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NAME Diane M. (Keene) KAMBACH	POSITION TITLE Ph.D. Student, Molecular Pathobiology		
eRA COMMONS USER NAME	ADDRESS Drexel University College of Medicine Mail Stop 1036 245 N. 15th Street Philadelphia PA 19102-1192		
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EDUCATION (INSTITUTION AND LOCATION)	**DEGREE** *(if applicable)*	**YEAR(s)**	**FIELD OF STUDY**
Carnegie Mellon University	B.S.	2001-2005	Chemistry
Drexel University College of Medicine	Ph.D.	2007- current	Molecular Pathobiology

A. Experience

2001-2003 Undergraduate Research Assistant, Carnegie Mellon University, Department of Biology
Investigated the participation of Loc1, ErbB1, and Rrp10 genes and gene products in ribosome biosynthesis in Saccharomyces cerevisiae

2003-2005 Undergraduate Research Assistant, Carnegie Mellon University, Department of Chemistry
-Investigated the hybridization kinetics of DNA-LNA chimeras with complimentary DNA and RNA sequences (2004-2005)
-Investigated the impact of PNA-DNA interactions to induce specific tertiary structure (2004)
-Investigated the effect of overhang sequences and nucleotide mismatches on thermal stability of PNA-DNA hybridization (2003)

2004 Research Intern, Applied Biosystems
Investigated thermodynamic parameters and determined nearest neighbor numbers for PNA-PNA binding

2004-2005 Associate Editor of Biomedical and Biological Sciences, Journal of Young Investigators
Responsible for reviewing and editing original research manuscripts submitted by undergraduates as well as writing scientific news briefs and feature articles

2005-2007 Associate Chemist (2005-2006) / Chemist (2006-2007), Maybelline Mascara Lab, L'Oreal USA
-Responsible for self-initiated and marketing-driven formulation of emulsion and dispersion-based products incorporating innovative raw materials and novel end looks for the eye area; Product guidance from formulation through launch, including consumer testing, regulatory approval, production scale up, and presentation to international research and development (R&D) and marketing teams
-Developed novel technique for assessment of formula "tack" that has been incorporated into development/analysis of new cosmetic products
-Inventor/co-inventor on 4 patents filed in U.S. and Europe

2007- Ph.D. Student, Molecular Pathobiology, Drexel University College of Medicine
Thesis project: Radiation-Induced Epithelial Mesenchymal Transition in a 3D Model of Cancer Initiation
-Accepted to 2010 NASA Space Radiation Summer School
-Attendance at 2009 Heavy Ions Symposium (Cologne, Germany)
- Actively participate in laboratory management, including grant writing, reagent and cellular inventory maintenance, student training, seminar planning and other organizational tasks

B. RELEVANT GRADUATE COURSEWORK

Core Curriculum
- Molecular Structure and Metabolism
- Molecular Biology and Genetics
- Cell Biology I
- Cell Biology II
- Cell Signaling and Cell Cycle
- Cell Systems

Cancer Biology
Pathologic Processes
Cell Cycle and Apoptosis
Cell and Molecular Pathology of Cancer
Scientific Ethics and Integrity

C. LABORATORY TECHNIQUES

- Cell culture (traditional monolayer, 3D Matrigel™ culture, modeled microgravity, low shear pulsitile and laminar flow); primary cell isolation from tissue; protein, DNA, and RNA isolation from cells and tissue
- Genomic microarrays and PCR arrays and statistical analysis; western blotting; qRT-PCR; flow cytometry; immunohistochemistry, immunofluorescence, and confocal microscopy
- Column chromatography, separation/extraction techniques, organic and inorganic synthesis, ion exchange and thin layer chromatography, simple and fractional distillation, kinetic rate determination, dipole moment determination, melting and boiling point analysis/determination, magnetism, synthetic design, formulation
- HPLC, Infrared Spectroscopy, Gas Chromatography, Mass Spectrometry, Raman Spectroscopy, UV/Vis Spectroscopy, Nuclear Magnetic Resonance Spectroscopy, Atomic Absorption Spectroscopy, ESR Spectroscopy, Fluorescence Spectroscopy, Isothermal Titration Calorimetry