

Maryelise Cieslewicz

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA

Class of 2010

Biological Engineering, GPA 4.7/5

Coursework includes Biological Engineering Lab, Biochemistry, Organic Chemistry, Genetics, Cell Biology, Analysis of Biomolecular and Cellular Systems, Fields Forces and Flows in Biological Systems, Biomechanics, Thermodynamics of Biomolecular Systems, Mechanisms of Drug Action, Molecular and Engineering Aspects of Biotechnology, Programming (Python), Differential Equations, Calculus, Physics, Microeconomics

Whitefish Bay High School, Whitefish Bay, WI

September 2002 – June 2006

Diploma received June 2006, GPA 4.263/4.0

WORK EXPERIENCE

Undergraduate Research Assistant, Massachusetts Institute of Technology, Cambridge, MA

August 2008-Present

Professor K. Dane Wittrup, Therapeutic Protein Engineering Laboratory

Characterizing a bispecific antibody construct for targeted delivery of radionuclides to cancer

Investigating a monoclonal antibody reported to bind to a cell-bound cancer antigen, but not shed antigen

Characterized a high affinity antibody to DOTA chelates of multiple radionuclides

Research Assistant, University of Wisconsin, Madison, WI

June 2008 - August 2008

Professor Janet Mertz, McArdle Laboratory for Cancer Research

Knocked out phosphorylation sites on Estrogen Related Receptor- α (ERR α) to test its effect on the transcriptional regulation of the estrogen responsive element and other post-translational modifications of ERR α in breast cancer cells

Undergraduate Research Assistant, Massachusetts Institute of Technology, Cambridge, MA

Fall 2006-Spring 2008

Professor C. Forbes Dewey, Hatsopoulos Microfluids Laboratory

Quantified the thickness and mechanical properties of glycocalyx on endothelial cells

Analyzed the heating and resulting bleaching of quantum dots

Research Trainee, Blood Research Institute, Milwaukee, WI

Summer 2006

Dr. Jack Gorski

Performed assays to test the binding properties of flu peptides to the class II MHC protein

PUBLICATIONS

KD Orcutt, M Ackerman, **M Cieslewicz**, E Quiroz, AL Slusarczyk, and KD Wittrup. Simple recombinant design of IgG-based Bispecific Antibodies. In preparation.

KD Orcutt, AL Slusarczyk, **M Cieslewicz**, B Ruiz-Yi, KR Bhushan, JV Frangioni, and KD Wittrup. Engineering an antibody with picomolar affinity to DOTA chelates of multiple radionuclides for more effective pretargeted radioimmunotherapy and imaging. Submitted.

H Huang, Y Yao, **M Cieslewicz**, M Bawendi, and CF Dewey, Jr. Three-dimensional sub diffraction-limit tracking of proteins near the cell membrane: application to the endothelial glycocalyx. Submitted.

PRESENTATIONS

Y Yao, H Huang*, **M Cieslewicz**, and CF Dewey. Three-dimensional mapping of the glycocalyx layer on endothelial cells. Biomedical Engineering Society, 2007 Annual Fall Meeting. (oral presentation)

Y Yao, **M Cieslewicz**, H Huang, ER Damiano, and CF Dewey*. Dynamics of the endothelial glycocalyx layer subjected to unsteady flow. Biomedical Engineering Society, 2007 Annual Fall Meeting. (oral presentation)

MIT EXTRACURRICULAR ACTIVITIES

Society of Women Engineers

February 2007-Present

Executive Board Member – Vice President of Outreach Programming (Present)

Outreach Chair (2008)

Publicity Chair (2007)

Biological Engineering Undergraduate Board

February 2008-Present

Executive Board Member – President (Present)

Secretary (2008)

Residence Based Advising

August 2008-Present

Freshman Residential Associate Advisor (Present)