

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:

Python and education, Algorithms, Software engineering

AWARD:

Provost's Freshman Teaching Award	2014
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## 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).

#### RECENT EDUCATIONAL WRITING:

The Hands-on Python Tutorial, <http://anh.cs.luc.edu/handsonPythonTutorial>

Introductory Computer Science with C# with Dr. George Thiruvathukal, <http://introcs.cs.luc.edu/>

## 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

## SUBMITTED GRANT:

Senior Personnel on the proposal submitted 2012: George K. Thiruvathukal, Konstantin Läufer, and Catherine Putonti, CSR: Small: RestFS: Filesystems as Stable Connectors for Web Service Composition and Interoperability, ~\$500,000.

## 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
Pycon 2005	March 2005	Washington, DC
Pycon 2007	February 2007	Dallas, TX
Pycon 2008	March 2008	Chicago, IL
K-12 Open Minds	September 2008	Indianapolis, IN
Pycon 2009	March 2009	Chicago, IL
Chicago Math and Sci. Symposium	March 2009	Chicago, IL

## 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
World Finals Judge, ACM Intercollegiate Programming Competition	2009-2012

## LOYOLA UNIVERSITY PRESENTATIONS:

Focus on Teaching and Learning	August 2012
Creating Open Courseware Using Free and Open Source (FOSS) Publishing Tools ITS Tech Conference	
Plaintext Editing Multi-Section Documents	February 2014

## 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, 2005
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, 2006-2010, 2013-present
Graduate Committee for CS	2000-2002, 2006-2010, 2013-present
CS Chair Search Committee	2000-2001
Deputy to the CS Department Chair	2002-2003
Content Committee	2002-2004
Chair	2003-2004
Academic Matters Committee	2003-2004
Undergraduate Program Director	2005-2010, 2012-2013
Undergraduate Committee	2005-2010, 2011-2013
First year Curriculum Committee	2011-present
Liaison to Illinois Technology Association	2011-2013

## LOYOLA UNIVERSITY COMMITTEES/ACTIVITIES:

Academic Computing Services, Lake Shore Campus	1985-1987
Graduate School GPD Task Force	2000-2001
Mundelein (part time division) Council	2000-2002
Council of Graduate School Programs	2000-2001, 2006-2010, 2013-present
Chair of Bylaws Committee	2007-2010
Executive Committee	2007-2010
Graduate School GPD Council	2000-2002, 2006-2010, 2013-present
Academic Council	2005-2013
Curriculum Committee	2005-2011
Chair	2011-2013
Ad hoc Committee on Grad Student Leaves	2006-2007
Advisory Board for Peace Studies	2008-present
First Cohort of Online Instructors	2011
Online Advisory Committee, later CCBOL	2012-present

## LOYOLA UNIVERSITY COURSES TAUGHT:

### COMPUTER SCIENCE

125 True Basic	150 Broad Introduction to CS	170 Intro Programming
163 Discrete Structures	270 Pascal	271 Data Structures
275 Assembler	314-5 Programming Seminar	331 Cryptography
350 Microprocessors	363 Algorithms	372 Programming Languages
374 Operating System Software		380 Graphics
431 Grad. Cryptography	450 Grad. Microprocessors	460 Graduate Algorithms
480 Graduate Graphics		

### MATH

100 Basic Algebra	108 Finite Math	115 Survey
101, 102 Precalculus	130, 161, 162 Calculus	264 Differential Equations
298 Proofs		

### STATISTICS

103 (Introduction for the Core)
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