Theodore L. Doug Szeto

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EDUCATION:

4/90 - 6/94	Ph.D., Mathematics, University of California, Los Angeles, CA
	Dissertation: "Conjugate Gradient-type Product Methods for Solving
	Nonsymmetric Linear Systems"
9/88 - 3/90	M.A., Mathematics, University of California, Los Angeles, CA
9/84 - 6/88	B.S., Applied Mathematics, specializing in Computer Studies,
	magna cum laude, University of California, Los Angeles, CA

TEACHING EXPERIENCE:

9/02 – present	Associate Professor, <u>Azusa Pacific University</u> , Department of Math & Physics
	Courses taught: Complex Analysis, Differential Equations, Numerical Analysis,
	Linear Algebra, Mathematical Writing & Presentation, Probability and
	Statistics (Calculus based), Calculus (single- and multi-variable), College
	Algebra, Intermediate Algebra
	Faculty responsibilities: Chair, Department of Mathematics and Physics;
	Senator-at-large, University Faculty Senate; Chair, Professional Affairs
	Review Board: General Studies Council: President's Racial Reconciliation
	Task Force; Chapel Speaker
9/97 - present	Adjunct Professor, Azusa Pacific University, Department of Computer Science,
	Center for Adult and Professional Studies
	Courses taught: Graduate Computer Programming in C++ and Visual Basic,
	Graduate Data Structures, Humans and Computation
9/96 - 6/02	Assistant Professor, Azusa Pacific University, Department of Math & Physics
	Courses taught: Linear Algebra, Mathematical Writing & Presentation,
	Probability and Statistics (Calculus based), College Algebra, Freshman
	Writing Seminar
1/96 - 6/96	Assistant Professor, <u>Harvey Mudd College</u> , Department of Mathematics
	Course taught: Linear Algebra
6/94 - 6/96	Adjunct Assistant Professor, University of California, Los Angeles,
	Department of Mathematics, Program in Computing
	Courses taught: Introductory and advanced programming in C++ and PASCAL,
	Machine and Assembly Language, Advanced Parallel Programming
9/92 - 12/93	Teaching Associate, UCLA, Department of Mathematics
	Course taught: Precalculus (multiple sections)
9/88 - 6/92	Teaching Assistant, UCLA, Department of Mathematics
	Led recitation sections for a variety of undergraduate math and computer
	programming courses

RESEARCH EXPERIENCE:

8/94 - 9/96	Postdoctoral Researcher , <u>University of California, Los Angeles</u> Department of Mathematics; Los Angeles, CA Developed a library for the parallel implementation of iterative solutions to problems arising from partial differential equations applications.
1/90 - 6/94	Research Assistant, <u>University of California, Los Angeles</u> Department of Mathematics; Los Angeles, CA Worked with Dr. Tony Chan on developing, proving convergence, and implementing various iterative algorithms for solving nonsymmetric linear systems.
9/92 - 3/93	Honorary Research Assistant, <u><i>Chinese University of Hong Kong</i></u> Department of Computer Science; Shatin, Hong Kong Worked in the Composite-step algorithms for handling breakdowns in Lanczos- based methods.
6/91 - 10/91	Graduate Student Researcher , <u>NASA Ames Research Center</u> Research Institute of Advanced Computer Science; Moffett Field, CA Worked with Dr. Roland Freund on developing the new methods Quasi-minimal Residual Squared and QMR based on BCG.
6/90 - 10/90	Research Mathematician, <u>Chevron Oil Field Research Company</u> Reservoir Engineering Division; La Habra, CA Worked on a preconditioner for solving large systems arising from a reservoir engineering application.

PUBLICATIONS:

- R. W. Freund and T. Szeto, A Quasi-minimal Residual Squared Algorithm for Non-Hermitian Linear Systems, Proceedings for the 7th IMACS International Conference on Computer Methods for Partial Differential Equations, June 1992.
- T. Chan, E. Gallopoulos, V. Simoncini, T. Szeto, and C. Tong, QMRCGSTAB: A Quasi-minimal Residual Variant of the Bi-CGSTAB Algorithm for Nonsymmetric Systems, SIAM J. Sci. Stat Comput., v. 15, n. 2, March 1994.
- T. Chan and T. Szeto, A Composite Step Conjugate Gradients Squared Algorithm for Solving Nonsymmetric Linear Systems, Numerical Algorithms, 1994.
- T. Chan and T. Szeto, *The Composite Step Family of Nonsymmetric Conjugate Gradient Methods*, Proceedings for the International Symposium PCG'94 on Matrix Analysis and Parallel Computing, March 1994.
- T. Chan and T. Szeto, *Composite Step Product Methods for Solving Nonsymmetric Linear Systems*, SIAM J. Sci. Comput., v. 17, n. 6, November 1996.
- T. Szeto, CS-PACK: A Guide to Implementing the Composite Step Methods, UCLA CAM Report, 1996.

PRESENTATIONS:

March 2010	Azusa Pacific University Common Day of Learning Flatland, an Interdisciplinary Conversation
April 2005	Azusa Pacific University Undergraduate Chapel Matrices and You
May 1999	The National SI/VSI Conference Kansas City, MO Designing and Implementing VSI for College-level Mathematics
April 1994	Colorado Conference on Iterative Methods Breckenridge, CO <i>The Composite Step Family of Nonsymmetric Conjugate Gradient Methods</i>
February 1994	UC Workshop on Computational and Applied Mathematics Lake Arrowhead, CA <i>The Composite Step Family of Nonsymmetric Conjugate Gradient Methods</i>
December 1993	The Cornelius Lanczos International Centenary Conference Raleigh, NC Composite Step Product Methods for Solving Nonsymmetric Linear Systems
June 1993	The XII Householder Symposium on Numerical Linear Algebra Lake Arrowhead, CA A Composite Step Conjugate Gradients Squared Algorithm for Solving Nonsymmetric Linear Systems
April 1992	The Copper Mountain Conference on Iterative Methods Copper Mountain, CO A Quasi-minimal Residual Squared Algorithm for Non-Hermitian Linear Systems

SPECIAL SKILLS:

Programming Languages: C++, FORTRAN, PASCAL, C, MATLAB, Assembly (PDP-11), Visual Basic, HTML Systems: UNIX, PC, MacIntosh Multiprocessor experience: CRAY Y-MP, SP1, SP2, Alliant, CM2, MPI, PVM Specialized software package experience: Mathematica, MS Word, MS Excel, Word Perfect, LATEX Fluent in conversational Cantonese

REFERENCES:

Available upon request.