

Sample CV

Alice Walker

Business Address
Massachusetts Institute of Technology
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Education **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 1997-present)

California Institute of Technology Pasadena, CA
Ph.D. Department of Chemistry, May 1997. Thesis: Sequence-Specific Recognition of DNA in the Minor Groove by Imidazole and Pyrrole-Containing Polyamides.

Howard University Washington, DC
Bachelor of Science, Chemistry, Magna Cum Laude, April 1992. Participated in summer undergraduate research program resulting in thesis and presentation. Thesis: Synthesis of Imidazole-Containing and Amidine-Linked Analogs of Distamycin.

Kansai Gaidai Hirakata City, Japan
Foreign exchange student. Studies included Japanese language and intercultural communication. Lived with a Japanese family. (August - December 1991)

Awards Carolyn Vogel Chemistry Scholarship (1989), Howard Advantage Student (1991), Phi Beta Kappa (1991), General Electric Fellowship (1992-1993), National Institutes of Health Postdoctoral (1997).

Research Experience **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 1997 - present)

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 1992 - May 1997)

Howard University, Department of Chemistry Washington, DC
Adviser: 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 1991)

Teaching Experience	<p>Caltech, Department of Chemistry Pasadena, CA Organic Chemistry. Teaching Assistant. Helped write problem sets and exams. Assisted students individually with home-work problems or material they found difficult to understand. (September 1996 - June 1997)</p> <p>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 1995)</p> <p>Organic Chemistry Laboratory. Teaching Assistant. Supervised and instructed students in organic chemistry techniques. Emphasized keeping complete and accurate scientific notes. (January - June 1992)</p> <p>Howard University Department of Chemistry Washington, D.C. 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 - June 1992)</p>			
Presentations	<p>"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, 1996.</p> <p>"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 1992.</p>			
Publications	<p>"Optimization of the Hairpin Polyamide 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>, 1997, 5, 118, 1047.</p> <p>"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>, 1997, 118, 6153.</p> <p>"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>, 1997,5,1045.</p> <p>"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</i>, USA, 1996, 93, 10389.</p>			
Activities	<p>Officer, Member, MIT Association of Postdoctoral Women. Member, American Chemical Society, 1992-present. Organized Organic Chemistry Seminar Series at Caltech, 1994-95. 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.</p>			
References	<table border="0" style="width: 100%;"> <tr> <td style="width: 33%;"> Professor X Chair, Chemistry Department M.I.T. 77 Massachusetts Ave., 11-22 Cambridge, MA 02139 617-253-0000 x@mit.edu </td> <td style="width: 33%;"> Professor Y Department of Chemistry M.I.T. 77 Massachusetts Ave., 11-21 Cambridge, MA 02139 617-253-1111 y@mit.edu </td> <td style="width: 33%;"> Professor Z Department of Chemistry California Institute of Technology 400 Rodeo Drive, 44-50 Pasadena, CA 55882 908-570-0000 z@caltech.edu </td> </tr> </table>	Professor X Chair, Chemistry Department M.I.T. 77 Massachusetts Ave., 11-22 Cambridge, MA 02139 617-253-0000 x@mit.edu	Professor Y Department of Chemistry M.I.T. 77 Massachusetts Ave., 11-21 Cambridge, MA 02139 617-253-1111 y@mit.edu	Professor Z Department of Chemistry California Institute of Technology 400 Rodeo Drive, 44-50 Pasadena, CA 55882 908-570-0000 z@caltech.edu
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