ME(D)^3 PROGRAM: AN IMMERSIVE UNDERGRADUATE MARQUETTE EXPERIENCE IN DRUG DISCOVERY AND DEVELOPMENT

A Student-directed, Immersive Research Experience In Drug Discovery And Development That Combines High School Outreach With Undergraduate Research.

ME(D)^3 is an undergraduate student-directed research program with a high potential to generate publications and patentable research products. The project includes collaboration with the MSOE SMART team program that enables undergraduate and graduate student mentorship of Milwaukee area high school students in protein biochemistry and structural biology. Four MU undergraduate students will participate in the 2016-2017 pilot program that includes immersion in synthetic organic chemistry, biochemistry, structural biology, cell-based assays and animal models.

ABOUT OUR TEAM

Martin St. Maurice, Associate Professor. Marquette Biological Sciences. PI and Research Mentor
Chris Ducheneaux, Assistant Professor. Marquette Chemistry. Research Mentor
Bill Dowdak, Professor. Marquette Chemistry. Research Mentor
Ed Blumenthal, Associate Professor. Marquette Biological Sciences. Summer research mentor. Fly memory impairment assay development.
Doug Lobner, Associate Professor. Marquette Biomedical Sciences. Summer research mentor.
David Baker, Associate Professor. Marquette Biomedical Sciences. Summer research mentor.
Gina Yung, Program Director. MSOE SMART team program. Outreach liaison
Britney Wyett, Graduate Student In Biological Sciences. Outreach lab instructor

Our team is comprised of faculty members in Biological Sciences, Chemistry and Biomedical Sciences. We have come together to develop a new kind of undergraduate research experience for Marquette, where teams of self-directed undergraduate students experience cutting-edge research across multiple research disciplines (chemistry, biochemistry and cell biology). This model will increase research opportunities for our students while generating high quality publications and patents for our research laboratories.

BEYOND BOUNDARIES
Research in Action

This project will develop chemical probes that will serve as valuable research tools and that have therapeutic potential in treating diseases such as type-2 diabetes, obesity and cancer. These products will extend Marquette’s intellectual property portfolio and will also serve to advance basic research in key areas of human disease. Combining our existing research program with a small group of undergraduate researchers will advance our basic and applied research programs, will strengthen current and future grant applications and will generate publications and patents that include undergraduate authors.

MILESTONES

FALL 2015
Lead compound development and pilot high school outreach lab with teachers

SPRING 2016
Student and TA recruitment

FALL 2016
Synthetic chemistry independent research and high school outreach students

SPRING 2017
Structural biology and biochemistry independent research

SUMMER 2017
Summer independent research, extending findings into cell-based models

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