Welcome

Fall 2020
Where We Are?

- National Cancer Institute
- National Science Foundation
- University of Maryland Baltimore (UMB)
- Office of Naval Research
- U.S. Army Research Laboratory
- National Institutes of Health (NIH)
- Department of Energy
- National Science Foundation
- UMBC
Who We Are?

UMBC Chemistry and Biochemistry

• Medium Size Research University

• 18 Research Active Faculty

• 50 graduate students

• Student-centric program

• Strong external research support from NIH, NSF, DoD, DoE and other institutions
Who We Are?

- We are big enough to have internationally recognized research program

- Sufficiently small to maintain a close student-mentor relationship
Diverse Research Portfolio

• **Biochemistry**
  - Dr. Songon An
  - Dr. Deepak Koirala
  - Dr. Aaron Smith
  - Dr. Mike Summers

• **Analytical Chemistry**
  - Dr. Chengpeng Chen
  - Dr. Brian Cullum
  - Dr. Minjoung Kyoung
  - Dr. William LaCourse
Diverse Research Portfolio

• **Organic Chemistry**
  • Dr. Marcin Ptaszek
  • Dr. Katherine Seley-Radtke
  • Dr. Paul Smith

• **Inorganic Chemistry**
  • Dr. Joseph Bennett
  • Dr. Marie Christine Daniel-Onuta
  • Dr. Zeev Rosenzweig
Diverse Research Portfolio

- Physical Chemistry
  - Dr. Bradley Arnold
  - Dr. Christopher Geddes
  - Dr. Lisa Kelly
  - Dr. Joel Liebman
Numerous Affiliated Programs

- Chemistry-Biology Interface (CBI) Program
- Meyerhoff Graduate Program
- REU Program
- SCIART (Science/Art) Program
- Career Centers and Workshops
Cross-disciplinary studies in both Chemistry and Biology
Ph.D. will be obtained in either Chemistry or Biology with additional focus in other discipline
Opportunity to do cutting edge research with state-of-the-art equipment and an internationally known faculty

Program benefits include:
- Research Assistantships
- Biweekly seminars on topics at the Chemistry/Biology interface
- Laboratory work in both Chemistry and Biology
- Advanced coursework in both Chemistry and Biology
- Travel to National Conferences

Dr. Katherine Seley-Radtke, CBI Graduate Program kseley@umbc.edu

https://chemistry.umbc.edu/graduate/chemistrybiology-interface-program/
Meyerhoff Graduate Training Program

- Providing research experiences for underrepresented groups receiving a Ph.D. in biological sciences, biochemistry, chemistry, mechanical engineering, and psychology.

- Supported by the Minority Biomedical Research Support (MBRS) Branch of the National Institutes of Health (NIH) through the Initiative for Minority Student Development (IMSD) Program.

- Program benefits include:
  - All usual graduate program benefits + :
  - Monthly discussions & annual retreats
  - Community building & mentoring
  - Interaction within a diverse campus community

https://meyerhoffgrad.umbc.edu/
After Graduation.....

Our Alumni Find Jobs in Diverse Areas of Research and Business of Their Choice:

• Academia (post-doc, permanent research or teaching positions)
• National Research Labs (NIH, NCI, ARL, NRL)
• Chemical Industry (Shimadzu Sci., Leidos, BASI)
• Pharmaceutical Industry (Latham BioPham, US Pharmacopeia, AmbioPharm)
Extensive Research Infrastructure and Facilities
Confocal Microscopes

Olympus Inverted Microscope
Cold Room
Laser Facility

Nanosecond laser flash photolysis for transient absorption

Raman spectroscopy for stand-off chemical detection
NMR Facilities

400 MHz

500 MHz

800 MHz
Molecular Characterization and Analysis Complex (MCAC)
Mass Spectrometry

- Bruker timsTOF Pro MS
- Perkin-Elmer Axion TOF MS
- Bruker 12T Solar IX FT-ICR MS
- Perkin Elmer Clarus 600 MS with GC
HPLC Instruments

Dionex UltiMate 3000 HPLC

Perkin Elmer Flexar (HPLC with UV/vis and fluorescence)
Keith R. Porter Imaging Facility

Transmission Electron Microscope

Leica SP5 Confocal Microscope
Keith Porter Imaging Facility

Scanning Electron Microscope
Keith Porter Imaging Facility

Atomic Force Microscope
UMBC Application Process

Apply for Admission to Our Graduate Programs in Chemistry and Biochemistry

https://chemistry.umbc.edu/

No GRE Exam Score Required

Graduates of Domestic Universities APPLY FREE

For Questions Contact:

Dr. Marcin Ptaszek
Email: mptaszek@umbc.edu
Phone 410-455-2264

Dr. Marie-Christine Daniel
Email: mdaniel@umbc.edu
Phone: 410-455-5601
Application Package

• Personal Statement
  • Convey your enthusiasm and passion for science
  • Explain why you have chosen UMBC
  • Identify 2-4 professors as potential mentors
  • Mention your long-term career goals
• Transcript
• Reference Letters
  • “Strong” reference letters
What We Offer

• Competitive Stipend
• Health Insurance
• Tuition Remission
• Presidential Merit Award
• Dean Merit Award
Graduate Progression

- Research rotation (1st semester)
- Research group selection (1st semester)
- Literature review (3rd semester)
- Candidacy exam (5th semester)
- Independent proposal
- Defense (~10th Semester)
Graduate Summer Bridge

- Unique for UMBC
- Starts last week of July
- Focuses on students’ preparation for graduate classes
- Opportunity to meet Faculty and learn more about ongoing research
- Opportunity to meet your new colleagues
- Opportunity to get familiar with Department and campus before semester starts
Graduate Research Day

- Hold annually on the first Friday of March
- Students present their research posters
- External reviewers are invited to evaluate students’ posters
- Graduate Research Awards are presented
- Awards for Excellence in Teaching are presented
- Alumni share their experience with current students
Questions?

Contact: Dr. Marcin Ptaszek (mptaszek@umbc.edu)

We are looking forward to seeing you at UMBC!