

ANDREW N. HARRINGTON

CURRICULUM VITAE

PERSONAL DATA:

Born August 6, 1949 ; Boston, Massachusetts

EDUCATIONAL BACKGROUND:

Ph.D.	1976	Stanford University	Mathematics
B.S.	1971	Brown University	Applied Mathematics

EMPLOYMENT HISTORY:

Associate Professor, Computer Science Department, Loyola University Chicago (split from Math)	2002-present
Associate Professor, Department of Mathematical and Computer Sciences, Loyola University Chicago	1983-2002
Senior Scientist, Iterated Systems, Inc. Atlanta, GA, while on leave from Loyola	1988-1990
Assistant Professor, Department of Mathematics, Georgia Institute of Technology	1976-1983
Teaching Assistant, Department of Mathematics, Stanford University	1971-1976
Computer Programmer, Department of Applied Mathematics, Brookhaven National Laboratory	Summer 1971
Computer Programmer, John Hancock Insurance	Summer 1969-70

CURRENT FIELDS OF INTEREST:

Java programming, Workflow, Algorithms, Software engineering, Python.

REFEREED PUBLICATIONS:

Published:

"Two Extremal Problems," *Transactions of the American Mathematical Society*, **221**, No. 1 (1976) pp. 159-167, (with Marvin Ortel).

"The Dilatation of an Extremal Quasi-Conformal Mapping," *Duke Mathematical Journal*, **43**, No. 3 (1976) pp. 533-544, (with Marvin Ortel).

"Some Extremal Problems in Conformal and Quasiconformal Mapping," *Michigan Mathematical Journal*, **27**, (1980) pp. 95-116.

"Extremal Conformal Mappings of Many-Component Sets onto Sets Bounded by Generalized Lemniscates," *Indiana University Mathematics Journal*, **30**, No. 5, (1981) pp. 703-711.

"Orthogonal Polynomials Associated with Invariant Measures on Julia Sets," *Bulletin of the AMS*, **7**, No. 2 (1982) pp. 381-384, (with M. F. Barnsley and J. S. Geronimo).

"Conformal Mappings onto Domains with Arbitrarily Specified Boundary Shapes," *Journal d'Analyse Mathématique*, **41**, (1982) pp. 39-53.

"On the Invariant Sets of a Family of Quadratic Maps," *Communications in Mathematical Physics*, **88**, (1983) pp. 479-501, (with M. F. Barnsley and J. S. Geronimo).

"Infinite Dimensional Jacobi Matrices Associated with Julia Sets," *Proceedings of the AMS*, **88**, (1983) pp. 625-630, (with M. F. Barnsley and J. S. Geronimo).

"Some Treelike Julia Sets, and Pade Approximations," *Letters in Mathematical Physics*, **7**, (1983) pp. 279-286, (with M. F. Barnsley and J. S. Geronimo).

"Geometry, Electrostatic Measure, and Orthogonal Polynomials on Julia Sets for Polynomials," *Journal of Ergodic Theory and Dynamical Systems*, **3**, (1983) pp. 509-520, (with M. F. Barnsley and J. S. Geronimo).

"Geometry and Combinatorics of Julia Sets of Real Quadratic Maps," *Journal of Statistical Physics*, **37**, (1984) pp. 51-92, (with M. F. Barnsley and J. S. Geronimo).

"Moments of Balanced Measures on Julia Sets," *Transactions of the AMS*, **284**, (1984) pp. 271-280, (with M. F. Barnsley).

"Condensed Julia Sets, with Application to a Fractal Lattice Model Hamiltonian," *Transactions of the AMS*, **288**, (1985) pp. 537-561, (with M. F. Barnsley and J. S. Geronimo).

"A Mandelbrot Set for Pairs of Linear Maps," *Physica D*, (1985) pp. 421-432, (with M. F. Barnsley).

"Almost-periodic Jacobi Matrices Associated with Julia Sets for Polynomials," *Communications in Mathematical Physics*, **99**, (1985) pp. 303-317, (with M. F. Barnsley and J. S. Geronimo).

"The Calculus of Fractal Interpolation Functions," *Journal of Approximation Theory*, **57**, (1989) pp. 14-34, (with M. F. Barnsley).

Symposium Proceedings and Other Volumes:

"Conformal Mappings of Multiply Connected Regions onto Regions with Specified Boundary Shapes," *Proceedings of the NASA Conference on the Numerical Grid Generation Techniques*, NASA Langley Research Center, Hampton, VA, October 6-7, 1980, pp. 329-330.

"Conformal Mappings onto Multiply Connected Regions with Specified Boundary Shapes. A Preliminary Report on Computer Implementation," *Numerical Grid Generation*, Joe F. Thompson, Ed., North-Holland, New York, 1982, pp. 601-618.

"Approximation Theory on a Snowflake," *Multivariate Approximation Theory*, **Vol. 2**, ISNM Series, Birkhauser Verlag, Basel-Boston-Stuttgart, 1982, pp. 37-41, (with M. F. Barnsley, J. S. Geronimo, and L. Drager).

"Julia Sets and Autonomous Differential Equations," *Multivariate Approximation Theory*, Vol. II, W. Schempp and K. Zeller, Eds., Birkhauser Verlag, 1982, pp. 37-41, (with M. F. Barnsley).

"Geometrical and Electrical Properties of Some Julia Sets," *Classical and Quantum Models and Arithmetic Problems*, D. V. Chudnovsky and G. V. Chudnovsky, Eds., Dekker, 1984, pp. 1-68, (with M. F. Barnsley and J. S. Geronimo).

RESEARCH GRANTS AND CONTRACTS:

NSF Travel Grant to Durham Conference, July 1979.
NSF Travel Grant to Stanford Conference, September 1981.
"Orthogonal Polynomials, Julia Sets, and Invariant Measures,"
(with J. S. Geronimo), NSF Grant MCS-8203325, 1982, (for two years).
"Julia Sets, Orthogonal Polynomials, and Almost-Periodicity,"
NSF Grant DMS-8401921, 1984.
"Automatic Three Dimensional Plant Root Modeling," Loyola summer grant, 1991

CONFERENCE AND MEETING PRESENTATIONS:

Math. Assoc. of America	March 1978	Clemson, SC
London Math. Soc. Conf. on Complex Analysis	July 1979	Durham, England
American Math. Society	August 1980	Ann Arbor, MI
NASA Conf. on Grid Generation	October 1980	Hampton, VA
Workshop on Computational Problems in Complex Anal.	September 1981	Stanford, CA
American Math. Society	January 1982	Cincinnati, OH
NASA Conf. on Grid Generation and Solution of PDEs	April 1982	Nashville, TN
Dynamics Days (La Jolla Institute)	January 1983	San Diego, CA
American Math. Society	January 1983	Denver, CO
AMS Session on Orthogonal Polynomials (invited 20 minute talk)	April 1984	South Bend, IN
American Math. Society	January 1988	Atlanta, GA

INVITED COLLOQUIUM AND SEMINAR PRESENTATIONS:

Talk on Julia Sets	March 1984	Univ. of Minnesota
Talk on Conformal Mapping of Multiply-Connected Domains	March 1984	Univ. of Minnesota

COMMERCIAL SOFTWARE

Fractal Design System (Macintosh version) for Iterated Systems, Inc., 1990

OTHER PROFESSIONAL ACTIVITY:

Chief Judge, ACM Programming Competition, Mid-Central Region 1999-present

LOYOLA CS, CS/MATH DEPARTMENT COMMITTEES AND POSITIONS:

Computer Equipment and Software	(1983-1988)
Chair	(1984-1986)
Undergraduate Curriculum,	
Computer Science Subcommittee	(1985-1988, 1992-1998, 2001-2002)
Architecture subcommittee chair	(1996-1997)
Mathematics Subcommittee	(1995-1997)
Calculus text subcommittee chair	(1996-1997)
Graduate Committee	(1987-1988)
Hiring Committee	(1990-1994)
Tenure and Promotion Committee	(1990-1993, 2001, 2002)
Academic Computing Services Liason	(1987-1988, 1990-1995)
ACM Programming Team Coach	(1992-present)
Computer Labs	(1998-2002)
Graduate Program Director for CS	(2000-2004)
Graduate Committee for CS	(2000-2002)
CS Chair Search Committee	(2000-2001)
Deputy to the CS Department Chair	(2002-2003)
Content Committee	(2002-2004)
Chair	(2003-2004)
Academic Matters Committee	(2003 - present)

LOYOLA UNIVERSITY COMMITTEES:

Academic Computing Services,	
Lake Shore Campus	(1985-1987)
Graduate School GPD Task Force	(2000-2001)
Council of Graduate School Programs	(2000-2001)
Mundelein (part time division) Council	(2000-2002)
Graduate School GPD Council	(2000-2002)

LOYOLA UNIVERSITY COURSES TAUGHT:

COMPUTER SCIENCE

125 True Basic	150 Broad Introduction to CS	170 Intro in Java (previously C++)
211 Discreet Structures	270 Pascal	271 Data Structures in Java
275 Assembler	281 Programming Seminar	350 Microprocessors
363 Algorithms	372 Programming Lang.	374 Operating Sys. Software
380 Graphics	450 Grad. Microprocessors	480 Graduate Graphics

MATH

100 Basic Algebra
117, 118 Precalculus
298 Proofs

108 Finite Math
130, 161, 162 Calculus

115 Survey
264 Differential Equations

STATISTICS

103 (Introduction for the Core)