

NSF style 2-page Biographical Sketch

Travis E. Doom
Department of Computer Science and Engineering

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Dayton, Ohio 45435

Professional Preparation

| Institution | Degree | Year | Field |
|--------------------------------|--------|------|----------------------------------|
| Michigan State University | Ph.D. | 1998 | Computer Science |
| Michigan State University | M.S. | 1994 | Computer Science |
| Bowling Green State University | B.S. | 1992 | Mathematics and Computer Science |

Appointments

- Associate Faculty Member 2000 - present
Biomedical Sciences program, Wright State University.
- Assistant Professor 1998 - present
Department of Computer Science and Engineering, Wright State University.
Joint appointment with Department of Electrical Engineering, Wright State University
- Research Scientist (STA) 1997 - 1998
Division of Information Sciences, Argonne National Laboratory.

Ten most recent significant publications (as of April 2004)

- D. Burhans, M. DeJohgh, T. Doom, and M. LeBlanc. "Bioinformatics in the undergraduate curriculum: Opportunities for computer science educators." *ACM Special Interest Group on Computer Science Education (SIGCSE) 2004*, Norfolk (VA), March 2004.
- T. Doom, M. Raymer, and D. Krane. "Bioinformatics: Where Biology meets Computer Science." *IEEE Potentials*, pgs. 24-28, Vol. 23, No. 1, Feb/March 2004.
- J. Gilder, S. Ford, T. Doom, M. Raymer, and D. Krane. "Systematic differences in electropherogram peak heights reported by different version of the Genescan (R) software." *Journal of Forensic Science*, January 2004.
- M. Raymer, T. Doom, L. Kuhn, and W. Punch. "Knowledge Discovery in Medical and Biological Datasets Using a Hybrid Bayes Classifier/Evolutionary Algorithm." *IEEE Transactions on Systems, Man, and Cybernetics*, Vol. 33, No. 5, October 2003.
- T. Doom, M. Raymer, D. Krane, and O. Garcia. "Crossing the interdisciplinary barrier: A baccalaureate computer science option in bioinformatics." *IEEE Transactions on Education*, Volume 46, No. 3, pp 387-393, August 2003.
- W. Thompson, S. Ford, T. Doom, M. Raymer, and D. Krane. "Evaluating forensic DNA evidence: Essential elements of a competent defense review." *The Champion*, pgs. 16-25 (Cover Story), Vol. XXVII, No. 3, April 2003.
- J. Gilder, D. Krane, T. Doom and M. Raymer. "Identifying patterns in DNA change." *Proceedings of the 2003 Midwest Artificial Intelligence and Cognitive Science Conference*, Columbus OH, April 2003.
- J. Gilder, M. Peterson, J. Wright, and T. Doom. "A versatile tool for student projects: An ASM programming language for the LEGO mindstorm." *ACM Journal on Educational Resources in Computing (JERIC)*, III:1, ISSN: 1531-4278, March 2003.
- M. Peterson, T. Doom, and M. Raymer. "GA-facilitated cosine classifier optimization with application to the biochemistry of protein-water interactions." *Proceedings of the 6th International Conference/Exhibition on High Performance Computing*, Bangalore (India) December 2002.
- T. Doom, M. Raymer, D. Krane, and O. Garcia, "A proposed undergraduate bioinformatics curriculum for computer scientists." *Proceedings of the 2002 ACM Special Interest Group on Computer Science Education (SIGCSE 2002)*, Covington (KY), February 2002.

Five Synergistic Activities

- Senior systems engineering consultant, co-founder, and co-patent-holder for Forensic Bioinformatic Services (<http://www.bioforensics.com>). Expert witness in forensic DNA computing.
- Instructor, Summer Institute on Advanced Computing (S.A.I.C.-2001), *Bioinformatics and Data Mining*, sponsored by the Ohio Supercomputing Center. August 27-30, 2001.
- Recipient of the Wright State University College of Engineering's 1999-2000 Excellence in Teaching award and invitee to the Ohio Teacher's Excellence Program, 2001-2002.
- Invitee, "Incorporating Genomics Research into the Undergraduate Curricula", NSF DUE-0126643 Workshops I and II, Wheaton College, Norton MA, June 2002 and 2003.
- Reviewer for NSF CISE Educational Innovation panels (January 2004 and 2003).

Expertise Summary

Prof. Travis Doom is recognized in the college as an excellent educator and was the 1999-2000 recipient of the WSU College of Engineering Excellence in Teaching award, a 2001 invitee to the Ohio Teacher's Excellence Program (OTEP), and a 2002 sponsored attendee of the National Effective Teaching Institute (NETI). He is an active member of the American Society for Engineering Education (ASEE), the Association for Computing Machinery's special interest group on computer science education (ACM SIGCSE), and has addressed issues on the incorporation of genomics education into the computer science curriculum at various conferences.

He is a co-director of the bioinformatics research group in WSU Department of Computer Science and actively pursues research in the fields of design automation, computational biology, high-performance computer architecture and systems, performance evaluation/operational analysis, distributed/parallel systems, and computational theory. He is a co-founder of Forensic Bioinformatics Services - the first commercial business founded on technology developed wholly at Wright State University.