

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Brian D. Athey, Ph.D.	POSITION TITLE Associate Professor/Bioinformatics and Computational Biology Associate Director (UM) Center for Computational Medicine and Biology Director, Michigan Center for Biological Information Director, Biomedical Informatics, UM Depression Center
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EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
St. John's College, Annapolis, MD		1975-1979	Classical Studies
University of Michigan, Dearborn, MI	B.S.	1982	Biochemistry, Physics
University of Michigan, Ann Arbor, MI	Ph.D.	1990	Cell&Mol Biol (Biophysics)
University of Michigan, Ann Arbor, MI	Postdoctoral	1990-1993	Anatomy & Informatics

NOTE: The Biographical Sketch may not exceed four pages. Items A and B (together) may not exceed two of the four-page limit. Follow the formats and instructions on the attached sample.

A. Positions and Honors. List in chronological order previous positions, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

Professional Experience

- 1995-1996 Visiting Assistant Professor, Medical Informatics Graduate Program, UMich School of Information
1995-1998 Director, Biomedical Imaging Programs; ERIM International, Inc.
1995- Assistant Professor, Department of Anatomy & Cell Biology (ACB), UMich Medical School
1997-2002 Assistant Professor, School of Art & Design, UMich Graduate Program in Medical & Biological Illustration
1998- Research Investigator and Founding Member, Center for Biologic Nanotechnology, UMich Medical School Department of Internal Medicine
2000-2003 Visiting Assistant Professor. UMich Electrical Engineering and Computer Science (EECS)
2000-2001 Academic Liaison for Health Sciences Research & Instructional Computing, UMich Office of CIO
2000- Director, Michigan Center for Biological Information (MCBI), UMich Office of the Vice President for Research (OVPR)
2003- Associate Professor, Biomedical Informatics, Department of Psychiatry, UMich Medical School
2003- Director, Biomedical Informatics Core, UMich Depression Center
2003- Visiting Associate Professor, Electrical Engineering and Computer Science (EECS), College of Engineering, University of Michigan
2005- Associate Professor, Bioinformatics and Computational Biology, Bioinformatics Program, University of Michigan Medical School
2005- Associate Director, (UMich) Center for Computational Medicine and Biology (CCMB)

Fellowships/Honors

- 1982-1985 NIH Pre-doctoral Fellowship, Cellular and Molecular Biology Training Program, University of Michigan Medical School; Ann Arbor, MI.
1990-1991 NIH Postdoctoral Fellowship, Developmental Biology Training Program, University of Michigan Medical School; Ann Arbor, MI.
1991-1993 Postdoctoral Fellowship, Chemical and Hearing Senses Training Program, Kresge Hearing Research Institute, The University of Michigan Medical School; Ann Arbor, MI
2000- Peace Fellowship, Federation of American Scientists (FAS)
2005 Conference Co-Chair, Intelligent Systems for Molecular Biology (ISMB); International Society for Computation Biology (ISCB)

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Professional Societies

- 1982-1990 Microscopy Society of America (MSA)
- 1994- Optical Society of America (Ann Arbor Branch)
- 2003- International Society for Computational Biology (ISCB)
- 2003- American Medical Informatics Society (AMIA)

Selected peer-reviewed publications (in chronological order). Do not include publications submitted or in preparation.

Selected Peer-Reviewed Publications (of over 45)

1. Williams, S.P., **B.D. Athey**, L.J. Muglia, R.S. Schappe, A.H. Gough and J.P. Langmore. 1986. "Chromatin Fibers are Left-Handed Double Helices with Diameter and Mass Per Unit Length that Depend on Linker Length." *J. Biophys.*, 49:233-248. (Plenary presentation for the 1985 Biophysical Discussions).
2. Smith, M.F., **B.D. Athey**, S.P. Williams and J.P. Langmore. 1990. "Radial Density Distribution of Chromatin: Evidence that Chromatin Fibers Have Solid Cores." *J. Cell Biol.* 110:245-254.
3. **Athey, B.D.**, M.F. Smith, D.A. Rankert, S.P. Williams and J.P. Langmore. 1990. "The Diameters of Frozen-Hydrated Chromatin Fibers Increase with DNA Linker Length: Evidence in Support of Variable Diameter Models for Chromatin." *J. Cell Biol.* 111:795-806.
4. Wetzel, A.W., A. Ade, F.L. Bookstein, W. Green and **B.D. Athey**. 2000. "Representation and Performance Issues in Navigating Visible Human Datasets." The 3rd National Library of Medicine (NLM) Conference on the Visible Human. (Peer-reviewed electronic publication).
5. Bookstein, F.L., **B.D. Athey**, W.D. Green and A.W. Wetzel. 2000. "Navigating Solid Medical Images by Pencils of Sectioning Planes." *Proceedings of SPIE*, 4121:117-127.
6. Higgins, G., **B.D. Athey**, J. Basingthwaighte, J. Burgess, H. Champion, K. Cleary, P. Dev, J. Duncan, M. Hopmeier, D. Jenkins, C. Johnson, H. Kelly, R. Leitch, W. Lorensen, D. Metaxas, V. Spitzer, N. Vaidehi, K. Vosburgh and R. Winslow. 2001. "Modeling & Simulation in Medicine: Towards an Integrated Framework." *Comput. Aided Surg*, 6(1):32-39.
7. Hacker, T.J. and **B.D. Athey**. "A Methodology for Account Management in Grid Computing Environments." *Proceedings of the 2nd International Workshop on Grid Computing*, November 2001, Denver Colorado, *Lecture Notes in Computer Science*, 133-144. Springer Verlag Press.
8. Lee, I., **B.D. Athey**, J.R. Baker, A. Wetzel, W.M. Meixner and J.R. Baker, Jr. 2002. "Structural Molecular Dynamic Studies on Therapeutically-Applied Polyamidoamine Dendrimers: The Effects of pH and Surface Derivatization Group," *Macromolecules*, 35(11):4510-4520.
9. Walker, D.S., W.Y. Lee, N. Skov, C. Berger and **B.D. Athey**. 2002. "Investigating User Requirements: Computer-based Anatomy Learning Modules for Multiple User Testbeds." *JAMIA*, 9(4):311-319.
10. Thigpen, B., T.J. Hacker, L. McGinnis and **B.D. Athey**. 2002. "Distributed Accounting on the Grid." *Proceedings of the 6th Joint Conference on Information Sciences*, pp. 1147-1150.
11. Hacker, T.J., B. Noble and **B.D. Athey**, "The Effects of Systemic Packet Loss on Aggregate TCP Flows." *Proceedings of the 2002 ACM/IEEE Conference on Supercomputing*, Nov. 2002, pp. 1-15.
12. Singh, G.B., H. Song, D. Liu, D. Wildman, M. Goodman, C. Bliton, G. Kostov, and **B.D. Athey**, "A Non-Homology Method for Sensitive Information Retrieval from Biological Databases." *Proceedings of the 7th Joint Conference on Information Sciences*, 2003, pp. 915-918.
13. Lee, I., A. A. Dombkowski, and **B.D. Athey**. 2004. "Guidelines for Incorporating Non-perfectly Matched Oligonucleotides into Target-Specific Hybridization Probes for a DNA Microarray." *Nucl. Acids. Res.*, 32:681-690.
14. Boyd, A.D., D.J. DiFranco, and **B.D. Athey**, "Challenges of HIPAA Regulations in Academic Biomedical Research." *MEDINFO*, 2004(CD):1535, Sept. 13, 2004
15. You Jung Kim, A. D. Boyd, **B. D Athey**, J. M Patel, "miBLAST: scalable evaluation of a batch of nucleotide sequence queries with BLAST." *Nucleic Acids Res.* 2005 33:4335-44.
16. Boyd AD Wright ZC, Ade AS, Bookstein F, Ogden JC, Meixner W, **Athey BD**, Morris T., "Challenges in Presenting High Dimensional Data to aid in Triage in the DARPA Virtual Soldier Project." *Studies in Health Technology and Informatics*, 2004, 111, 68-74.
17. Dai M, Wang B, Boyd AD, Kostov G, **Athey BD**, Watson SJ, Akil H, Speed TP, Meng F., "Evolving gene/transcript definitions significantly alter the interpretation of GeneChip data." *Nucleic Acids Research* 2005 33(20):e175

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18. Boyd AD, Hosner C, Hunscher DA, **Athey BD**, Clauw DJ, Green L. "An 'Honest Broker' Mechanism to maintain Privacy for Patient Care and Academic Medical Research" presented at Secure E Health Conference, published online in International Journal of Medical Informatics (2006), doi:10.1016/j.ijmedinf.2006.09.004.
19. Wang P, Dai M, Xuan W, McEachin RC, Jackson AU, Scott LJ, **Athey BD**, Watson SJ, Meng F. SNP Function Portal: a web database for exploring the function implication of SNP alleles. Bioinformatics. 2006 Jul 15;22(14):e523-9. PMID: 16873516 [PubMed - indexed for MEDLINE]
20. Jayapandian M, Chapman A, Tarcea VG, Yu C, Elkiss A, Ianni A, Liu B, Nandi A, Santos C, Andrews P, **Athey BD**, States D, Jagadish HV. Michigan Molecular Interactions (MiMI): Putting the Jigsaw Puzzle Together. Nucleic Acids Research. 2007; 35:D566-D571.

C. Research Support. List selected ongoing or completed (during the last three years) research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and your role (e.g., PI, Co-Investigator, Consultant) in the research project. Do not list award amounts or percent effort in projects.

Research Support

ONGOING

BAA-RM-04-23 (Clauw, Daniel) 10/01/04 – 10/01/07 0.60 calendar
National Institute of Health/NHLBI
Michigan Clinical Research Collaboratory: An Integrated Academic-Community Research Enterprise

The major goal of this contract is to develop an "Honest Broker" system which will allow for the interaction of several distinct domains of the translational research medical record.

Role: Co-I

The major goal is to establish an Internet-based collaboration medical education teaching capability as part of the NLM SII program.

2 R01 AI 37141 (Baker, James R. Jr.) 05/01/04 - 04/30/09 0.00 calendar
National Institutes of Health-NIAID
Apoptosis in Thyroiditis.
Role: Co-I

The major goal of this effort is to provide bioinformatics support for Dr. Baker's project.

1 U54 DA021519-01A1 (Athey, Brian D.) 09/25/05 - 08/31/10 4.20 calendar
National Institute of Health
National Center for Integrative Biomedical Informatics (NCIBI)

This is one of the seven NIH National Centers for Biomedical Computing (NCBC). Focus is biomedical informatics data integration and modeling, including advanced biomedical Information Retrieval (IR).

Role: PI

GR-238 (Athey, Brian D.) 01/01/2001 - 12/31/2006 0.00 calendar
Michigan Economic Development Corporation (MEDC)
"The Michigan Center for Biological Information (MCBI)"

The major goal of this project is to provide statewide bioinformatics and computational biology capabilities to the Michigan Core Technology Alliance infrastructure partners and institutions. Now working in no-cost extension.

Role: PI

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Completed

W81XWH-04-2-0012 DOD-Army, Athey, B.D. (PI) 12/01/2003 - 09/31/2006
Defense Advanced Research Projects Agency/DSO

“Core development, integration and demonstration of the DARPA Virtual Soldier”.

This multi-institutional project prototypes and integrates anatomical and physiology modeling, medical informatics and computer simulations to create the next generation “Digital Human” framework; with military applications.

Role: PI, 12 subcontracting sites

NO1-LM-0-3511 Athey, BD (PI) 11/22/1999 - 11/21/2004
NIH/NLM-National Library of Medicine

“Biomedical Applications of the Next Generation Internet (NGI): Next Generation Internet Implementation to Serve Visible Human Datasets: Phase II – Development of Testbeds”.

The major goal of this project was the creation of Internet2 Visible Human navigation and software capability.

Role: PI

MEDC #270 Athey, BD 10/01/2002 – 10/01/2004
Michigan Economic Development Corporation (MEDC)
DNA Software, Inc.

“Development of a comprehensive simulation-based computer software system environment for designing DNA-based microarrays”.

The major goal of this project is to provide design consideration for the development of the user interface of the microarray Designer Software System.

Role: PI

Pending

1 U54 RR023422-01 (Clauw, Daniel) 09/30/2007 – 09/29/2012
NIH / NCRR

Michigan Institute for Clinical and Health Research (MICHR)

Role: Director of the Biomedical Informatics Program, Co-Investigator

Burant, Charles (PI) 08/01/07-07/31/2012
National Institute of Health
“Using Systems Biology to Understand Islet Adaptation and Failure in Diabetes”

The goals of this application are to combine novel metabolomic analysis techniques with bioinformatics to identify the way in which pancreatic islet adapt to differences in nutrient mix and supply.

Role: Co-I