

ISAAC T. ABRAHAM*

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EDUCATION

Ph.D., Biology, Harvard University, Cambridge, MA, expected June 2009

Thesis research with Dr. Thomas White entitled “Novel regulators of the essential tubulin-like bacterial cell division protein FtsZ.” Completed coursework in gene expression and cell cycle regulation, genomic analysis, developmental biology, and neurobiology. Earned honorable mention in the Howard Hughes Medical Institute’s 2004 competition for Predoctoral Fellowships in Biological Sciences.

B.S., Microbiology and Molecular Genetics, University of California, Los Angeles, 2002

Summa cum laude, member Phi Beta Kappa. Honors thesis research with Dr. Robert Stader entitled “RNA binding activity of the essential GTPase Era in *Escherichia coli*.”

RESEARCH EXPERIENCE

Graduate Researcher, Harvard University, Cambridge, MA, 2004-Present

Discovered and characterized peptide inhibitors of an essential bacterial division protein called FtsZ. Utilized techniques in molecular biology, genetics, recombinant protein expression and purification, biochemistry, and fluorescence microscopy. Presented work at professional conferences including two Boston Bacterial Meetings, the 2007 New England Spores Conference, and the 2008 Meeting on Molecular Genetics of Bacteria and Phages.

Research Associate, University of California, Los Angeles, 2002 - 2003

Executed independent research in a bacterial genetics laboratory to examine effectors of start codon discrimination during translation initiation in the bacterium *Escherichia coli*. Collaborated closely with graduate students, postdoctoral associates, and faculty. Maintained daily records in an organized fashion. Mentored undergraduate students conducting short-term projects.

Research Assistant, University of California, Los Angeles, 2000

Assisted graduate students and postdoctoral associates studying novel therapeutic agents to treat insulin-dependent diabetes mellitus in mice. Performed intraperitoneal injections to deliver experimental compounds and placebos to test mice over a six month period. Maintained mouse colonies.

LEADERSHIP EXPERIENCE

Co-Founder and Partner: “X-Cell”, Harvard University, Cambridge, MA, June 2008 - Present

Developed a game-based approach to teach science at the undergraduate level to be demonstrated in a core Cell Biology course during the spring of 2009. Recruited and currently managing a team of over 35 staff who produce game content, web and multimedia components, and graphic design elements. Conduct interviews with students and teaching staff, devise questionnaires, and collect data on students’ performance to assess effectiveness of X-Cell as a teaching tool.

Teaching Fellow, Harvard University, Cambridge, MA, 2005 - 2007

Supervised junior teaching fellows and consulted with senior staff to devise and formulate novel curriculum. Presented fundamental concepts, methods of data analysis, and test-taking strategies in a required undergraduate Molecular Biology course. Wrote summaries, outlines, and exam questions. Graded student assignments and exams.

PROFESSIONAL DEVELOPMENT

Participant: Business Management Study Group, Harvard University, 2007

Analyzed seminal business case studies in strategic planning, technology & operations management, and marketing. Explored and assessed each case through weekly discussions led by faculty of the Harvard Business School.

Member: Harvard Biotechnology Club, Harvard University, 2007 - Present

Attended lectures, presentations, and career events focused on business and biotechnology

PUBLICATIONS

1. Abraham, I.T. and White, T.J. A novel peptide inhibitor of the tubulin-like bacterial cell division protein FtsZ. *In preparation (for submission to the journal Science)*
2. Abraham, I.T., Malavai, V.Y., Robertson, S.A., Guerco, F.J., and Knight, G.F. The solution structure of the bacterial cell division protein, ZapA, and the identification of amino acid residues essential for its function. *In preparation.*
3. Richardson, B.H., Abraham, I.T., Zhang, D.K., Liu, V., Smith, M., Ritai, S.Y., Skylar, E.L., Itarson, P.E., and Stader, R.W. (2002) The widely conserved Era G-protein contains an RNA-binding domain required for Era function in vivo. *Molecular Microbiology*. **33**:1118-31.

* All identifying information has been changed. This document is more of a hybrid between an academic CV and a business resume. In applying for Technology Specialist positions at Patent Law firms, Isaac recognized the importance of presenting his academic credentials and accomplishments as a scientist. As such, he has maintained the traditional "Research Experience" section but he presents his teaching experience in a form that may be more relevant to patent law, emphasizing the leadership components of these experiences. He includes a "Professional Development" section that he would not have included in an academic CV. Isaac includes his publications, but chose not to include full citations for his conference presentations, though he certainly could have done so. References are not included for a nonacademic job.