

# Department of Chemistry Newsletter



## Issue 4 (August), 2021

Irving K. Barber Faculty of Science, University of British Columbia  
Sylx Okanagan Nation Territory

## Announcements

### Congratulations to:



**Dr. Conor Prancevicius** for the 5-year CFI funding (\$ 125,000) which will be used to purchase an X-ray diffractometer and a new glove box.



**Colin Dai** (Li group) who successfully defended his MSc Thesis.



**Matthew McConnachie** (Dang group) for his British Columbia Graduate Scholarship award (\$ 15,000) to pursue his MSc Degree on plant specialized metabolism.



**Helena Nunes** (Dang group) for her Graduate Dean's Entrance Scholarship award (\$ 6,000) to pursue her MSc Degree on plant synthetic biology.

# Welcome



**Dr. Robert Szilagyi**, Associate Professor (*electronic structure theory, coordination chemistry, bioinorganic chemistry*), who recently been offered the Head of the Department of Chemistry position at UBC's Irving K. Barber Faculty of Science. Our department is looking forward to his arrival in October 2021.

**Jackline Irungu**, who joins the Zandberg group after (most recently) completing her master's degree in instrumental chemical analysis (M.ICA) at Trent University. Jackline has been at UBC's Okanagan Campus since May 2021, completing an internship required for her M.ICA program.



**Catrin Ellis**, who will join Dang group from the University of York (UK) via UBC Go Global program.



**Reece Lister-Roberts**, who will join Pranckevicius group from the University of York (UK) via UBC Go Global program

## Recent publications/presentations



Michela Salamone, Marco Galeotti, **Eduardo Romero-Montalvo**, Jeffrey A. van Santen, Benjamin D. Groff, James M. Mayer\*, **Gino A. DiLabio\***, Massimo Bietti\*. Bimodal Evans–Polanyi relationships in hydrogen atom transfer from C(sp<sup>3</sup>)–H bonds to the cumyloxyl radical: A combined time-resolved kinetic and computational study. *Journal of the American Chemical Society* (2021) 143:11759–11776.



Stefania F. Musolino, **Zhipeng Pei**, Liting Bi, **Gino A. DiLabio\***, Jeremy Wulff\*. Structure–function relationships in aryl diazirines reveal optimal design features to maximize C–H insertion. *Chemical Science* (2021) DOI: 10.1039/D1SC03631A.



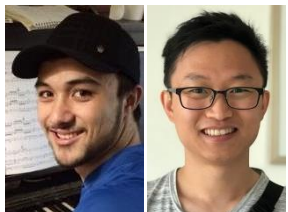
**Riley J. Petillion, W. Stephen McNeil.** Student satisfaction with synchronous online organic chemistry laboratories: Prerecorded video vs. livestream. *Journal of Chemical Education* (2021) 98. DOI: 10.1021/acs.jchemed.1c00549.



Brandon A. Whitmore, Stephanie E. McCann, **Matthew Noestheden, Eric G. Dennis**, Sarah M. Lyons, Daniel M. Durall, **Wesley F. Zandberg.** Glycosidically-bound volatile phenols linked to smoke taint: Stability during fermentation with different yeasts and in finished wine. *Molecules* (2021) 26:4519 DOI: 10.3390/molecules26154519.



**James W. Favell, Osei B. Fordwour**, Sydney C. Morgan, **Ieva Zigg, Wesley F. Zandberg.** Large-scale reassessment of in-vineyard smoke-taint grapevine protection strategies and the development of predictive off-vine models. *Molecules* (2021) 26:4311 DOI: 10.3390/molecules26144311.



**A. Yasunaga, Isaac T.S. Li.** Quantification of fast molecular adhesion by fluorescence footprinting. *Science Advances* (2021) 7:eabe6984 DOI: 10.1126/sciadv.abe6984.

## Upcoming Seminars



Tuesday, September 28<sup>th</sup>, 2:30 pm

**Dr. Mark Salomons**, NRC Nanotechnology Research Centre (Edmonton, AB)

Title: TBA

## Research highlights

Work from the **Zandberg** group on wildfires and wines (Noestheden et al., 2018, DOI: 10.1007/s00425-018-2994-7) has been highlighted by Jyoti Madhusoodanan in a *Science and Culture* piece entitled “Wildfires pose a burning problem for wines and winemakers” in the *Proceedings of the National Academy of Sciences of the United States of America*. (<https://www.pnas.org/content/118/34/e2113327118>)

Work from the **Szilagyi** group on the leveraging of the Comet supercomputer to advance our understanding of how methane is adsorbed (Rowsey et al., 2021, DOI: 10.1021/acs.jpca.0c11284) has been highlighted in HPC Wire

(<https://www.hpcwire.com/2021/08/09/xsede-supercomputer-research-advances-methane-storage-low-carbon-fuels/>)

The 2021 V4-Japan Joint Research Program “Advanced Materials” has funded the project “Atomic design of carbon-based materials for new normal society”, of which **Dr. Robert Szilagyi** is the North America’s external collaborator in charge of directing the computational efforts. With this project, graduate students from Japan and the V4 countries (Hungary, Slovakia, Poland, and Czechia) are expected at UBC Okanagan.



**The (Virtual) 60<sup>th</sup> Anniversary Meeting of the Phytochemical Society of North America (PSNA 2021), hosted by UBC Okanagan, has been a success.**

PSNA 2021 attracted 220 participants from 16 countries across the globe including many renowned experts in plant chemistry and biochemistry in 11 oral presentation and 2 poster presentation sessions.

**Drs. Thu-Thuy Dang, Lauren Erland, Susan Murch, and T. Don Nguyen** of our department were among the local organization committee.

Presentations from the Department of Chemistry at PSNA 2021 include:

- **Erland A.E. Erland** (Murch group): Mammalian melatonin agonist pharmaceuticals stimulate rhomboid receptors in plants
- **Ryland T. Giebelhaus** (Murch group): Are all kratom products created equal? Metabolomics of *Mitragyna speciosa* and commercial kratom products
- **Abisola Kehinde** (Murch group): Quality and consistency of ma'afala as a source of flour



**Presentations from the Department of Chemistry at the IUPAC | CCCE 2021:**

- **Emma Mitchell** (Godin group): Morphological influence on the charge carrier dynamics in carbon nitride photocatalysts
- **Jasper Pankratz** (Godin group): Modifying the morphology of polymeric photocatalyst particles with minimal chemical changes



- **Destiny Ellenor** (Godin group): Charge carrier dynamics simulations to understand the impacts of morphology and energetics on photocatalysts for solar energy conversion
- **Evan Keenan** (Godin group): Covalent immobilization of carbon nitride onto a glass surface
- **Abigail Law** (Godin group): Experimental determination of charge carrier dynamics in carbon nitride heterojunctions
- **Dr. Robert Godin**: Transient absorption microscopy of carbon nitride photocatalysts on timescales of chemical reactions
- **Marisa Aviani** (Menard group): Developing a cellular assay to study new ligands for voltage-gated calcium channels
- **Dr. Conor Prancevicius**: Unsymmetrical low-valent diboron complexes: From strong donor ligands to small molecule activation

## Student affairs

### Research proposals

None scheduled for September

### Ph.D. comprehensive/candidacy oral examination

None scheduled for September

### Thesis oral examinations

Tuan Anh M. Nguyen (Dang group), MSc thesis oral examination, October 2021, TBA

### Committee meetings:

None scheduled for September

## News/Events



August 18<sup>th</sup>

The acting head, Dr. Karen Perry, was hosting a welcoming BBQ party for the incoming head, Dr. Robert Szilagyi.  
But it was a trap, Robert!



August 19<sup>th</sup>

The Menard lab challenged the Li lab for paintball supremacy and suffered a devastating defeat.

We would like to acknowledge that the land on which we gather is the unceded territory of the Syilx (Okanagan) Peoples.

If you would like to contribute to, or have any suggestions for, our Department's upcoming newsletters, please contact Thuy Dang ([thuy.dang@ubc.ca](mailto:thuy.dang@ubc.ca)).