



Double Bond

The Newsletter of the Western New York Section of the American Chemical Society

Volume 94

March 2022

THE JACOB F. SCHOELLKOPF MEDAL

The Western New York Section of the
American Chemical Society
invites you to be present
for the presentation of the
Jacob F. Schoellkopf Medal
TO

Mary McCourt
2020

and

David Hangauer
2021

Tuesday evening, the twelfth of April
two thousand twenty-two

Cash bar with cold and hot hors d'oeuvres at six o'clock
Dinner at seven o'clock

Presentations to follow dinner

The Hotel Lafayette

391 Washington St. | Buffalo, NY 14203

Formal dress optional

R.S.V.P. by March 22, 2022

For reservations, please contact
Luis Sanchez: (716) 286-8252
lsanchez@niagara.edu

WNYACS

UNDERGRADUATE RESEARCH SYMPOSIUM

Saturday, April 9, 2022

The **Undergraduate Research Symposium**, sponsored by the ACS local section, will return to Western New York this year! The symposium will be hosted by the Department of Chemistry at SUNY Buffalo State College on Saturday, April 9, 2022.

This year's symposium will feature a Keynote Address by Dr. Mary Kay Pflum from the Department of Chemistry at Wayne State University. There will also be prizes for the best student posters and oral presentations. The Buff State Planetarium will be having shows during the day.

There is a \$5.00 registration fee for this year's symposium. This includes a light breakfast and buffet lunch. A vegetarian option will be available. We ask that attendees register ahead of time, using the online form, and pay (cash) at the registration table on April 9.

For undergraduate researchers who wish to give a poster or a 10-minute oral presentation at the symposium, please provide this information on the registration form, and submit an abstract via email using the online Abstract Template. Abstracts for consideration in the Oral Session must be submitted by Wednesday, March 23rd, 2022. Poster abstracts may be submitted until Thursday, March 31, 2022. Acceptance of presentations will be on a rolling basis while space remains in the sessions.

Forms and other info are on the WNYACS website:

wnyacs.org/undergraduate-research-symposium

Visit the WNYACS website: <https://wnyacs.org/>

THE 2020 JACOB F. SCHOELLKOPF MEDAL

The award jury has selected Mary McCourt, Professor in the Department of Chemistry, Biochemistry and Physics, Niagara University, to receive the 2020 Jacob F. Schoellkopf Medal

“in recognition of her pioneering contributions to the development of drug delivery methods for the treatment of breast cancer, diabetes, and Alzheimer’s disease, and for her outstanding dedication to teaching and mentoring.”

Mary P. McCourt, Professor of Chemistry at Niagara University, received her BA in Chemistry and BS in History as well as MA in History from the State University of New York at Buffalo. She received in her PhD in Computational Chemistry in 1989 from the State University of New York at Buffalo. Her PhD was supervised by Dr. James McIver and was focused on the development of rotationally invariant integrals from semi-empirical methods.

Dr. McCourt then had a post-doctoral position in the laboratory of Dr. Robert Rein of Roswell Park Cancer Institute which had a focus on methods for 3-D development of protein structures. She then worked with Dr. Vivian Cody at the Hauptman Woodward Medical Research Institute on developing integrated models for drug docking in Dihydrofolate Reductase as well as thyroxin binding proteins. She also worked with Dr. Douglas Dorset of the Hauptman Institute where she developed methods for analyzing 2-D electron diffraction data and using Dr. Hauptman’s 3D methods to develop 3D structures from 2-D data. Dr. McCourt also produced some of the first crystal structures of oxidized cholesterol as well as binary solid solutions of cholesterol esters.

In 1999, Dr. McCourt joined the Chemistry faculty at Niagara University where she has held numerous positions and was a co-founder of the Academic Center for Undergraduate Research. She was promoted to Full Professor in 2012. Dr. McCourt’s research focus is on the development of her lipid based Cholestosome™ technology. The technology is a platform-based drug delivery system that has a multitude of applications as delivery depends on the vesicle not on the material being delivered. Dr. McCourt and her students have presented these findings at multiple national meetings. In 2016 at the Philadelphia ACS meeting, Dr. McCourt’s work on

using the cholestosome technology as a potential oral insulin therapeutic was featured as part of the invited national press conference. It was referred to as one of the most important developments in diabetic research and formulation. Dr. McCourt has at present eleven issued and pending patents and ten under Active Search and Examination. Dr. McCourt has over 90 presentations and conference papers most of them with undergraduate students.

THE SCHOELLKOPF AWARD DINNER

Tuesday, April 12, 2022

For reservations, please contact
Luis Sanchez: (716) 286-8252
lsanchez@niagara.edu

Dinner Selections:

- **Prime Rib with au jus**
- **Chargrilled Chicken Breast with red peppers, spinach, & provolone**
- **Cheese Tortellini with sundried tomato cream sauce**
- **Vegan Tofu Stuffed Pepper**

Wine served with meal

\$40.00 per person (\$20.00 per student)

Name: _____

Guest Name(s): _____

Number of Prime Rib _____

Number of Chargrilled Chicken _____

Number of Cheese Tortellini _____

Number of Vegan Tofu Pepper _____

Amount \$ _____

R.S.V.P. by March 22, 2022

THE 2021 JACOB F. SCHOELLKOPF MEDAL

The award jury has selected David Hangauer, Emeritus Professor of Medicinal Chemistry & Chemistry, at the University at Buffalo, to receive the 2021 Jacob F. Schoellkopf Medal

"in recognition of his visionary work on the discovery of cancer therapies and his entrepreneurial impact for the advancement of the pharmaceutical industry in the region."

Dr. Hangauer is a biotech entrepreneur with particular expertise in drug design and development. He obtained his PhD in organic chemistry at The University at Buffalo in 1980. He worked as a medicinal chemist at Merck for a decade, working on various drug discovery projects, and helping advance computer-aided-drug design. He then accepted a faculty position in the UB Department of Chemistry, where he initiated a medicinal chemistry research program. He also developed graduate courses in medicinal chemistry, and taught undergraduate courses in organic chemistry.

While at UB Dr. Hangauer started three biotech companies: 1) Arpida in Switzerland which did an IPO on the Swiss Stock Exchange, 2) Hypnion in Boston which was acquired by Eli Lilly, and 3) Athenex in Buffalo which did an IPO on the Nasdaq in 2017. He also consulted for many biotech and pharmaceutical companies in the US, Europe and Asia.

The company, Athenex, was a spin-off from Dr. Hangauer's UB laboratory research. It was formed in 2003 based on new oncology drug-discovery technology developed in Dr. Hangauer's lab. Athenex became a global company and grew to about 600 employees. After retiring from UB in 2011, Dr. Hangauer became Athenex's Chief Scientific Officer before retiring from Athenex at the end of 2016. Dr. Hangauer is the inventor of two of Athenex's oncology drugs, KX01 and KX02. KX01 was also formulated into a topical ointment and approved by the US FDA and the European drug approval agency for treating a pre-cancerous skin condition called actinic keratosis. The drug is named tirbanibulin and marketed as Klisyri for prescription by dermatologists. Dr. Hangauer is also a patient for his topical drug.

Dr. Hangauer has won various awards including the James H. Crowdle Award Medal in 2006 and the UB Faculty Entrepreneur of the Year award in 2012. He is an inventor on 80 patents, and is author of 60 peer reviewed publications.

Dr. Hangauer's most recent academic research was a fundamental research program to elucidate what determines how tightly a potential drug binds to its target. This information is essential to enable computer-aided-drug design to more accurately predict potential drug candidate potencies before the laborious and expensive synthesis of the best ones. He has published 15 peer reviewed papers on this research, the body of which has demonstrated how important water changes and entropy are to determining how tightly a drug binds to its target.

80 YEARS AGO IN THE DOUBLE BOND

Excerpt from "Modern Wind Power" by E. F. Guillot, in the March, 1942, edition of the Double Bond

Among the modern examples of dreams come true, the recent erection and present testing of a wind turbine on a rounded peak of Vermont's Green Mountains is one of the most intriguing. In the fall of 1934 Palmer Cosslett Putnam conceived the idea of harnessing the tremendous and largely unused power of the wind. The wind might actually be put to work in modern homes and factories! Study soon convinced the geologist-inventor, son of the late publisher, George Haven Putnam, that earlier attempts to utilize wind power had been on much too small a scale.

Putnam took his idea to Thomas S. Knight, vice-president of General Electric Co. in Boston. Ten minutes after Putnam entered his office, Knight offered him engineering assistance and office space. Knight also arranged for the location of the project and a line to the turbine by the New England Public Service Co.

When construction began in late 1940, the wind turbine had, according to the blueprints, the unmistakable appearance of a windmill. There was a structural steel tower 110 ft. high and 40 ft. broad at the base set on a steel and concrete foundation sunk 23 ft. into the top of bald Grandpa's Knob. This peak, 2000 ft. above sea level, is located about 10 miles west of Rutland, VT, in the northeast corner of the town of Castleton. Mounted on a six-foot wide tower cap are two turbine blades and the power generating equipment. The blades are 65 ft. long, 12 ft. wide and have a cross section like an airplane wing. They weigh 15,300 lbs. each made from stainless steel.

The generator develops 1000 kW at a wind velocity of 30 m.p.h. Just a big windmill and nearly the world's largest!

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Schoellkopf Award Chair 2022

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