The Department of Chemistry presents the

2024 Fred Pattison Lecturer

Dr. Jenny Y. Yang
Professor
University of California, Irvine

A two-part lecture series on
May 14th and 15th
3:00-4:30pm - 3M Centre 3250

Western

Contact Information

Dr. Marcus W. Drover (host)
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(519)-661-2111 ext. 86334

Evan Branidis (Undergraduate Assistant)
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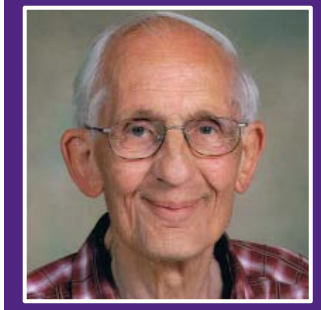
Previous Lectureships

1992	Sir Derek Barton (Texas A&M)
1993	Barry Trost (Stanford)
1995	Stephen Benkovic (Penn State)
1996	V. Ley (Cambridge)
1997	Anthony J. Kirby (Cambridge)
1998	Larry E. Overman (UC Irvine)
1999	Sir Fraser Stoddart (Northwestern)
2000	Dennis Curran (UPitt)
2001	Joseph Lambert (Northwestern)
2002	Anthony Barrett (Imperial College)
2003	Richard Wolfenden (UNC Chapel Hill)
2004	Victor Snieckus (Queens)
2005	Lutz F. Tietze (Georg-August Univ.)
2006	Juan C. (Tito) Scaiano (UOttawa)
2007	Francois Diederich (ETH Zurich)
2008	Erik J. Sorensen (Princeton)
2009	Chad A. Mirkin (Northwestern)
2010	Dennis Dougherty (Caltech)
2011	Guy Bertrand (UC Riverside)
2013	Darren Dixon (Oxford)
2014	Stephen Hashmi (Heidelberg)
2015	Craig Hawker (UC Santa Barbara)
2016	Michael Sherburn (ANU)
2024	Jenny Yang (UC Irvine)

Light snacks and refreshments will be served 15 mins prior to each lecture

If you require this information in an alternative format, or if any other arrangements can be made to make this event more accessible, please contact us.

Fred L. M. Pattison



(**1923–2010**) Fred Pattison was born in Scotland, where he received his early education. He enrolled at the University of Cambridge in England in 1941 to study Natural Science. Fred remained there to obtain a Ph.D. in Organic Chemistry under the supervision of Dr. B.C. Saunders. He then moved to Halifax, Nova Scotia to lecture at Dalhousie University for a year before joining Western in 1948 as an Assistant Professor of Chemistry.

Fred established a Ph.D. program in the department. His research on biologically active organic fluorine compounds produced many scientific papers, garnered the award of an Sc.D. by the University of Cambridge, and resulted in the publication of a book, Toxic Aliphatic Fluorine Compounds. In 1959, he became Professor and Head of the Department, and he presided over the expansion of the department and its move to new facilities.

In 1965, Fred decided on a career change. At the age of 42, he enrolled at Western as a first-year medical student. After completing his M.D. four years later, he interned at St. Joseph's Hospital in London and served for a year as resident in the Family Practice Program. As well, he was enrolled in a diploma program in venereology at the University of Liverpool. In 1971–73, Fred followed up a long-standing interest in the peoples of Canada's North by working with the International Grenfell Association. He provided solo medical care to about 6,000 people scattered along 120 miles of the Atlantic coast of Newfoundland.

Fred returned to London in 1973, when he joined Western's Student Health Services, holding the position of Director at his formal retirement in 1988. During the same period, he was a clinical assistant professor in the Faculty of Medicine, giving instruction in venereology, and director of the Middlesex-London Sexually Transmitted Disease Clinic.

After retiring, Fred was able to resume his connection with the Chemistry Department as Professor Emeritus. In light of his long service and many contributions to chemistry and medicine at Western, it is entirely fitting that the department dedicate a lecture series bearing his name.

Dr. Jenny Y. Yang

University of California, Irvine

Biography

The 2024 Fred Pattison Senior Lecturer is Jenny Yang. Jenny Y. Yang is a Professor of Chemistry at the University of California, Irvine (UCI). She received her B.S. degree in Chemistry at UC Berkeley, where she worked with Prof. Jeffry R. Long, and her Ph.D. at MIT with Prof. Daniel G. Nocera. She was a postdoctoral associate at the Pacific Northwest National Laboratory (PNNL) with Dr. Daniel L. DuBois. She continued as a scientist at PNNL and then at the Joint Center for Artificial Photosynthesis before starting as an Assistant Professor at UCI. Her research is focused on inorganic synthesis and electrochemical processes relevant to catalysis and separations.

Western

Seminar #1

CO_2 Capture, Concentration, and Conversion

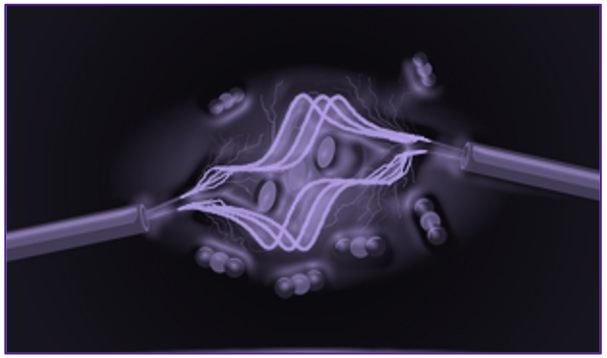
Tuesday, May 14th, 3:00pm

Room 3250, 3M Center

Refreshments at 3:00 pm followed by lecture at 3:15

Abstract

Electrochemically-driven processes can be used to capture, concentrate, and valorize CO_2 with greater efficiency compared to thermal methods. Recent work on developing air-stable electrochemical CO_2 capture using quinone redox carriers and the use of electrolyte engineering to tune molecular properties will be discussed. Additionally, recent work on integrated CO_2 capture and conversion systems will be presented.



www.uwo.ca/chem

Seminar #2

Using Proximal Cations to Install Internal Electric Fields in Transition Metal Complexes

Wednesday, May 15th, 3:00pm

Room 3250, 3M Center

Refreshments at 3:00 pm followed by lecture at 3:15

Abstract

Non-redox active Lewis acidic metal cations play a key role in a diverse set of biological and synthetic transition metal complexes that mediate redox activity. One of their proposed roles in promoting reactivity is by tuning the redox potential of the reaction site. We investigated whether non-redox active cations engender this change through an inductive effect, which would change the electronic structure of the redox active cation, or through an electrostatic effect, which would uniformly shift the molecular orbitals on the redox active metal due to the electric field potential of the proximal cation. Our study, which utilized a Schiff base ligand with an appended crown-like functionality that incorporates a variety of alkali and alkaline earth metals, indicates an electrostatic effect is likely dominant. The effect of the electric field on reactivity and thermochemical properties will be discussed.