

**2016 MARYLAND CHEMIST OF THE YEAR**



~ **Dr. Kathie Seley-Radtke** ~

Professor, Department of Chemistry and Biochemistry  
University of Maryland, Baltimore County

*"Rational (and sometimes irrational!) approaches in nucleoside  
drug design"*

Wednesday, December 7th 6:00-8:30 pm

University of Maryland, Baltimore County  
UC312  
1000 Hilltop Circle  
Baltimore, MD

#### 2016 Section Officers:

*Chair 2016* – Paul Smith, University of Maryland, Baltimore County, [pjsmith@umbc.edu](mailto:pjsmith@umbc.edu)

*Vice-chair (chair 2017)* – Stephanie J. Watson, N.I.S.T., [stephanie.watson@nist.gov](mailto:stephanie.watson@nist.gov)

*Chair-elect (chair 2018)* – Beatrice Salazar, [beatricesalazar1@gmail.com](mailto:beatricesalazar1@gmail.com)

*Immediate-Past Chair (chair 2015)* – Sandra Young, Army Research Lab, [sandra.k.young26.civ@mail.mil](mailto:sandra.k.young26.civ@mail.mil)

*Secretary* – Louise Hellwig, Morgan State University, [louise.hellwig@morgan.edu](mailto:louise.hellwig@morgan.edu)

*Treasurer* – Angela Sherman, Notre Dame of Maryland University, [asherman@ndm.edu](mailto:asherman@ndm.edu)

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2014–2016 Paul Smith, University of Maryland, Baltimore County, [pjsmith@umbc.edu](mailto:pjsmith@umbc.edu)

2015–2017 Stephanie J. Watson, N.I.S.T., [stephanie.watson@nist.gov](mailto:stephanie.watson@nist.gov)

2015–2017 Dana Ferraris, McDaniel College, [dferraris@mcdaniel.edu](mailto:dferraris@mcdaniel.edu)

2015–2017 Jan Kolakowski, US Army Edgewood Chemical Biological Center, [jan.e.kolakowski.civ@mail.mil](mailto:jan.e.kolakowski.civ@mail.mil)

#### Alternate Councilors:

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2015–2017 Charles M. Zapf, retired, [smzsail@verizon.net](mailto:smzsail@verizon.net)

#### 2016 Members-at-large:

George Farrant, Retired, [gfarrant@yahoo.com](mailto:gfarrant@yahoo.com)

Sara Narayan, Stevenson University, [snarayan@stevenson.edu](mailto:snarayan@stevenson.edu)

Suzanne Procell, Edgewood Chemical Biological Center, [suzanne.a.procell.civ@mail.mil](mailto:suzanne.a.procell.civ@mail.mil)

Beatrice Salazar, Baltimore County Public Schools, [beatricesalazar@hotmail.com](mailto:beatricesalazar@hotmail.com)

Angela Sherman, Notre Dame of Maryland University, [asherman@ndm.edu](mailto:asherman@ndm.edu)

#### Award Committee Chairs:

*Student Awards* – George Farrant, Retired, [gfarrant@yahoo.com](mailto:gfarrant@yahoo.com)

*Remsen Award* – Dana Ferraris, McDaniel College, [dferraris@mcdaniel.edu](mailto:dferraris@mcdaniel.edu)

*Braude Award* – Louise Hellwig, Morgan State University, [louise.hellwig@morgan.edu](mailto:louise.hellwig@morgan.edu)

*Maryland Chemist Award* – Angela Sherman, Notre Dame of Maryland University, [asherman@ndm.edu](mailto:asherman@ndm.edu)

#### Maryland Section on the Web:

[maryland.sites.acs.org](http://maryland.sites.acs.org)

#### Webmaster:

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#### Contact us at:

[contact-us@mdchem.org](mailto:contact-us@mdchem.org)

# 2016 Maryland Chemist of the Year Award

~ Dr. Kathie Seley-Radtke ~

Professor, Department of Chemistry and Biochemistry  
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*“Rational (and sometimes irrational!) approaches in nucleoside drug design”*

Wednesday, December 7<sup>th</sup>, 2016

6:00-8:30 pm

University of Maryland, Baltimore County

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1000 Hilltop Circle

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**Speaker Bio:** Professor Kathie Seley-Radtke is the Presidential Research Professor of Chemistry and Biochemistry at the University of Maryland, Baltimore County (UMBC). She earned her Ph.D. in Organic Chemistry from Auburn University and her research involves using a synthetic organic/medicinal chemistry approach to

nucleoside and heterocyclic drug discovery and development. Current projects include the investigation of flexible nucleosides/nucleobases "fleximers" for use against SARS, MERS-CoV, Ebola, HCV and HIV, among other viruses and cancer. Kathie has given more than 100 invited talks worldwide in twenty-five countries, published nearly 80 peer-reviewed papers and reviews, and has organized a number of international conferences focused on medicinal chemistry and drug design. She is currently the President of the International Society of Nucleosides, Nucleotides and Nucleic Acids (IS3NA), and an Executive Board Member for the International Society for Antiviral Research (ISAR) as well as serving on a number of committees for both Societies. She is also a member of the American Chemical Society's Medicinal Chemistry Division Awards Committee, and an Associate Editor for Antiviral Chemistry & Chemotherapy, as well as Current Protocols in Chemical Biology. In addition to her scientific achievements, she is one of the National Academies of Science's Jefferson Science Fellows. As part of her ongoing involvement with the U.S.

Department of State and the U.S. Embassy in Moscow, Russia, she works closely with Russian scientists on emerging and reemerging infectious diseases.

**Abstract:** Replication is intrinsic to the lifecycle of all viruses, thus their survival relies on DNA or RNA polymerases. As a result, the polymerase is considered one of the most important targets for antiviral drug design. A highly effective strategy to target polymerases is through the use of nucleos(t)ide analogues. In an effort to explore flexibility as a design approach to increase polymerase recognition, as well as to develop a possible strategy against resistance mechanisms, a novel flexible nucleoside scaffold was designed in our laboratories. The “fleximers” as we named them, featured a “split” heterocyclic purine base that retained the requisite hydrogen bonding elements necessary for recognition, but allowed free rotation around a single carbon-carbon bond. This endows the nucleoside scaffold with the ability to adjust and adapt when encountering point mutations in enzyme binding sites. Various types of fleximer nucleosides have been designed, synthesized and investigated in our laboratories over the years. Many of the fleximers have shown promise as antiviral, anticancer and antiparasitic therapeutics. Most recently a new series of “doubly” flexible analogues was pursued, by combining our fleximer base modification with various modified sugars found in several FDA-approved antiviral nucleoside drugs, including the acyclic sugar found in Acyclovir. This has led to potent biological activity against a number of viral targets, including HCV, MERS, SARS, Zika, Ebola and other neglected viruses. Not just confined to targeting viruses, a second project in my group has focused on a series of bicyclic nucleoside bases that have shown low nanomolar levels of activity against a number of cancers, including triple negative breast, renal, lung, prostate and leukemia. This project is currently at the preclinical stage, with testing underway in mice. The history and progress to date for both projects will be discussed.

**Parking is available in lot 8 for two quarters and handicapped parking in lot 9.**

<http://about.umbc.edu/visitors-guide/campus-map/>

Price	\$25 members/nonmembers; \$15 Postdocs/Grad Students; \$10 undergraduate students
6:00-6:30 pm	Registration/Networking
6:30-7:30 pm	Dinner
7:30-8:30 pm	Presentation by Professor Seley-Radtke

8:30 pm	Presentation of Award
RSVP	contact-us@mdchem.org

## Executive Committee Meeting: Wednesday December 14<sup>th</sup>

The next Executive Committee Meeting for the MD Section will be Wednesday, December 14th in room MEYR351 at UMBC from 6:15-7:45. A light dinner will be served. All are welcome to attend! We value all Section members' input to plan future events and activities. For questions, contact Paul Smith at [pjsmith@umbc.edu](mailto:pjsmith@umbc.edu).

## Undergraduate and Graduate Student Travel Grants

Undergraduate and Graduate students may apply to the ACS Maryland Section to receive up to \$500 for travel and expenses to attend the 253rd ACS National Meeting and Exposition in San Francisco April 2-6, 2017. This is open to ACS members who are enrolled full time in a college or university in the Maryland Section. Check the Awards page of the Maryland Section website for details.

Applications for the spring national ACS meeting are accepted starting November 15 of the previous year; decisions are announced by January 21 of the year of the spring meeting. Applications are accepted starting April 1 for the fall national ACS meeting; decisions are announced by May 31.

## Call for Abstracts:

### Metrohm USA Young Chemist Award 2017

Undergraduates, graduates, post-graduates and doctoral students who are doing research in titration, ion chromatography, electrochemistry and/or spectroscopy are encouraged to apply. Winners receive:

- A \$10,000 cash award
- Travel expenses and registration for PITTCON 2017 in Chicago
- The opportunity to publish and present your research at PITTCON

Apply at: <http://youngchemistaward.metrohmusa.com/>

Abstracts are due by December 31, 2016.

## ACS Maryland Section Election Results for 2017 Officers

Voting was held in October 2016 using Vote-Now.com for an electronic election. In 2017, Stephanie Watson will serve as Chair and Beatrice Salazar will serve as Vice-Chair. Congratulations to all the candidates who were nominated to the following positions:

### Summary of Candidates:

Chair Elect (chair in 2019)

Dana Ferraris

Secretary

Louise Hellwig

Treasurer

Angela Sherman

Members at Large      George Farrant                      Rose Pesce-Rodriguez  
(5 positions open)      Sara Narayan                      Sandy Young  
                                 Suzanne Procell

Councilor                                      Merle Eiss  
    Paul Smith

Alternate Councilor:              Charles Chen                      Kelly M. Elkins  
Pumtiwitt McCarthy              Sandra Young  
Charles M. Zapf

## 2016 Maryland Section Event Schedule

Event	Date	Location
Maryland Chemist of the Year	December 7 <sup>th</sup>	UMBC

If you have any ideas or suggestions about new events, let us know: [contact-us@mdchem.org](mailto:contact-us@mdchem.org)

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### REMINDER: Receiving the Chesapeake Chemist

Hopefully, if you are reading the Chesapeake Chemist this month, you are receiving it via e-mail from us. We went to electronic-only mailings to our MD ACS membership in October 2006.

**Changing your e-mail address? Moving out of the MD ACS area?** E-mail changes can be updated either by:

- E-mailing us at [contact-us@mdchem.org](mailto:contact-us@mdchem.org) – give us your member #, full name, and e-mail changes and we can ensure that your records are updated with National ACS.
- **Contacting the National ACS membership division: 800-333-9511 (US only)** or [service@acs.org](mailto:service@acs.org)

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The current edition and previous editions of the Chesapeake Chemist can ALWAYS be obtained via our website: <http://mdchem.org> – please see the Newsletter Archive link on the left-hand side of the website.



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