

Michael Paul Verdicchio

School of Computing, Informatics, and
Decision Systems Engineering (CIDSE)
Ira A. Fulton Schools of Engineering
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Tempe, Arizona 85287

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Education

Doctor of Philosophy (Ph.D.) in Computer Science, CIDSE, Arizona State University,
Tempe, AZ, expected August 2011

Bachelor of Science in Engineering (B.S.E.) in Computer Systems Engineering, CIDSE,
Arizona State University, Tempe, AZ, 2006

Teaching Experience

Lecturer, CIDSE, Arizona State University

CSE 182: Applied Problem Solving with C#.Net, Spring 2011 (110 students)

CSE 110: Principles of Programming with Java, Fall 2010 (70 students)

CSE 110: Principles of Programming with Java, Summer 2008 (25 students)

Graduate Teaching Associate, CIDSE, Arizona State University, under Faye Navabi

CSE 100: Principles of Programming with C++, Spring 2010

CSE 110: Principles of Programming with Java, Spring 2008

CSE 110: Principles of Programming with Java, Fall 2007

CSE 110: Principles of Programming with Java, Spring 2007

CSE 110: Principles of Programming with Java, Fall 2006

Tutor/Grader, CIDSE, Arizona State University, under Faye Navabi

CSE 110: Principles of Programming with Java, Summer 2009

CSE 110: Principles of Programming with Java, Spring 2003

CSE 110: Principles of Programming with Java, Fall 2002

CSE 110: Principles of Programming with Java, Summer 2002

CSE 110: Principles of Programming with Java, Spring 2002

Publications¹

- Verdicchio, M. P. and Kim, S. (2011) "Identifying Targets for Intervention by Analyzing Basins of Attraction." *Pacific Symposium on Biocomputing*, 16, Jan 3-7 2011, Hawaii.
- Bryce, D., Verdicchio M.P., Kim, S. (to appear). "Planning Interventions in Biological Networks." *Transactions on Intelligent Systems and Technology*
- Verdicchio, M. P. and Kim, S. (2010). Reduction of Boolean Network Basins of Attraction Reveals Intervention Targets. Technical report, Arizona State University, Tempe, Arizona.
- Sen, I., Verdicchio M. P., Jung, S., Trevino, R., Bittner, M., Kim, S. (2009). "Context-Specific Gene Regulations in Gene Expression Cancer Data²." *Pacific Symposium on Biocomputing*, 14:75-86, Jan 5-9 2009, Hawaii.
- Verdicchio, M. P. (2006). "Jump-Starting Your Bioinformatics Career as an Undergraduate: One Student's Approach." *ACM Crossroads*, Fall 2006 – 13.1.

Oral and Poster Presentations

- Verdicchio, M. P., Kim, S. (2011). "Identifying Targets for Intervention by Analyzing Basins of Attraction." *Pacific Symposium on Biocomputing*, 16, Jan 7 2011, Hawaii. Invited oral and poster presentation of accepted paper.
- Alterovitz, G., Verdicchio, M.P., Cavalcanti, S., Wang, M., Ramoni, M. (2011). "Reverse Engineering and Synthesis of Biomolecular Systems." *Pacific Symposium on Biocomputing*, 16, Jan 3 2011, Hawaii. Session tutorial presentation with G. Alterovitz.
- Verdicchio, M., Kim, S. (2009). "Boolean Network Models of Human Aging." Invited oral and poster presentations at the Rocky '09 Bioinformatics Conference, December 10-12, Aspen, Colorado.
- Bidaye, D., Dzifcak, J., Stracuzzi, D., Chimera, R., Verdicchio, M. P., Kim, S., Langley, P. "An Interactive Environment for Visualizing, Interpreting, and Revising Biological Process Models." Poster presentation at RECOMB 2009 Conference, May 17-21, Tucson, Arizona.
- Verdicchio, M., Zhang, X., Baral, C., Kim, S. (2008). "Learning Causal Relationships Between Genes from Steady State Data: Algorithms, Simulation and Application." Invited oral and poster presentations at the Rocky '08 Bioinformatics Conference, December 4-7, Aspen, Colorado.
- Zhang, X., Verdicchio, M., Baral, C., Kim, S. (2008). "Learning Causal Relationships Between Genes from Steady State Data: Algorithms, Simulation and Application." Poster presentation at the 2008 Translational Genomics Research Institute (TGen) Scientific Retreat, Phoenix, Arizona.
- Verdicchio, M., Kim, S. (2006). "Graphical Representation of Gene Regulatory Networks." Poster presentation at the Fulton Undergraduate Research Initiative Undergraduate Research Symposium, Tempe, Arizona. (Earlier versions presented at similar symposia, November, April, 2005)

¹ PSB papers were peer reviewed, TIST paper was invited and peer reviewed

² Ina Sen and Michael P. Verdicchio contributed equally to this work as first authors.

Works in Progress

- Verdicchio, M. P. and Kim, S. “Effective use of replicates in microarray data.”
- Verdicchio, M. P. and Kim, S. “Approximation approaches to Basins of Attraction.”
- Jung, S., Verdicchio, M. P., Bittner, M., Kim, S. “Review Paper: Context-Specific Gene Regulatory Networks.”
- Jung, S., Kim, S., Verdicchio, M. P. (in progress, participants not in any particular order). “Analysis of Context-Specific Bayesian Networks from Cancer Gene Expression Data.”

Research Interests

- Biomedical informatics
- Modeling of biological systems including gene regulatory networks
- Mathematical, probabilistic and statistical applications in bioinformatics

Research Experience

- Graduate Research Associate, Computational Systems Biology Group, Arizona State University, under Seungchan Kim, Ph.D., <http://biocomputing.asu.edu>, 2006-present.
- Member, Computational Systems Biology Group, Arizona State University, under principal investigator Seungchan Kim, Ph.D., <http://biocomputing.asu.edu>, 2006-present
- Statistics and Foundations of Genomic Signal Processing group under Seungchan Kim, Ph.D., semester-long research reading/study group, Arizona State University, Fall 2008
- Statistical Relational Learning reading group under Sungwook Yoon, Ph.D., semester-long research reading/seminar group, Arizona State University, Spring 2008
- Bayesian network study under Seungchan Kim, Ph.D., semester-long literature survey with bi-weekly seminars given, Fall 2007
- Intern, Translational Genomics Research Institute (TGen) / Arizona State University, Ira. A. Fulton School of Engineering Internship Program (EIP), paid internship, Summer 2007
- Member, Computational Systems Biology Group, Arizona State University, under principal investigator Seungchan Kim, Ph.D., <http://sysbio.fulton.asu.edu>, 2006-present
- Undergraduate Student Researcher, Fulton Undergraduate Research Initiative, Arizona State University, 2005-2006
- Intern, Translational Genomics Research Institute (TGen), (Summer, unpaid), 2005

Service

- Mentor to undergraduates Douglas Milette-Vanover and Roger Abarca through the President Barack Obama Scholars Program at Arizona State University, Fall 2010-present.
- Mentor to undergraduate Milad Behbahaninia during his preparation for and tenure in the Fulton Undergraduate Research Initiative (FURI), project entitled, "Studying and improving current approaches for using Bayesian and causal frameworks for modeling gene regulatory networks", Spring 2008 - Fall 2009.
- Mentor to undergraduate Computer Science student Robert Trevino during course of his CSE 534: Advanced Computer Networks semester project entitled, "Articulation Points in Context-Specific Gene Regulatory Networks," Spring 2008.
- Verdicchio, M. (2005, 2006). "Tips for Undergraduate Success from a Student's Perspective." Invited lecture given twice in CSE 194: Success in Computer Science/Engineering (Fall 2005 and Spring 2006).
- President, Student Advisory Council, CIDSE, 2005-2006

Awards and Honors

- Recipient, PSB 2011 travel award, NLM/NIH, January 2011
- Recipient, ASU Graduate College Conference Travel Grant, January 2011
- Recipient, Arizona State University Graduate Fellowship Award, Summer 2009
- Recipient, Graduate and Professional Student Association (GPSA) Conference Travel Grant award, RECOMB 2009
- Recipient, National Science Foundation Travel Fellowship for Rocky 2008 Bioinformatics Conference.
- Outstanding Teaching Assistant Award, Department of Computer Science, 2007-2008
- Fulton Fellow, Ira A. Fulton School of Engineering, 2006-2007
- Cum Laude, B.S.E., Computer Systems Engineering, 2006
- Subject of Article: CSE Monitor Contributors (2006). "A Top Undergraduate: Michael Verdicchio." *CSE Monitor Spring 2006: Looking into the Future*, p13.
- Boeing Diversity Scholarship Recipient, 2005-2006
- President's Scholarship Recipient, 2001-2005 (Full tuition waiver plus stipend)

Professional Development

- Preparing Future Faculty Program, Arizona State University, 2007-2008
- Attended, reading group, "Diversity Issues in Institutions of Higher Learning," Arizona State University, 21 February 2008
- Attended, seminar series, "Foundations of Genomic Signal Processing," Texas A&M University, December 13-14, 2007, College Station, Texas
- Attended, reading group, "The Dynamics of Effective Mentoring in Academia," Arizona State University, 21 September 2007
- Attended, reading group, "Teaching Excellence," Arizona State University, 02 November 2007

Professional Memberships

ISCB Student Member

Academic Semester Project Team Leadership Experience

Team Leader, CSE 423: Capstone Project, Fall 2005

Led project to migrate AVR thermal software to new hardware. Worked under supervision of David Pheanis, Ph.D., of Western Microsystems, which was working under contract from General Motors.

Team Leader, ECE 300: Intermediate Engineering Design, Fall 2004

Led team project resulting in a complete proposal to improve wireless internet coverage across the Arizona State University campus.

Team Leader, CSE 360: Software Engineering Project, Spring 2004

Led team development of prototype software for a restaurant system. The project was an electronic ordering and management system that underwent all software development phases, including requirements, use cases, planning, development, and testing.

References (Please feel free to contact these individuals.)

Please contact me for reference list.