

Sample CV

Alice Walker, Ph.D.

Business Address

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Education	<p>Massachusetts Institute of Technology Cambridge, MA National Institutes of Health Postdoctoral Fellow. Department of Chemical Engineering. Research focuses on encapsulation of ribonucleic acid (RNA) into polymer nanospheres for delivery to human cells. (August 20XX-present)</p> <p>California Institute of Technology Pasadena, CA Ph.D. Department of Chemistry, May 20XX. Thesis: Sequence-Specific Recognition of DNA in the Minor Groove by Imidazole and Pyrrole-Containing Polyamides.</p> <p>Howard University Washington, DC Bachelor of Science, Chemistry, Magna Cum Laude, May 20XX. Participated in summer undergraduate research program resulting in thesis and presentation. Thesis: Synthesis of Imidazole-Containing and Amidine-Linked Analogs of Distamycin.</p> <p>Kansai Gaidai Hirakata City, Japan Foreign exchange student. Studies included Japanese language and intercultural communication. Lived with a Japanese family. (August - December 20XX)</p>
Research Experience	<p>MIT, Department of Chemical Engineering Cambridge, MA Advisor: John Smith Currently developing methodology for ribonucleic acid encapsulation in nanosphere particles using biodegradable polymers for ultimate use in gene therapy applications. Examining methods for chemical derivation of the polymer/RNA nanospheres for targeting specific cell types. Work involves polymer synthesis and characterisation, GPC, cellular targeting. (August 2011 - present)</p> <p>Caltech, Department of Chemistry Pasadena, CA Advisor: Brian Jones Explored sequence-specific recognition of minor groove of double-helical DNA-binding properties through polyacrylamide gel electrophoresis. Results from this work expanded sequence repertoire available to pyrrole-imidazole polyamides and provided general criteria for design of future sequence-specific DNA-binding polyamides. Determined compatibility of oligonucleotide and a polyamide binding simultaneously in the major and minor grooves, respectively. Techniques used include synthesis, NMR spectroscopy, HPLC, column chromatography, polyacrylamide gel electrophoresis, solid-phase peptide synthesis including HF cleavage and deprotection, oligonucleotide synthesis and purification, radioactive labeling of DNA, cloning specific sequences into plasmids, DNA sequencing. (September 2006 - May 2011)</p> <p>Howard University, Department of Chemistry Washington, DC Advisor: Phillip Grey Synthesized analogs of the natural product distamycin A, which binds to DNA in the minor groove. Synthesis involved imidazole chemistry with amidine linkages and end groups for electrostatic interaction with DNA. (June - August 2005)</p>

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Teaching Experience	Caltech, Department of Chemistry Organic Chemistry. Teaching Assistant. Helped write problem sets and exams. Assisted students individually with problems or material they found difficult to understand. (September 2010 - May 2011) Introductory Chemistry. Head Teaching Assistant. Prepared teaching materials including problem sets and exams. Supervised other teaching assistants and graders. Addressed individual students' questions and needs. (January - June 2009) Organic Chemistry Laboratory. Teaching Assistant. Supervised and instructed students in organic chemistry techniques. Emphasized keeping complete and accurate scientific notes. (January - June 2008)	Pasadena, CA
	Howard University, Department of Chemistry Laboratory Techniques in Organic and Inorganic Chemistry. Teaching Assistant. Supervised and assisted students with multi-step syntheses of compounds designed to teach general laboratory techniques. (January - May 2006)	Washington, DC
Oral Presentations	“Recognition of 5’-(A,T)GG(A,T)2-3’ Sequences in the Minor Groove of DNA by hairpin Polyamides.” A. Walker, E.E. Cummings, and J.J. Reynolds. Western Biotech/ACS Regional Conference in San Diego, CA. October 19, 2012. “Synthesis and DNA Binding Studies of Imidazole-Containing and Amidine-Linked Analogs of Distamycin A.” A. Walker, A.L. Brown, and M. Kinney. Fifth National Conference on Undergraduate Research in Pasadena, CA. April 2011.	
Poster Presentations	“Recognition of 5’-(A,T)GG(A,T)2-3’ Sequences in the Major Groove of DNA by hairpin Polyamides.” A. Walker, B. Peacock and F. Rosenberger. ACS National Meeting, Salt Lake City, UT. March 2009.	
Invited Lectures	International Year of Chemistry Symposium, August 8, 2011 “Chemistry without Borders: Collaborations in DNA Binding Studies” Bowman Student Lecture, California Institute of Technology, Pasadena CA, May 13, 2009 ”An International View of DNA and RNA Binding”	
Publications	“Optimization of the Hairpin Polymide Design for Recognition of the Minor Groove of DNA.” A. Walker, B.B. Cummings, and J.J. Reynolds, <i>Journal of the American Chemical Society</i> , 2011, 118, 1047. “Recognition of 5’-(A,T)GG(A,T)2-3’ Sequences in the Minor Groove of DNA by Hairpin Polyamides.” A. Walker, B.B. Cummings, J.J. Reynolds, <i>Journal of the American Chemical Society</i> , 2011, 118, 6153. “Simultaneous Binding of Polyamide Dimers and Oligonucleotides in the Minor and Major Grooves of DNA.” A. Walker, J.J. Reynolds, <i>Bioorganic Medical Chemistry</i> , 2011, 5, 1045. “Cyclic Polyamides for Recognition in the Minor Groove of DNA.” L. Lyne, A. Walker, J.J. Reynolds, <i>Proceedings of the National Academy of Sciences, USA</i> , 2010, 93, 10389.	
Awards and Recognition	National Institutes of Health Postdoctoral (2011) General Electric Fellowship (2006-2007) Phi Beta Kappa (2005)	

Howard Advantage Student (2005)
Carolyn Vogel Chemistry Scholarship (2003)

Activities

Officer, Member, MIT Association of Postdoctoral Women.
Member, American Chemical Society, 2006-present.
Organized Organic Chemistry Seminar Series at Caltech, 2008-09.
Volunteered at the Hunting Memorial Hospital Extended Care.
Member, Howard University Marching and Symphonic Bands.
Interests include traveling, reading, running marathons, hiking, backpacking, and cooking.

References

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