

Haoqian Chen

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EDUCATION

Ph.D. Columbia University, Department of Biomedical Engineering, 2016

M.S. Columbia University, Department of Biomedical Engineering, 2012

B.S.E. Princeton University, Department of Chemical Engineering, 2008

RESEARCH EXPERIENCE

2017-present: Associate Research Program Manager, Rutgers Center for Pharmacoepidemiology and Treatment Science (PETS), Institute for Health, Health Care Policy and Aging Research (IFH)

Manager for multiple projects within PETS. Providing support by preparing grant applications, reporting study progress, obtaining IRB approval, ensuring IRB compliance and serving as liaison between the Rutgers research teams and their industry collaborators and funders.

2010-2016: Research Fellow, Columbia University, Department of Biomedical Engineering

Developed a novel biosensor to detect crucial proteins in the activation of T-cells to combat cancer.

- Collaborated with clinicians and scientists from 6 universities and research institutions around the world as part of the NIH Nanomedicine Development Center for Mechanobiology
- Devised surface capture of native ligands to address microcontact printing abrogation of functions
- Incorporated photolabile ligands for temporal control of T-lymphocyte activation

2009-2010: Postbac IRTA fellow, National Institute of Health, National Institute of Allergy and Infectious Diseases
Provided laboratory support to study WHIM (Warts, Hypogammaglobulinemia, Immunodeficiency, and Myelokathexis) Syndrome

- Designed a novel IRB-approved experimental therapy after analyzing clinical samples from 4 patients
- Initiated an innovative evaluation tool to benchmark patients' responsiveness to the experimental treatment
- Persuaded Genzyme, subsidiary of Sanofi, to provide free doses of a new FDA-approved medication for experimental treatment of clinical patients

2008-2009: Postbac IRTA fellow, National Institute of Health, National Heart, Lung, and Blood Institute

Examined the effect of Bmi1 knockout upon murine cellular energy/redox homeostasis AND cellular senescence/aging, in an effort to address the role of reactive oxygen species in mammalian aging

- Investigated the effect of Bmi1 knockout upon murine cellular energy/redox homeostasis AND cellular senescence/aging
- Attempted to rescue the Bmi1 knockout phenotype by blocking key pathways in DNA damage response: Chk2
- Mitigated the effect of Bmi1 knockout phenotype by a double knockout of downstream Ink4a locus tumor suppressors and cell cycle regulators: p16 and p19

2008-2008: Grand Challenge Fellow, Princeton University, Grand Challenge: Health Challenge

Tackled global health problems by establishing a ceramic water filter factory in Nigeria for potable water

- Led market survey and health impact team
- Developed IRB-approved consumer survey instrument to identify factors affecting filter uptake
- Directed 4 Yoruba translators to administer the consumer survey to 52 households
- Formulated criteria to select a pilot village; established rapport with village elders and obtained endorsement for distribution

2007-2008: Senior Dissertation, Princeton University

Synthesized L3-phase silica thin films for sustained drug delivery

- Studied physical principles guiding surface morphology defects
- Investigated factors controlling crack formation and propagation

2007-2007: Research Fellow, Columbia University, Research Experience for Undergraduates (REU)

Improved understanding of zirconium tetra-tertiary-butoxide (ZTB) surface chemistry in relation to the atomic layer deposition (ALD) of zirconium oxide, a high- κ dielectric

- Compared chemical vapor deposition with atomic layer deposition for zirconium oxide synthesis
- Performed Leading Edge Analysis on the Thermal Desorption Mass Spectrum to study activation energy

2005-2006: Research Fellow, Princeton University, Summer Undergraduate Research Fellowship (SURF)

Aided in exploring the best extraction technique to remove metabolites from model organisms.

- Performed extensive literature searches for existing extraction solvents and methods
- Studied effects of the environmental stresses on the amount of metabolite being produced by cells

2004-2005: Summer Intern, Westinghouse Electric Company

Computed the theoretical behavior of various energetic particles in silicon carbide detectors.

- Computed particle transport calculations using TRIM, a Monte Carlo simulation
- Calculated particle energies based on nuclear reaction kinematics

MANAGEMENT, ENTREPRENEURIAL, AND CURRICULUM DEVELOPMENT EXPERIENCE

2015-2016: Senior Analyst, Insight Strategy Advisors (ISA)

- Conducted primary and secondary market research to support client projects
- Produced meeting minutes, weekly status updates, project deliverable presentations

2015-2015: Participant, Columbia Business School, Innovation and Entrepreneurship @CBS (IE@CBS)

- Created pitch decks for an organ-on-a-chip startup, where heart tissues are cultured for drug development
- Presented pitch decks to investors at Morgan Stanley and at the final Investor Pitch night

2014-2015: Networking Chair, Columbia University, Women in Science @ Columbia (WISC)

- Submitted budgets, contacted alumni for networking receptions, reserved venues, designed and disseminated campus advertisements, processed external vendors, and arranged catering or purchased food for events
- Worked with Columbia Center for Career Education to develop a workshop on career fair fundamentals for +20 students
- Coordinated a professional headshot service in preparation for the career fair for +70 students
- Originated a panel discussion and a networking reception with 6 women entrepreneurs about startups for +40 students

2014-2014: Associate, Harlem Biospace, Immunovent, LLC.

- Researched the market and competitive landscape for a biotechnology start-up; drafted an investor pitch deck
- Formulated new directions in R&D for an allergy diagnostic product based on my expertise in immunology

2011-2012: Teaching Assistant, Columbia University, Department of Biomedical Engineering

- Developed curriculum in an 80-student biomedical engineering course with undergraduate and graduate students
- Coordinated 12 weekly office hours and 2 pre-exam review sessions to explain critical ideas and concepts

HONORS AND FELLOWSHIPS

2012-2015 National Science Foundation, Graduate Research Fellowship Program (GRFP)

2012-2015 Columbia University, Egleston Doctoral Scholar

2010-2012 National Science Foundation, Integrated Graduate Education & Research Traineeship (IGERT)

2009-2010 National Institute of Health, Postbaccalaureate Intramural Research training Award (Postbac IRTA)

At National Institute of Allergy and Infectious Diseases (NIAID)

- 2008-2009 National Institute of Health, Postbaccalaureate Intramural Research training Award (Postbac IRTA)
At National Heart, Lung, and Blood Institute (NHLBI)
- 2008-2008 Princeton University, Grand Challenge Fellow, Health Challenge in Abeokuta Nigeria
- 2007-2008 Selected to Sigma Xi, International Scientific Research Honor Society for Scientists and Engineers
- 2007-2007 National Science Foundation, Research Experiences for Undergraduates (REU)
At Columbia University, Nanoscale Science and Engineering Center
- 2005-2006 Princeton University, Summer Undergraduate Research Fellowship (SURF)
At Department of Chemistry

PUBLICATIONS

- Keenan T. Bashour, Alexander Gondarenko, **Haoqian Chen**, Keyue Shen, Xin Liu, Morgan Huse, James C. Hone, and Lance C. Kam. "CD28 and CD3 Have Complementary Roles in T-cell Traction Forces." PNAS. 2014, 111(6): 2241–2246.
- Qian Liu, **Haoqian Chen**, Teresa Ojode, Xiangxi Gao, Sandra Anaya-O'Brien, Nicholas A. Turner, Jean Ulrick, Rosamma DeCastro, Corin Kelly, Adela R. Cardones, Stuart H. Gold, Eugene I. Hwang, Daniel S. Wechsler, Harry L. Malech, Philip M. Murphy and David H. McDermott. "WHIM Syndrome Caused by a Single Amino Acid Substitution in the Carboxy-Tail of Chemokine Receptor CXCR4." Blood. 2012, 120(1):181-189.
- David H. McDermott, Joseph Lopez, Francis Deng, Qian Liu, Teresa Ojode, **Haoqian Chen**, Jean Ulrick, Nana Kwatema, Corin Kelly, Sandra Anaya-O'Brien, Mary Garofalo, Martha Marquesen, Dianne Hilligoss, Rosamma DeCastro, Harry L. Malech, Philip M. Murphy. "AMD3100 Is a Potent Antagonist at CXCR4^{R334X}, a Hyperfunctional Mutant Chemokine Receptor and Cause of WHIM Syndrome." J Cell Mol Med. 2011, 15(10): 2071-2081.
- Anand Plappally, **Haoqian Chen**, Wasiu Ayinde, Samson Alayande, Andrew Usoro, Katie C. Friedman, Enoch Dare, Taiwo Ogunyale, Ismaiel Yakub, Megan Leftwich, Karen Malatesta, Ron Rivera, Larry Brown, Alfred Soboyejo, and Winston Soboyejo. "A Field Study on the Use of Clay Ceramic Water Filters and Influences on the General Health in Nigeria." J Health Behav & Pub Health. 2011, 1(1): 1-14.
- Jie Liu, Liu Cao, Jichun Chen, Shiwei Song, In Hye Lee, Celia Quijano, Hongjun Liu, Keyvan Keyvanfar, **Haoqian Chen**, Long-Yue Cao, Bong-Hyun Ahn, Neil G. Kumar, Ilsa I. Rovira, Xiao-Ling Xu, Maarten van Lohuizen, Noboru Motoyama, Chu-Xia Deng & Toren Finkel. "Bmi1 Regulates Mitochondrial Function and the DNA Damage Response Pathway." Nature. 2009, 459: 387-392.
- Frank H. Ruddy, John G. Seidel, **Haoqian Chen**, Abdul R. Dulloo, and Sei-Hyung Ryu. "High-Resolution Alpha-Particle Spectrometry Using 4H Silicon Carbide Semiconductor Detectors." IEEE Transactions on Nuclear Science. 2006, 53(3): 1713-1718.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- 2017-Present: International Society for Pharmacoepidemiology (ISPE)
- 2014-Present: The New York Academy of Sciences (NYAS)
- 2011-2012: Biomedical Engineering Society (BMES)
- 2006-2008: American Institute of Chemical Engineers (AIChE)