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<tr>
<td>CHEM20018</td>
<td>Reactions and Synthesis</td>
<td>Colette Boskovic</td>
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<td>CHEM20019</td>
<td>Practical Chemistry (Lab)</td>
<td>Jonathan White</td>
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<tr>
<td>CHEM20020</td>
<td>Structure and Properties</td>
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### THIRD YEAR

**Director:** Mark Rizzacasa

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<td>Analytical and Environmental Chemistry (Lab)</td>
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<td>CHEM30015</td>
<td>Advanced Practical Chemistry</td>
<td>Trevor Smith</td>
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### HIGHER YEAR LEVELS

**Honours, MSc and PG Diploma in Chemistry:** Craig Hutton  
**PhD and MPhil:** Brendan Abrahams
KEY TEACHING AND LEARNING STATISTICS

TEACHING LOAD

2014 STUDENT EXPERIENCE SURVEY

RESEARCH COMPLETIONS BY YEAR
RESEARCH HIGHER DEGREE STUDENT COMPLETIONS

GARY BEANE
Excitation energy transfer in nanocrystal systems

YAYA BONGGOTGETSAKUL
The use of polymer inclusion membranes (PIMs) for the recovery of gold(III) from highly acid solutions and the preparation of monolayers of precious metal nanoparticles

DAVID HAYNE
Technetium complexes for diagnostic imaging of amyloid-ß plaques to assist in the diagnosis of Alzheimer’s disease

DAYNA STURGESS
Synthesis of alkyl citrate natural products

JENS BROSE
Molecular aspects of copper transport in human cells: do Atox1 and hGrx1 have complementary roles?

JOSEPH VARGA
Colloidal synthesis of nanocrystal particles for thin film solar cells

FRANCESCA CAVALIERI
Ultrasonic synthesis and characterization of multifunctional nano/microcapsules

IDA WIDNERSSON
Core-shell structures in dye-sensitised solar cells

JENNIFER CHAMBERS
Synthesis and biological evaluation of episilvestrol analogues

ATHANASIOS ZAVRAS
Synthesis, structure and reactivity of ligand stabilized coinage metal nanoclusters

MARK GREGORY
Synthesis of phosphatidylinositol polyphosphate and inositol polyphosphate derivatives to probe signalling in tumour cells
Image Credit: from work by Darran Loits, Paul Donnelly, Jonathan White and Mark Rizzacasa on a project looking at the asymmetric hydration of alkenes using chiral octahedral metal complexes as catalysts. Titled "X-ray structure of a Mn(IV) oxo complex with a SALPN ligand derived from a chiral paracyclophane".
RESEARCH

HIGHLIGHTS 2014

Research in the School of Chemistry is focused around two main themes - ‘Advanced Materials and Characterisation’ (chemistry aimed at the preparation, characterisation, understanding and application of functional materials) and ‘Biological Chemistry and Synthesis’ (understanding the underlying chemical basis of biological processes and applications of synthesis to problems in materials and biology). Within these two broad themes research groups of staff undertake a wide range of research programs supported by funding from national and international research agencies, government and industry. A number of the School’s research groups are located in the University’s Bio21 Institute where they are supported by some of the nation’s leading equipment facilities including NMR, mass spectrometry and electron microscopy. Members of the School are also associated with the Melbourne Energy Institute, Australian Centre for Advanced Photovoltaics (ACAP), and the Centre for Aquatic and Pollution Identification and Management (CAPIM). The Surface and Chemical Analysis Network (SCAN) is a School of Chemistry facility for materials and environmental analysis that connects industry users with University researchers.

Some highlights of the School’s research efforts during 2014 were:

- The School was again very successful with national competitive grant funding (ARC and NHMRC) with the following projects receiving initial funding for 2014.

  - **Dr Lars Goerigk**
    - Quantum refinement of DNA X-ray structures
  - **Dr Paul Donnelly**
    - Site-specific conjugation of zirconium and copper complexes to antibodies for application in diagnostic imaging and therapy
  - **Assoc. Prof. Spencer Williams**
    - Breaking it down: dissecting the mechanism and exploring new inhibition strategies for polysaccharide cleaving enzymes
  - **Dr Wallace Wong**
    - Self-organised materials for flexible electronics
  - **Assoc. Prof. Craig Hutton**
    - Chemical probes for the study of a unique enzyme from *Mycobacterium tuberculosis*
  - **Prof. Mark Rizzacasa**
    - Total synthesis of Myxobacteria metabolites and analogues
  - **Prof. Carl Schiesser**
    - Radicals in unconventional media - improving the sustainability of radical reactions through next generation ionic liquid radical chemistry
  - **Prof. Frances Separovic**
    - Structure and activity determination of membrane-active peptides
  - **Prof. Frances Separovic**
    - Biomembrane interactions facility
  - **Dr Marco Sani**
    - Biomembrane interactions facility

- The ARC Centre of Excellence for Free Radical Chemistry and Biotechnology continued without formal ARC Centre Funding in 2014 and produced 52 journal articles, gave 48 conference presentations, wrote two book chapters and filed three patent applications.

- The School of Chemistry is a node of the Australian Centre for Advanced Photovoltaics that undertakes research into the next generation of solar cells and photovoltaic materials. The School’s programs form part of a $33 million funding commitment from the Australian Renewable Energy agency that commenced in 2013 for up to 8 years.

- The quality of our researchers is recognized by awards for research excellence including:
  - ARC Future Fellowships for Paul Donnelly, Spencer Williams and Wallace Wong
  - Two Group of Eight Australia – Germany Joint Research Co-operation Schemes were awarded to - 1) Prof. Rob Lamb and Dr Alex Wu. 2) Lars Goerigk
  - Prof. Richard O’Hair elected as an inaugural Fellow of the Australian New Zealand Society for Mass Spectrometry (ANZSMS)
  - National Computational Merit Allocation Scheme (NCAMAS) awarded to Lars Goerigk
  - McKenzie Fellowship to Dr Yuning Hong
  - DECRA Fellowship to Dr Lei Zhang
  - MNI Interdisciplinary Seed Funding to Yuning Hong
  - Dyason Award to Spas Kolev
  - Ian Potter Foundation Award to Lars Goerigk
  - CNRS grant to Dr Marco Sani and Prof. Frances Separovic
  - Selby Award to Lars Goerigk
  - IRRTF grant Awards to Prof. Carl Schiesser and Assoc. Prof. Michelle Gee
  - Dean’s Award for Excellence in Research to Dr Colette Boskovic, Dean’s Award for Excellence in EH&G Bryan McGowan, and Mick Moylan.
  - Grimwade Prize to Chris Burns
  - Department of Education and Earl Childhood Development Grant to Mick Moylan
  - Cultural and Community Grant awarded to Renee Beale
  - Coating Science International Conference Award to Alex Wu
  - ACS Petroleum Research Fund Grant to Mark Rizzacasa
  - David Syme Research Prize to Spencer Williams
RESEARCH AREAS

The School currently conducts research in the following areas:

**Advanced Materials and Nanoscience which includes:**
complex fluids, nanoporous materials, nanotechnology, organic electronic materials, photovoltaics, polymers, quantum dots, solar cells, and surface coating.

**Analytical and Environmental Chemistry which includes:**
proteomics & lipidomics, environmental fate of pollutants, phytoremediation, flow analysis methods, passive sampling, green chemistry, membrane separation and trace element analysis.

**Biological and Medicinal Chemistry which includes:**
biological macromolecules, biophysics, biotechnology, metalloenzymes and model complexes, molecular nutrition, and pharmaceutical chemistry.

**Inorganic Chemistry which includes:**
bioinorganic chemistry, catalysis, coordination chemistry, inorganic materials, metal ion dynamics, organometallic chemistry, and transition metal chemistry.

**Molecular Design and Synthesis which includes:**
catalyst design, computational chemistry, free radical chemistry, ligands and metal complexes, macromolecules, supramolecular chemistry and templates.

**Organic Chemistry which includes:**
bioorganic chemistry, carbohydrate and peptide chemistry, free radical chemistry, natural product synthesis, physical organic chemistry and structural organic chemistry.

**Physical Chemistry which includes:**
photochemistry, sonochemistry, spectroscopy, surface science, theoretical and quantum chemistry.
## CONFERENCES 2014

<table>
<thead>
<tr>
<th>Dr Mayumi Allinson</th>
<th>May</th>
<th>23rd Symposium on Environmental Chemistry</th>
<th>Kyoto, Japan</th>
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<tr>
<td>September</td>
<td>9th Society of Environmental Toxicology and Chemistry (SETAC) Asia Pacific Conference</td>
<td>Adelaide</td>
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<td>November</td>
<td>Symposium on Human Impacts on Oceanic Environment, Ecosystem and Fisheries</td>
<td>Nagasaki, Japan</td>
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<td>Prof. Muthupandian Ashokkumar</td>
<td>June</td>
<td>14th Meeting of the European Sonochemical Society (ESS14)</td>
<td>Avignon, France</td>
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<td>Dr Stephen Best</td>
<td>June</td>
<td>15th International Congress of Quantum Chemistry</td>
<td>Beijing, China</td>
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<td>September</td>
<td>17th Triennial International Council of Museums (ICOM-CC)</td>
<td>Melbourne</td>
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<td>Prof. Evan Bieske</td>
<td>May</td>
<td>East Asian Workshop on Chemical Dynamics</td>
<td>Pusan, Korea</td>
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<td>July</td>
<td>5th Asia Oceania Mass Spectrometry Conference</td>
<td>Beijing, China</td>
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<td>December</td>
<td>Royal Australian Chemical Institute (RACI) National Convention</td>
<td>Adelaide</td>
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<td>Dr Colette Boskovic</td>
<td>July</td>
<td>Frontiers in Metal Oxide Cluster Science (FMOCS)</td>
<td>Paris, France</td>
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<td>July</td>
<td>International Conference on Coordination Chemistry (ICCC41)</td>
<td>Singapore</td>
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<td>Assoc. Prof. Rachel Caruso</td>
<td>July</td>
<td>5th Australian China Symposium for Materials Science</td>
<td>Wollongong</td>
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<td>August</td>
<td>65th Annual Meeting of the International Society of Electrochemistry</td>
<td>Lausanne, Switzerland</td>
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<td>November</td>
<td>3rd Biennial Conference of the Combined Australian Materials Society (CAMs)</td>
<td>Sydney</td>
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<td>Mrs Penny Commons</td>
<td>February</td>
<td>STAV Chemistry Teachers Conference</td>
<td>La Trobe University</td>
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<td>November</td>
<td>CEA November Lectures</td>
<td>Bio21</td>
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<td>Dr Cottam Jade</td>
<td>December</td>
<td>Royal Australian Chemical Institute (RACI) National Convention</td>
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<td>Dr Augustine Doronila</td>
<td>June</td>
<td>8th International Conference for Serpentine Ecology</td>
<td>Sabah, Malaysia</td>
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<td>July</td>
<td>Occasional workshop on Phytomining in Australasia</td>
<td>Univ of Qld, Brisbane</td>
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<td>November</td>
<td>2nd Conference of the Society for Ecological restoration - Australasia</td>
<td>Nuomea, New Caledonia</td>
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<td>IPWEA 2014 Institute for public works engineering Australasia Regional Conference Victoria</td>
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<td>Dr Paul Donnelly</td>
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<td>Gold Coast</td>
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<td>December</td>
<td>Asia-Pacific Solar Research Conference</td>
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<td>18th International Conference on Flow Injection Analysis</td>
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<td>Assoc. Prof. Michelle Gee</td>
<td>August</td>
<td>International Workshop in Colloid and Interfacial Science, Technology, Engineering and Mathematics (STEM)</td>
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<td>Prof. Ken Ghiggino</td>
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<td>Australia India Workshop on Smart Functional Nanomaterials (ISRF) Workshop</td>
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<td>July</td>
<td>25th International Union of Pure and Applied Chemistry (IUPAC) Photochemistry Symposium</td>
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<td>Prof. Franz Grieser</td>
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<td>December</td>
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<td>Dr David Jones</td>
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<td>Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR)</td>
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<td>62nd American Society for Mass Spectrometry (ASMS) Conference</td>
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<td>8th National Conference on Chemistry</td>
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<td>June</td>
<td>Application of Synchrotron Imaging for Crop Improvement</td>
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<td>Mr Mick Moylan</td>
<td>February</td>
<td>VCE Chemistry Conference</td>
<td>Melbourne</td>
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<td>July</td>
<td>Gippsland Science Educators Conference</td>
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<tr>
<td>Prof. Paul Mulvaney</td>
<td>February</td>
<td>International Conference on Nanoscience and Nanotechnology (ICONN)</td>
<td>Adelaide</td>
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<td></td>
<td>March</td>
<td>American Chemical Society (ACS) Conference</td>
<td>Dallas, USA</td>
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<td>March</td>
<td>Frontiers in Plasmonics Conference (FOP3)</td>
<td>Xiamen, China</td>
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<td></td>
<td>July</td>
<td>8th Asian Photochemistry Conference</td>
<td>Kerala, India</td>
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<td>July</td>
<td>Royal Society Conference on Global Artificial Photosynthesis</td>
<td>Chitcheley, UK</td>
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<td>August</td>
<td>ACS Nano and NanoLetters Joint Symposium</td>
<td>San Francisco, USA</td>
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<td></td>
<td>December</td>
<td>Royal Australian Chemical Institute (RACI) National Convention</td>
<td>Adelaide</td>
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<tr>
<td>Dr Tich-Lam Nguyen</td>
<td>February</td>
<td>International Conference on Nanoscience and Nanotechnology (ICONN)</td>
<td>Adelaide</td>
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</table>
Prof. Richard O’Hair  
April 11th Uppsala Conference (UppCon) on Electron Capture and Transfer Dissociation  Innsbuck, Austria
April International Bunsen Discussion Meeting, Gas Phase Model Systems for Catalysis (GPMC)  Ulm, Germany
June 62nd American Society for Mass Spectrometry (ASMS) Conference  Baltimore, USA
August 22nd International Union of Pure and Applied Chemistry (IUPAC) International Conference in Physical Organic Chemistry  Ottawa, Canada

Ms Adabelle Ong  
January Asian Spectroscopy Conference  Singapore

Dr Brett Paterson  
September Dalton Discussion 15 - Metal ions in medical imaging: optica, radiopharmaceutical and MRI contrast  York, UK

Prof. Reid Gavin  
April American Association for Cancer Research Annual Meeting  San Diego, USA
June 62nd American Society for Mass Spectrometry (ASMS) Conference on Mass Spectrometry and Allied Topics  Baltimore, USA
September ComBio Conference  Canberra
October 4th Workshop on Clinical and Applied Proteomics  Montreal, Canada
November 1st Australasia Extracellular Vesicles Conference  Cairns
December 2nd Australian Lipid Meeting  Wollongong

Dr Chris Ritchie  
July Frontiers in Metal Oxide Cluster Science (FMOCs)  Paris, France

Prof. Mark Rizzacasa  
September IUPAC 20th International Conference on Organic Synthesis (ICOS20)  Budapest, Hungary

Dr Marc-Antoine Sani  
February 58th Biophysical Society Meeting  San Francisco, USA
July 18th International Union of Pure and Applied Biophysics (IUPAB) Conference  Brisbane

Prof. Carl Schiesser  
June The Science Teachers Association of Victoria Lab Tech Conference  Melbourne
June International Conference on Hydrogen Atom Transfer (iCHAT)  Frascati, Italy
July The European Association for Chemical and Molecular Sciences (EUCHEMS) Conference on Organic Free Radicals  Prague, Czech Republic
November Workshop on Selenium and Tellurium Chemistry (WSeTe)  Santa Maria, Brazil
December Royal Australian Chemical Institute (RACI) National Convention  Adelaide

Prof. Frances Separovic  
February 58th Biophysical Society Meeting  San Francisco, USA
May Science at the Shine Dome Symposium  Canberra
June Croatian Diaspora Congress  Zagreb, Croatia
July FASEB Meeting: Molecular Biophysics of Membranes  Big Sky, Montatna
August 18th International Union of Pure and Applied Biophysics (IUPAB) Conference  Brisbane
October 12th International School of Biophysics  Primosten, Croatia
December Royal Australian Chemical Institute (RACI) National Convention  Adelaide

Assoc. Prof. Trevor Smith  
October 11th Asian International Seminar on Atomic and Molecular Physics (AISAMP)  Sendai, Japan
December National Fluorescence Workshop  Pune India

Dr Alessandro Soncini  
February 1st (SANZMAG) Southampton Australia New Zealand Workshop on Molecular Magnetism  Sydney
July International Conference on Molecule-Based Magnets (ICMM)  St Petersburg, Russia

Assoc.Prof. Peter Tregloan  
December Collaborative Universities Biomedical Education Network (CUBENet) Forum  Canberra

Dr Willem Van den Heuvel  
July International Conference on Molecule-Based Magnets (ICMM)  St Petersburg, Russia

Prof. Anthony Wedd  
July 2014 Conference of the International Biometals Society  Durham NC, USA
October 9th International Copper Meeting  Vico Equenze, Italy
December 7th Asian Bioinorganic Chemistry Conference  Gold Coast

Prof. Jonathan White  
August International Union of Crystallography  Montreal, Canada
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<tr>
<th>Name</th>
<th>Month</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>Assoc. Prof. Uta Wille</td>
<td>July</td>
<td>The European Association for Chemical and Molecular Sciences (EUCHEM) Conference on Organic Free Radicals</td>
<td>Prague, Czech Republic</td>
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<td>December</td>
<td>Royal Australian Chemical Institute (RACI) National Convention</td>
<td>Adelaide</td>
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<tr>
<td>Assoc. Prof. Spencer Williams</td>
<td>December</td>
<td>Annual Meeting of the Society for Free Radical Research Australasia</td>
<td>Melbourne</td>
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<tr>
<td>Dr Wallace Wong</td>
<td>November</td>
<td>10th Society for Glycobiology Symposium</td>
<td>Hawaii</td>
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<td>December</td>
<td>Royal Australian Chemical Institute (RACI) National Convention</td>
<td>Adelaide</td>
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<tr>
<td>Dr Xiao Zhiguang</td>
<td>December</td>
<td>The International Conference on Synthetic Metals (ICSM)</td>
<td>Turku, Finland</td>
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<td>December</td>
<td>Asia Pacific Solar Research Conference</td>
<td>Sydney</td>
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<td></td>
<td>December</td>
<td>7th Asian Conference on Biological Inorganic Chemistry</td>
<td>Gold Coast</td>
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INORGANIC AND ANALYTICAL CHEMISTRY SEMINAR PROGRAM

Coordinator: Prof. Tony Wedd  E: agw@unimelb.edu.au

7 February
Prof. Kyo Han Ahn, Pohang University of Science and Technology
“Complex chiral colloids for visible and ultraviolet plasmonics.”

11 March
Mr Jens Brose, University of Melbourne
“Uptake and Distribution of Copper in Human Cells” - PhD Completion Seminar

18 March
Ms Manori Jayawardane, University of Melbourne
“The Potential of Paper in Environmental Monitoring” - PhD Completion Seminar

25 March
Prof. Richard Keene, University of Adelaide
“Polypryrdyl Ruthenium(II) Complexes as Cytotoxic Lipophilic Cations: New Paradigms for Old Molecules?”

1 April
Prof. Shaorong Liu, Oklahoma University
“Development and Application of High-Pressure Electro-osmotic Pumps”

8 April
Dr Simon James, Australian Synchrotron
“In Situ Speciation of Cellular Iron Protein Load: Quantifying Iron Metabolism Using X-rays”

15 April
Dr David Wilson, La Trobe University
“Adventures in Low Oxidation State Main Group Chemistry: The Chemistry of Inconvenient Elements”

29 April
Prof. Leroy Cronin, University of Glasgow
“Explaining the Self Assembly of Gigantic Molecular Structures”

13 May
Mr Edward Nagul, & Ms Tina Tezgerevsksa, University of Melbourne

20 May
Ms Saumya Udagedara, University of Melbourne
“The Challenges of Isolation and Study of a Membrane Metal Pump” – Phd Completion Seminar

27 May
Prof. Paul Worsfold, University of Plymouth
“On Your Bike - Analytical Tools for Investigating Trace Element Cycling in the Oceans”

1 July
Prof. Matt Shores, Colorado State University
“Targeted paramagnetic complexes for sensing, solar and other aspects of world domination”

5 August
Dr Richard Mole, ANSTO
“Switchable Magnetism in a Porous Coordination Polymer”

12 August
Prof. Matthew Wooley, University of Melbourne
“Gas Phase studies of Nickel, Palladium & Platinum Carboxylates”

26 August
Ms Yukie O’Bryan, University of Melbourne
“Novel Polymer Inclusion Membranes and Fibres for Extraction of Thiocyanate” – PhD Completion Seminar

2 September
Dr Bradford Moffat, Brain Imaging Laboratory, Royal Melbourne Hospital
“Theranostic nanomaterials for imaging and treatment of cancer”

9 September
Dr Max Massi, Curtin University
“Tetrazolato and N-heterocyclic Carbene Metal Complexes: New Avenues for Optical Molecular Imaging and Photo-Activated Therapies”

16 September
Mr Robert Elliott, University of Melbourne
“Coordination polymers containing redox active ligands” – PhD Completion Seminar

14 October
Mr Lachlan Mcinnes, & Mr Michele Vonci, University of Melbourne
“Discovery of the Last Seven Elements : Quasicrystals: A Fascinating Area Between Mathematics and Material Science”

28 October
Prof. Rob Capon, University of Queensland
ORGANIC CHEMISTRY SEMINAR PROGRAM

Coordinator: Dr Wallace Wong  E: wwhwong@unimelb.edu.au

14 February
Mr Mark Gregory, University of Melbourne
“Synthesis and biological evaluation of phosphatidylinositol phosphate chemical probes” – PhD Completion Seminar

21 February
Prof. Tadeusz Molinski, University of California, San Diego
“Heterocyclic Marine Natural Products from the ‘Wine Dark Sea’”

7 March
Prof. Bakthan Singaram, University of California, Santa Cruz
“Aminol Pharm: Asymmetric syntheses and utilization of chiral, non-racemic amino alcohols”

26 March
Prof. Kendall Houk, University of California, Los Angeles

11 April
Dr Luke Connal, University of Melbourne
“Enzyme mimetics: an artificial catalytic triad”

4 April
Dr Yu-Ying Lai, University of Melbourne
“Rhenium-based Olefin Metathesis: solid state, gas phase, and solution”

23 May
Prof. Forrest Michael, University of Washington
“New Alkene Animation Reactions for the Synthesis of Nitrogen Heterocycles”

30 May
Dr Jade Cottam, University of Melbourne
“Studying the interactions of IGF-II analogues with type 1 IGF and insulin receptors”

6 June
Ms Caroline Kyi, University of Melbourne
“Controlling the biodeterioration of cultural materials: Investigations into free radical, nitric oxide-based treatments” – PhD Completion Seminar

24 June
Prof. Elsa Reichmanis, Georgia Institute of Technology
“Polymeric Semiconductors: Molecular Ordering, Charge Transport and Macroscale Mobility”

8 July
Dr Brian Chia, Agency for Science, Technology and Research
“Peptidomimetic Inhibitors against the Dengue Virus NS3 Protease”

18 July
Ms Vinojini Nair, University of Melbourne
“Human Relaxin-2: The design, synthesis and development of novel agonists and antagonists” – PhD Completion Seminar

25 July
Prof Harry Brumer, University of British Columbia
“Carbohydrate-active enzyme discovery and applications”

1 August
Ass. Prof. Tsuyoshi Michinobu, Tokyo Institute of Technology
“New Click Chemistry for the Synthesis of Functional Molecules and Polymers”

9 August
Prof Peter Scammells, Monash University
“Orthosteric, Allosteric and Bitopic Ligands Acting at G Protein-Coupled Receptors” – PhD swansong

15 August
Professor George Barany, University of Minnesota
“Reflections on a Half Century of Solid-Phase Peptide Synthesis”

16 August
Professor Fabian Mohr, University of Wuppertal
“ Metals in Medicine: Quo vadis?”

22 August
Dr Matthew Cook, Queens University Belfast
“New allylic rearrangements. Stereoselective sigmatropic and pallylic reactions”

23 August
Dr Ullrich Jahn, Institute of Organic Chemistry and Biochemistry Academy of Sciences, Czech Republic
“A journey from organic methodology development to the total synthesis of natural products, their biological investigation and back”

30 August
Dr Derek Wilson, York University, Canada
“Structural Disorder in Protein Function and Pathogenic Aggregation”

6 September
Darran Loits, University of Melbourne
“Studies Towards the Synthesis of the Myxobacterium Metabolite Rhizopodin” – PhD Completion Seminar

13 September
Dr Joel Hooper, University of Oxford
“Rhodium catalysed hydroacylation and C-S bond activation”

18 September
Jenny Chambers, University of Melbourne
“Synthesis and biological evaluation of episivestrol analogues” – PhD Completion Seminar

25 October
Professor Stephen J. Blanksby, University of Wollongong
“Elucidating lipid structural diversity by mass spectrometry”

15 November
Nicolas Fisk, University of Melbourne
“Towards the Total Synthesis of Aranotin and the Oxepin containing Dithiodiketopiperazines” – PhD Completion Seminar

12 December
Dr Sam Stranks, University of Oxford
“High Performance Solar Cells Incorporating Organo-lead Halide Perovskites”

16 December
Prof Seth Marder, Georgia Institute of Technology
“Charge injection and collection at electrode interfaces”

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PHYSICAL CHEMISTRY SEMINAR PROGRAM

Coordinator: Assoc. Prof Rachel Caruso  E: rcaruso@unimelb.edu.au

7 February
Prof. David Norris, Swiss Federal Institute of Technology
“Complex chiral colloids for visible and ultraviolet plasmonics “

3 March
Prof. Harald Morgner, Wilhelm-Ostwald Institute, University Leipzig
“Fluid adsorption in mesopores: critical remarks on the validity of thermodynamics for confined systems”

17 March
Prof. Kevin Webb, Purdue University, West Lafayette, USA.
“Optical Metamaterials and New Dimensions for Controlling Light”

24 March
Prof. Yinghe He, James Cook University
“In pursuit of a balance in engineering research”

28 April
Prof. Evan Bieske, University of Melbourne
“Using light to change the shape of molecular ions”

12 May
Dr Gareth Williams, University of Edinburgh
“Photochemistry and fluorescence spectroscopy in photonic crystal fibre microreactors”

19 May
Ms Akalya Shanmugan, University of Melbourne
“Ultrasonic formation of stable food emulsions for the delivery of nutrients” – PhD completion seminar

23 June
Dr Carla Meledandri, University of Otago
“Development of antibacterial silver nanocomposite materials for application in clinical dentistry”

3 July
Assoc. Prof. Amy Prieto, Colorado State University
“Inexpensive, efficient approaches for energy production and storage”

21 July
Dr Fang Xia, CSIRO MSE & PSE
“In situ powder X-ray diffraction – a powerful tool in unveiling the mechanism of solvothermal materials synthesis”

28 July
Dr Syma Khalid, University of Southampton
Jemma Trick, University of Oxford
“In silico optimisation of nanopores: gating and DNA sequencing”

30 July
Prof. David Millar, Scripps Research Institute, USA
“Conformational dynamics of a G protein-coupled receptor at the single-molecule level ”

7 August
Assoc. Prof. Lilo Pozzo, University of Washington
“Self-assembly of nanoparticle surfactants and their use as theranostic agents “

11 August
Dr Lars Goerigk, University of Melbourne
“A trip to the density-functional zoo: Computational applications to excited states, thermochemistry and biomolecular structures “

18 August
Dr Xingdong Wang, CSIRO Materials Science and Engineering
“Porous TiO2 based materials: From synthesis to photocatalytic applications”

25 August
Dr Wei Li, Materials Science and Engineering
“Hierarchically nanostructured materials for removing toxic ions from water ”

25 August
Dr Tomislav Vuletic, Institute of Physics, Zagreb, Croatia
“Static conformation and dynamics of polyelectrolytes”

8 September
Mr William McMaster, University of Melbourne
“Biomaterial Porous Networks of Hydroxypatite and Titanium Dioxide” – PhD completion seminar

6 October
Prof. Ying Chen, Deakin University
“Nanostructured composites for high-performance energy storage in Li-ion batteries and supercapacitors”

13 October
Prof. Muthupandian Ashokkumar, University of Melbourne
“Ultrasonics and Sonochemistry for Functional Materials and Food Processing”

10 November
Mr Adah Yusof, University of Melbourne
“The effect of ultrasonics on micelle systems”

24 November
Liem X. Dang, Northwest National Laboratory
“Understanding the Rates and Molecular Mechanism of Water-Exchange around Aqueous Ions using Molecular Simulations”

5 December
Prof. Garry Rumbles, CSIRO, Manufacturing Flagship
“Engineering Metal Organic Frameworks”

8 December
Dr Paolo Falcaro, Stranski-Laboratorium für Physikalische und Theoretische Chemie, TU Berlin
“Forces across thin liquid films”

15 December
Prof. Daniel R. Gamelin, Department of Chemistry, University of Washington
“Synthesis and Spectroscopy of Doped Quantum Dots”


Roberts, B., Lim, N., Mcallum, E., Crowley, J. D., ... Crouch, P. J. (2014). Oral treatment with Cu-II(atsm) increases mutant SOD1 in vivo but protects motor neurons and improves the phenotype of a transgenic mouse model of amyotrophic lateral sclerosis. *Journal of Neuroscience*, 34(23), 8021-8031.


Chen, Li, Hong, Y., Lam, Zheng, & Tang. (2014). Dual-modal MRI contrast agent with aggregation-induced emission characteristic for liver specific imaging with long circulation lifetime. ACS Applied Materials and Interfaces, 6, 10783-10791.


Mei, Hong, Y., Lam, Qin, Tang & Tang. (2014). Aggregation-induced emission: The whole is more brilliant than the parts. Advanced Materials, 26(31), 5429-5479.


Ali, A., Bendor, T., Bolte, Separovic, F., Benson, ... Manolios. (2014). Cyclization enhances function of linear anti-arthritis peptides. Clinical Immunology, 150, 121-133.


Brose, J., La Fontaine, S., Wedd, A. G., & Xiao, Z. (2014). Redox sulfur chemistry of the copper chaperone Atox1 is regulated by the enzyme glutaredoxin 1, the reduction potential of the glutathione couple GSSG/2GSH and the availability of Cu(I). *Metallomics*, 6(4), 793-808.


Kong, R. C., Bathgate, R., Bruell, S. D., Wade, J. D., Gooley, P. R., & Petrie, E. J. (2014). Mapping key regions of the RXFP2 LDLa module that are involved in signal activation. Biochemistry, 53(28), 4537-4548.


