Akil Narayan

Curriculum Vitae

University of Massachusetts Dartmouth
Department of Mathematics
285 Old Westport Road
North Dartmouth, MA 02747-2300

☎ +1 765-444-9391 (mobile)
☎ +1 508-999-8318 (work)
FAX +1 508-910-6917
✉ akil.narayan -at- umassd.edu
http://www.math.umassd.edu/~anarayan

Citizenship: United States

Work Experience/Appointments

University of Massachusetts Dartmouth — North Dartmouth, MA
Assistant Professor — *Sept. 2012 - Present*

Institute for Computational and Experimental Research in Mathematics (ICERM) — Providence, RI
Visiting Researcher — *Fall 2012*

Purdue University — West Lafayette, IN
Visiting Assistant Professor — *Aug. 2009 - Aug. 2012*

Statistical and Applied Mathematical Sciences Institute (SAMSI) — Durham, NC
Visiting Fellow (Postdoctoral) — *Spring 2012*

Brown University — Providence, RI
Graduate Student under Jan Hesthaven — *Sep. 2005 - Jul. 2009*

HyPerComp, Inc. — Westlake Village, CA
Summer Intern — *Jun. 2007 - Sep. 2007*

Education

Brown University — Providence, RI
Ph.D., Applied Mathematics — *Sep. 2003 - May. 2009*

- ◇ Thesis advisor: J.S. Hesthaven
- ◇ Thesis topics: numerical analysis, scientific computing, spectral methods, infinite intervals, numerical solution of partial differential equations

Brown University — Providence, RI
Sc.M., Applied Mathematics — *Sep. 2003 - May 2004*

Northwestern University — Evanston, IL
B.S., Applied Mathematics — *Sep. 1999 - Jun. 2003*

- ◇ Graduated with honors, graduated *Summa Cum Laude*

Northwestern University — Evanston, IL
B.S., Electrical Engineering — *Sep. 1999 - Jun. 2003*

- ◇ Graduated with honors, graduated *Summa Cum Laude*

Publications

A Generalization of the Wiener Rational Basis Functions on Infinite Intervals: Part II – Numerical Examples
AN, J. S. Hesthaven — *J. of Comp. and App. Math., 237:1, 18-34, 2013*

Sequential assimilation of multiple models
AN, Y. Marzouk, D. Xiu — *J. of Comp. Physics, 231:19, 6401-6418, 2012*

Stochastic collocation methods on unstructured grids in high dimensions via interpolation
AN, D. Xiu — *SIAM J. on Sci. Comp., 34:3, A1729-A1752, 2012*

Computation of connection coefficients and measure modifications for orthogonal polynomials
AN, J. S. Hesthaven — *BIT Num. Math. 52:2 457-483, 2012*

Distributional Sensitivity for Uncertainty Quantification
AN, D. Xiu — *Comm. in Comp. Physics 10:140-160, 2011*

A Generalization of the Wiener Rational Basis Functions on Infinite Intervals: Part I – Derivation and Theory
AN, J. S. Hesthaven — *Math. Comp. 80:1557-1583, 2010*

Minimal element stochastic collocation for uncertainty quantification of discontinuous functions
J. Jakeman, AN, D. Xiu — *J. of Comp. Physics, to appear*

Constructing nested nodal sets for multivariate polynomial interpolation
AN, D. Xiu — Submitted

Teichon solutions for geodesics on the Universal Teichmüller Space
S. Kushnarev, AN — Submitted

Decoupling a coupled stochastic system
Y. Yang, AN, D. Xiu — In preparation

Numerical computation of Weil-Peterson geodesics on the Universal Teichmüller Space
M. Feiszli, AN — In preparation

Professional Development and Affiliations

The American Mathematical Society — Providence, RI
2003-present

The Society of Industrial and Applied Mathematics — Philadelphia, PA
2003-present

The Purdue Postdoctoral Association — Purdue University
President — *Oct. 2010 - Dec. 2011*

The Institute of Electrical and Electronic Engineers — Washington, DC
2000-2010

The Sheridan Center For Teaching and Learning — Brown University

Teaching consultant *2004-2009*

The Sheridan Center For Teaching and Learning Brown University

Certificate Programs I, II, and III *2004-2007*

Awards

Dissertation Fellowship (Brown University) 2009
Travel Award for SIAM-CSE meeting (SIAM) 2009
Travel Award for SIAG/LA SIMUMAT Summer School (SIAM) 2008
Travel Award for AMS Joint Meetings (AMS) 2007
Travel Award for CMU Summer School (Carnegie-Mellon University) 2006
International Engineering Consortium William L. Everitt Student Award (Northwestern University) 2003
Eta Kappa Nu 2002
Tau Beta Pi 2002

Skills

Professional: Scientific computing, numerical analysis, spectral methods and orthogonal polynomials, uncertainty quantification

Languages: Python, Fortran, LaTeX, HTML/CSS, C/C++

Operating Systems: Linux, Apple OSX, MS Windows

Applications: Matlab, GNU Octave, OpenOffice, MS Office, Mathematica