

## The Walter A. Szarek Lecture Series

Walter A. Szarek was born on April 19, 1938 in St. Catharines, Ontario. He received his B.Sc. in Honours Chemistry in 1960, and his M.Sc. in 1962, from McMaster University. In 1962 he began studies towards the Ph.D. Degree with Professor J. K. N. Jones at Queen's University; he completed his studies in 1964 in the area of carbohydrate chemistry. He then went on to do postdoctoral work with Professor Melville L. Wolfrom who had developed the outstanding school of carbohydrate chemistry at The Ohio State University, Columbus, Ohio. Within a year he was offered the position of Assistant Professor of Biochemistry in the Department of Physiology and Biochemistry at Rutgers University in New Jersey. After launching his independent research program, but longing to be part of a Chemistry Department, in 1967 he returned to Queen's as Assistant Professor of Chemistry where he rose through the ranks to Full Professor in 1976. During the period 1976-1985 he was also Director of the Carbohydrate Research Institute at Queen's. In 2003 he became Professor Emeritus, and continued to be very active in research for several years. Professor Szarek's outstanding achievements in carbohydrate chemistry were recognized by the receipt of the American Chemical Society Claude S. Hudson Award in 1989 and the Melville L. Wolfrom Award in 1992.

Professor Szarek's research in carbohydrates was truly comprehensive, encompassing many diverse aspects, both chemical and biological. His knowledge was encyclopedic and he quickly became known as The Godfather of the carbohydrate family and The Prince of hospitality. In addition, he had a very active research program in the areas of Medicinal Chemistry and Drug Development. He is the author of over 300 peer-reviewed publications and has held numerous patents in the areas of Alzheimer's Disease, Cancer, Malaria, Anti-bacterial Agents, and therapeutic drugs for the treatment of chronic and acute pain. He was a co-founder of Neurochem, Inc. (now Bellus Health, Inc.) and was associated with PainCeptor Pharma Corp., and Osta Biotechnologies, Inc.

Professor Szarek was, at all times, a principled educator at both the undergraduate and graduate levels, having won four teaching awards including the Queen's University Arts and Science Undergraduate Teaching Excellence Award in 1989. His distinguished research career involved the direction of 23 M.Sc and 32 Ph.D. students, and ~85 postdoctoral fellows. His caring and insightful mentorship both in chemistry and in life evoked in his students, postdoctoral fellows, and colleagues, great respect and affection.

The Walter A. Szarek Lecture Series was established through an endowment initiated by a former student, B. Mario Pinto, and with generous contributions from past students, postdoctoral fellows, and colleagues. It is testament to his profound influence on the next-generations of scientists. A substantial donation was also made by the Szarek family in memory of Professor Szarek's brother, John.

## SELECTED RECENT PUBLICATIONS

- P. J. Calabretta, H. L. Hodges, M. B. Kraft, V. M. Marando, and **L. L. Kiessling** (2019). Bacterial Cell Wall Modification with a Glycolipid Substrate. *J. Am. Chem. Soc.* **141**, 9262-9272.
- C. M. Jarvis, D. B. Zwick, J. C. Grim, L. R. Prost, M. M. Alam, J. C. Gardiner, S. Park, L. L. Zimdars, N. M. Sherer, and **L. L. Kiessling** (2019). Antigen Structure Affects Cellular Routing Through DC-SIGN. *Proc. Natl. Acad. Sci.* **116**, 14862-1467, PMID: 6660738
- H.L. Hodges, R.A. Brown, J.A. Crooks, D.B. Weibel, and **L.L. Kiessling** (2018). Imaging Mycobacterial Growth and Division with a Fluorogenic Probe. *Proc Natl Acad Sci USA* **115**: 5271-5276. DOI: 10.1073/pnas.1720996115 PMID: 29703753.
- J. M. Fishman, D. B. Zwick, A. G. Kruger, and L. L. Kiessling (2019). Chemoselective, Postpolymerization Modification of Bioactive Degradable Polymers. *Biomacromolecules* **20**(2), 1018-1027. DOI: 10.1021/acs.biomac.8b01631. NIHMSID 1020193
- L. L. Kiessling** (2018). Chemistry-Driven Glycoscience, *Bioorganic Med Chem.* **18**, 31640-7. DOI: 10.1016/j.bmc.2018.09.024.
- V. J. Winton, A. M. Justen, H. Deng, and **L. L. Kiessling** (2017). Deleterious Consequences of UDP-Galactopyranose Mutase Inhibition for Nematodes. *ACS Chem. Biol.* **12**, 2354-2361.
- D.A. Wesener, A. Dugan, **L.L. Kiessling** (2017). Recognition of Microbial Glycans by Soluble Human Lectins. *Curr Opin Struct Biol* **44**: 168-178. DOI: 10.1016/j.sbi.2017.04.002 PMID: 28482337.

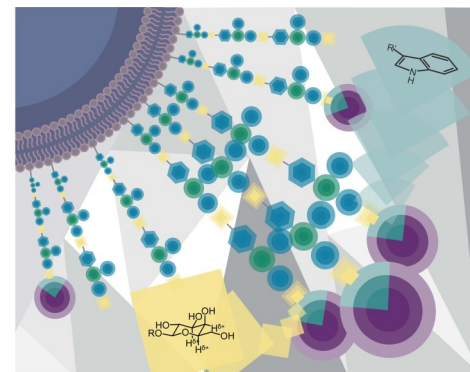


The Department of Chemistry,  
Queen's University

is honoured to host the 2019  
Walter A. Szarek Lecture:

Laura L. Kiessling  
Massachusetts Institute of  
Technology

"Chemical Biology of Microbial  
Glycans"



Friday, December 6, 2019  
11:30 AM

Room 117, Chernoff Hall

## DR. LAURA L. KIESSLING



**Dr. Laura L. Kiessling**  
Massachusetts Institute of Technology  
77 Massachusetts Ave.  
Cambridge, MA, USA 18-393

**Professor Laura L. Kiessling** received an Sc.B. degree in chemistry at MIT, where she performed undergraduate research in organic synthesis with Professor Bill Roush. She received a Ph.D. degree in chemistry at Yale University for her research with Stuart L. Schreiber. She was an American Cancer Society postdoctoral fellow with Peter B. Dervan at California Institute of Technology. She then joined the faculty at the University of Wisconsin–Madison, where she became the Steenbock Professor of Chemistry, the Laurens Anderson Professor of Biochemistry, and the Director of the Keck Center for Chemical Genomics. In 2017, she returned to MIT as the Novartis Professor of Chemistry.

Professor Kiessling is a member of the American Academy of Arts & Sciences, the American Academy of Microbiology, the American Philosophical Society, and National Academy of Sciences. She is the founding Editor-In-Chief of the journal ACS Chemical Biology. She is an author of over 140 peer-reviewed journal articles, and an inventor on more than 28 US patents. She has advised approximately 100 graduate students and postdoctorates. Alumni from her research group are contributing through their positions as faculty members of distinguished research universities, medical schools, and colleges and as research scientists at innovative start-up companies, leading corporations, and government laboratories.

## SELECTED HONOURS & AWARDS

- Centenary Prize, Royal Society of Chemistry – 2019
- Amar G. Bose Research Grant, MIT – 2019
- Tetrahedron Prize – 2018
- Gibbs Medal, Chicago Chapter of the ACS – 2016
- Vilas Distinguished Faculty Award, UW-Madison – 2016
- Alexander M. Cruickshank Award – 2015
- Kavli Lecturer, American Chemical Society Meeting – 2015
- Alfred Bader Award in Bioinorganic or Bioorganic Chemistry – 2014
- Albert Hofmann Award, University of Zurich – 2013
- Murray S. Goodman Memorial Prize, Biological Division of the ACS – 2013
- Claude S. Hudson Award in Carbohydrate Chemistry – 2013
- Steenbock Professor of Chemistry – 2012
- James W. Taylor Excellence in Teaching Award – 2011
- ACS Fellowship – 2010
- Guggenheim Fellowship – 2008
- Member, Wisconsin Academy of the Arts and Sciences – 2008
- Wilbur Cross Award, Yale University – 2008
- Vilas Associate Award, University of Wisconsin–Madison – 2008
- Member, National Academy of Sciences – 2007
- Member, American Academy of Microbiology – 2007
- Francis P. Garvan–John M. Olin Award, American Chemical Society – 2007
- Technology Achievement Award, MIT Club of Wisconsin – 2007
- Harrison Howe Award, Rochester Section of the American Chemical Society – 2006
- Tetrahedron Young Investigator Award in Bioorganic or Medicinal Chemistry – 2005