

Craig A. Stewart, Ph.D.

Office of the Vice President for Information Technology and CIO

Franklin Hall 116

Indiana University

Bloomington IN 47405 USA

Phone: (812) 855-4240

Email: stewart@iu.edu or cas@pobox.com

<https://pti.iu.edu/>

CAREER OBJECTIVE:

My career objective is to enable the Research Technologies Division of University Information Technology Services and the Pervasive Technology Institute to deliver useful and innovative services - in support of scientific, scholarly, and artistic accomplishment; education; and economic development - to Indiana University, the State of Indiana, the nation in ways that benefit all of those constituencies and the world as a whole.

CITIZENSHIP:

US

EDUCATION:

Indiana University, Ph.D. in Ecology and Evolutionary Biology, '88.

Wittenberg University, B.A. in Mathematics and Biology, *magna cum laude*, '81.

CURRENT APPOINTMENTS:

Executive Director, Pervasive Technology Institute (2009-).

Associate Dean for Research Technologies, Office of the CIO and Vice President for Information Technology (2007-).

Information Architect, Indiana METACyt Initiative, and Co-Director, Center for Computational Cytomics (2005-).

Adjunct Professor, School of Informatics (2008-). Adjunct Associate Professor, Department of Medical and Molecular Genetics, Indiana University School of Medicine, Indianapolis (2003-), and Department of Biology, Indiana University, Bloomington (2003-).

PREVIOUS APPOINTMENTS:

Associate Vice President for Research and Academic Computing, Office of the CIO and Vice President for Information Technology (2005-2007) and Chief Operating Officer, Pervasive Technology Labs at Indiana University (2005-2008)

Fulbright Senior Scholar (April 2007). Technische Universitaet Dresden, Dresden, Germany.

Director for Research & Academic Computing (Computation) (1997-2005); Director, Indiana Genomics Initiative, Information Technology Core (1999-2005); Special Assistant for the Life

Sciences, Office of the Vice President for Information Technology/Research (2003-2005). Responsible for major new grant-funded initiatives in high performance computing, computational biology, and bioinformatics.

Visiting faculty member and researcher, High Performance Computing Center (HLRS), University of Stuttgart, Stuttgart, Germany (Summer semester 2003). Taught introduction to computational biology in the Computer Science Department (the first ever offering of this topic at the University of Stuttgart). Engaged in research and development in computational biology grid projects with HLRS researchers.

Assistant Director for Research Computing Services, University Computing Services (UCS), IU (1996-1997). Responsible for administration of research computing, including high performance computing, virtual reality, mass storage, general research computing, statistical and mathematical computing, Unix workstation support, and humanities computing. Also responsible for Unix and Novell servers delivering administrative computing applications.

Manager, Support Center, UCS, IU (1995-1996). Responsible for front line user support via telephone, e-mail, walk-in, and online help systems. Improved and increased usage of online help system (www.indiana.edu/~uits/help). Yahoo! Internet Life Magazine identified this as the best online help system in 1997.

Director, Center for Statistical and Mathematical Computing, UCS, IU (1991-1995). Responsible for delivery and support of statistical and mathematical software on all UCS computing systems. Responsible for deployment of the Stat/Math Center and the Interdisciplinary Consortium for Statistical Applications; improved statistical and mathematical software offerings on UCS systems; aggressively site licensed stat/math software; implemented highly successful software support model.

Manager, Business Computing Facilities, School of Business, IU (1986-1991). Completed networking of Business building; installed new microcomputers for every faculty member (the first School at IU to have a PC for every faculty member); managed maintenance of 400+ microcomputers; installed Novell LAN (4th at IU).

Applications Programmer, Bloomington Academic Computing Services, IU (1985-1986). Responsibilities included online help systems on CDC, VAX, and Prime systems; staffing the BACS Information Center; advanced consulting on statistical software.

Computer Consultant, Bloomington Academic Computing Services, IU (1984-1985). Responsibilities included general computing consulting and advanced statistical consulting.

Associate Instructor, Department of Biology, IU (1981-1984). Taught entomology and parasitology labs, and assisted in teaching of biostatistics.

PEER-REVIEWED PUBLICATIONS:

Arenson, A.D., L.N. Bakhireva, C.D. Chambers, C.A. Deximo, T. Foroud, J.L. Jacobson, S.W. Jacobson, K.L. Jones, S.N. Mattson, P.A. May, E.S. Moore, K. Ogle, E.P. Riley, L.K. Robinson, J. Rogers, A.P. Streissguth, M.C. Tavares, J. Urbanski, Y. Yezerets, R. Surya, C.A. Stewart and W.K. Barnett. "Implementation of a shared data repository and common data dictionary for fetal alcohol spectrum disorders research". *Alcohol*, 44(7-8), 643-647. 2010.
<http://dx.doi.org/10.1016/j.alcohol.2009.08.007> or <http://hdl.handle.net/2022/7194>

Stewart, C.A., S. Simms, B. Plale, M. Link, D. Hancock and G. Fox. What is Cyberinfrastructure? In: Proceedings of SIGUCCS 2010 (Norfolk, VA, 24-27 Oct, 2010). <http://portal.acm.org/citation.cfm?doid=1878335.1878347>

Stewart, C.A., M. Link, D.S. McCaulay, G. Rodgers, G. Turner, D. Hancock, P. Wang, F. Saied, M. Pierce, R. Aiken, M. Mueller, M. Jurenz, M. Lieber, J. Tillotson and B. Plale. "Implementation, performance, and science results from a 30.7 TFLOPS IBM BladeCenter cluster". *Concurrency and Computation: Practice and Experience*, 22(2), 157-174. 2010. <http://dx.doi.org/10.1002/cpe.1539>

Li, H., D. Hart, M. Mueller, U. Markwardt and C.A. Stewart. GeneIndex: An Open Source Parallel Program for Enumerating and Locating Words in a Genome. In: *Proceedings of IJCBS '09. International Joint Conference on Bioinformatics, Systems Biology and Intelligent Computing* (3-5 Aug. 2009, 2009). <http://dx.doi.org/10.1109/IJCBS.2009.127>

Lowe, M., C. Shields, D. Hancock, M. Link, C.A. Stewart and M. Pierce. Gateway Hosting at Indiana University. In: *Proceedings of the TeraGrid 2009 Conference* (Arlington, VA, 2009). http://www.teragrid.org/tg09/files/tg09_submission_47.pdf

Simms, S.C., C.A. Stewart and S.D. McCaulay. Cyberinfrastructure resources for U.S. Scholarship: the TeraGrid. In: Proceedings of the 36th annual ACM SIGUCCS conference on User services (Portland, OR, USA, 2008). ACM. <http://portal.acm.org/citation.cfm?id=1450057>

Catlett, C., W.E. Allcock, P. Andrews, R. Aydt, R. Bair, N. Balac, B. Banister, T. Barker, M. Bartelt, P. Beckman, F. Berman, G. GBertoline, A. Blatecky, J. Boisseau, J. Bottum, S. Brunett, J. Bunn, M. Butler, D. Carver, J. Cobb, T. Cockerill, P.F. Couvares, M. Dahan, D. Diehl, T. Dunning, I. Foster, K. Gaither, D. Gannon, S. Goasguen, M. BGrobe, D. Hart, M. Heinzl, C. Hempel, W. Huntoon, J. Insley, C. Jordan, I. Judson, A. Kamrath, N. Karonis, C. Kesselman, P. Kovatch, L. Lane, S.L. Lathrop, M., D. Lifka, L. Liming, M. Livny, R. Loft, D. Marcusiu, J. Marsteller, S. Martin, D.S. McCaulay, J. McGee, L. McGinnis, M.A. McRobbie, P. Messina, R. Moore, J.P. MNavarro, J. Nichols, M.e. Papka, R. Pennington, G. Pike, J. Pool, R. Reddy, D. Reed, T. TRimovsky, E. Roberts, R. Roskies, S. Sanielevici, J.R. Scott, A. Shankar, M. Sheddon, M. Showerman, D. Simmel, A. Singer, D. Skow, S. Smallen, W.S. Smith, C., R. Stevens, C.A. Stewart, R.B. Stock, N. Stone, J. Towns, T. Urban, M. Vildibill, E. Walker, V. Welch, N. Wilkins-Diehr, R. Williams, L. Winkler, L. Zhao, and A. Zimmerman. 2008. TeraGrid: Analysis of Organization, System Architecture, and Middleware Enabling New Types of Applications. *Advances in Parallel Computing Volume 16: High Performance Computing and Grids in Action*, ed. L. Grandinetti. IOS Press: Amsterdam.

Stewart, C.A., M. Mueller, M. Lingwall. 2007. Progress Towards Petascale Applications in Biology: Status in 2006. In: W. Lehner, N. Meyer, A. Streit, C. Stewart (eds.). *Euro-Par 2006 Parallel Processing: Workshops*. In: *CoreGRID 2006, UNICORE Summit 2006, Petascale Computational Biology and Bioinformatics*, Dresden, Germany (Lecture Notes in Computer Science). Springer-Verlag Berlin Heidelberg. <http://hdl.handle.net/2022/1829>

Stewart, C.A., M. Link, D. McCaulay, D. Hancock, M. Pierce, G. Turner, R. Repasky, G. Rodgers, R. Aiken, F. Saied, M. Mueller, M. Jurenz and M. M. Implementation, Performance, and Science Results from a 20.4 TFLOPS IBM BladeCenter Cluster. In: *Proceedings of the 2007 International Supercomputing Conference* (Dresden, Germany, 2007).

Arenson A.D., L. Bakhireva, T. Chambers, C. Deximo, T. Foroud, J. Jacobson, S. Jacobson, K.L. Jones, S. Mattson, P. May, E. Moore, K. Ogle, E. Riley, L. Robinson, J. Rogers, A. Streissguth, M. Tavares, J. Urbanski, H. Yezerets, C.A. Stewart. 2007. Implementation of a distributed architecture for managing collection and dissemination of data for fetal alcohol spectrum disorders research. In: W. Dubitzky (eds): GCCB 2006, LNBI 4360. Springer-Verlag Berlin Heidelberg. pp 33-46. <http://hdl.handle.net/2022/1025>

McCaulay, D., M. Link, G. Turner, D. Hancock, M. Morris and C.A. Stewart. Powerful New Research Computing System Available Via the TeraGrid. In: *Proceedings of the IEEE/ACM 2006 Supercomputing Conference* (Tampa, FL, 2006).

Simms, S., M. Davy, B. Hammon, M. Link, C.A. Stewart, R. Bramley, B. Plale, D. Gannon, M.-H. Baik, S. Teige, J. Huffman, D. McMullen, D. Balog and G. Pike. All in a Day's Work: Advancing Data-Intensive Research with the Data Capacitor. In: *Proceedings of the 2006 ACM/IEEE Conference on Supercomputing* (2006). ACM Press.

Myron, S.A., M.R. Link, R. Knepper, C.A. Stewart. 2005. PubsOnline: an open source database for managing and delivering bibliographic information. Proceedings of the 33rd annual ACM SIGUCCS conference on User services. 6-9 November 2005, Monterey, CA, USA. <http://portal.acm.org/citation.cfm?id=1099492>

Wernert, E.A., M. Boyles, J.N. Huffman, J. Rogers, J.C. Huffman, C.A. Stewart: The john-e-box: fostering innovation, inclusion, and collaboration through accessible advanced visualization. Proceedings of Richard Tapia Celebration of Diversity in Computing Conference 2005: 64-67. <http://portal.acm.org/citation.cfm?doid=1095269>

Stewart, C.A. 2004. Bioinformatics: transforming biomedical research and medical care. *Communications of the ACM* 47(11): 31-33. <http://portal.acm.org/citation.cfm?doid=1029496.1029522>

Wang, P., G. Turner, S. Simms, D. Hart, M. Papakhian and C.A. Stewart. One Teraflop Achieved with a Geographically Distributed Linux Cluster. In: High-Performance Computing. L.T. Yang and M. Guo, eds., 2006. Available from: <http://dx.doi.org/10.1002/0471732710.ch26>

Stewart, C.A. R. Keller, R. Repasky, M. Hess, D. Hart, M. Mueller, R. Sheppard, U. Woessner, M. Aumueller, Huian Li, D.K. Berry, J. Colbourne. 2004. A global grid for analysis of arthropod evolution. pp. 328-337 In: R. Buyya (ed.) Proceedings: Fifth IEEE/ACM International Workshop on grid computing. 8 November 2004, Pittsburgh, PA. <http://portal.acm.org/citation.cfm?id=1033261>

Stewart, C.A., D. Hart, R.W. Sheppard, H. Li, R. Cruise, V. Moskvina, L. Papiez. 2004. Parallel computing in biomedical research and the search for peta-scale biomedical applications. pp. 719-716 In: G.R. Joubert, W.E. Nagel, F.J. Peters, and W.V. Walter (eds). *Parallel computing: software technology, algorithms, architectures & applications*. Advances in Parallel Computing Vol. 13. Elsevier, Oxford.

Stewart, C.A., D. Hart, R. Repasky, M. Papakhian, A. Shankar, E. Wernert, A.D. Arenson, G. Bernbom. 2003. Advanced Information Technology Support for Life Sciences Research. Proceedings of SIGUCCS 2003 Conference, 21-24 September, San Antonio, Texas. <http://portal.acm.org/citation.cfm?id=947472>

- Samuel, J.V., Peebles, C.S., Noguchi, T., Stewart, C.A. 2002. Gauging IT Support Strategies: User needs then and now. Proceedings of SIGUCCS 2002 Conference, November 20-23, Providence, RI., pp. 284-285. <http://portal.acm.org/citation.cfm?id=588646.588723>
- Samuel, J.V., Wilhite, K.J., Stewart, C.A. 2002. Getting More for Less: A Software Distribution Model. Paper presented at the Educause Conference, October 1-4, Atlanta, GA. <http://educause.edu/ir/library/pdf/EDU0246a.pdf>
- Peebles, C.S., C.A. Stewart, B.D. Voss, S.B. Workman. 2001. Measuring quality, cost, and value of IT services in higher education. Proceedings of the American Quality Congress, Charlotte, NC, May 2001. <http://hdl.handle.net/2022/426>
- Peebles, C.S., C.A. Stewart, B.D. Voss, S.B. Workman. 2001. Measuring quality, cost, and value of IT services in higher education. Proceedings of Educause, Indianapolis, IN, October 2001. <http://hdl.handle.net/2022/425>
- Stewart, C.A., D. Hart, D. K. Berry, G. J. Olsen, E. Wernert, W. Fischer. 2001. Parallel implementation and performance of fastDNAm1 - a program for maximum likelihood phylogenetic inference. Proceedings of SC2001, Denver, CO, November 2001. <http://portal.acm.org/citation.cfm?id=582054>
- Stewart, C.A., C.S. Peebles, M. Papakhian, J. Samuel, D. Hart, S. Simms. 2001. High Performance Computing: Delivering Valuable and Valued Services at Colleges and Universities. Proceedings of SIGUCCS, Portland, OR, October 2001. <http://portal.acm.org/citation.cfm?id=500956.501026>
- Stewart, C.A., D. Grover, R.D. Vernon. 1998. Changing (almost) everything and keeping (almost) everyone happy. CAUSE/Effect 21(3):39-46. <http://net.educause.edu/ir/library/html/cem/cem98/cem9837.html>
- Stewart, C.A., and P.A. McClure. 1993. Diurnal variation in thermal and metabolic parameters of the golden hamster (*Mesocricetus auratus*). J. Comp. Physiol. B 63: 234-238. <http://dx.doi.org/10.1007/BF00261670>
- Stewart, C.A. 1991. A note on the microdistribution of the Red-Backed Vole, *Clethrionomys gapperi*, in the E.N. Huyck Preserve, New York. Can. Field-Naturalist 105:274-275.
- Stewart, C.A., J. Owens, and P.A. McClure. 1990. Air flow and convective heat loss from small mammals in laboratory metabolism chambers. J. Thermal Biol. 15:313-316.
- Stewart, C.A., and P.A. McClure. 1989. Diurnal variation in minimal thermal conductance of three rodents: the white-footed mouse (*P. leucopus*), the golden hamster (*M. auratus*), and the eastern woodrat (*N. floridana*). pp 659-664 In: J.B. Mercer (ed.). Thermal Physiology, Elsevier, Amsterdam.

Stewart, C.A. 1988. Diurnal variation in minimal thermal conductance of the white-footed mouse (*Peromyscus leucopus*), the golden hamster (*Mesocricetus auratus*), and the eastern woodrat (*Neotoma floridana*). Ph.D. dissertation, Indiana University. <http://hdl.handle.net/2022/13327>

Stewart, C.A. 1988. Diet of the rainbow darter (*Etheostoma caeruleum*) in Rock Run, Clark County, Ohio. Ohio. J. Science 88: 198-200. <http://hdl.handle.net/2022/13261>

Reash, R. and C. A. Stewart. 1981. Preliminary investigations for longitudinal distribution and fish species diversity in Rock Run, Clark County, Ohio. Bios 52: 178 (abstract)

WORKSHOP AND TECHNICAL REPORTS (Not peer reviewed):

Stewart, C.A., Miller, Therese. 2011. Economic development by the Indiana University Pervasive Technology Institute, Pervasive Technology Labs, and the Research Technologies Division of University Information Technology Services September 1999 – June 2011: a public report. <http://hdl.handle.net/2022/13559>

NSF Advisory Committee for Cyberinfrastructure Task Force on Campus Bridging. Final Report. March 2011. Available from:
http://www.nsf.gov/od/oci/taskforces/TaskForceReport_CampusBridging.pdf
[Stewart chaired this task force and led writing of this report]

Dreher, P., S.C. Ahalt, G. Almes, M. Mundrane, J. Pepin and C.A. Stewart, (eds.), 2011. Campus Bridging: Campus Leadership Engagement in Building a Coherent Campus Cyberinfrastructure Workshop Report. 2011. Available from: <http://hdl.handle.net/2022/13194>

Barnett, W., V. Welch, A. Walsh and C.A. Stewart. A Roadmap for Using NSF Cyberinfrastructure with InCommon. 2011. <http://hdl.handle.net/2022/13024> or <http://www.incommon.org/nsfroadmap.html>

Barnett, W., V. Welch, A. Walsh and C.A. Stewart. A Roadmap for Using NSF Cyberinfrastructure with InCommon: Abbreviated Version. 2011. <http://hdl.handle.net/2022/13025> or <http://www.incommon.org/nsfroadmap.html>

Stewart, C.A., D.S. Katz, D.L. Hart, D. Lantrip, D.S. McCaulay and R.L. Moore. Technical Report: Survey of cyberinfrastructure needs and interests of NSF-funded principal investigators. 2011. <http://hdl.handle.net/2022/9917>

Stewart, C.A., D.S. McCaulay, S. Jul and R.L. Moore. Technical Report: TeraGrid eXtreme Digital Campus Bridging Requirements Elicitation Meeting. 2011. <http://hdl.handle.net/2022/13026>

Henschel, R.; Stewart, C.A.; Link, M.R.; McCaulay, D. S.; Hancock, D.Y. 2011. Technical Report: Acceptance Test for FutureGrid IBM iDataPlex at Indiana University (India). <http://hdl.handle.net/2022/13429>

Cyberinfrastructure Software Sustainability and Reusability Workshop Final Report. C.A. Stewart, G.T. Almes, D.S. McCaulay and B.C. Wheeler, eds., 2010. Available from: <https://scholarworks.iu.edu/dspace/handle/2022/6701>. Also available as print on demand hardcopy from <https://www.createspace.com/3506064>

- Stewart, C.A. Progress Report on Implementation of Recommendations from the Indiana University Cyberinfrastructure Research Taskforce. 2010. <http://hdl.handle.net/2022/8974>
- Dreher, P., V. Agarwala, S. Ahalt, G. Almes, S. Fratkin, T. Hauser, J. Odegard, J. Pepin, and C.A. Stewart. Developing a Coherent Cyberinfrastructure from Local Campuses to National Facilities: Challenges and Strategies. 2009. <http://hdl.handle.net/2022/5122>
- Stewart, Craig A.; Link, Matthew; McCaulay, D. Scott; Rodgers, Greg; Turner, George; Hancock, David; Wang, Peng; Saied, Faisal; Pierce, Marlon; Aiken, Ross; Mueller, Matthias S.; Jurenz, Matthias; Lieber, Matthias; Tillotson, Jenett; Plale, Beth A. Application benchmark results for Big Red, an IBM e1350 BladeCenter Cluster. 2009. <http://hdl.handle.net/2022/5125>
- Stewart, C.A., S.C. Simms, C. Pilachowski and R. Bramley. *Acquisition of a High-Speed, High Capacity Storage System to Support Scientific Computing: The Data Capacitor Final Report*. Indiana University, Bloomington, IN, 2009. http://pti.iu.edu/reports/grant/data_capacitor
- Indiana University Research Data Management Taskforce. *Report of the Indiana University Research Data Management Taskforce*. 2007. <http://hdl.handle.net/2022/3294>
- McRobbie, M., K. Adams, M.P. Baker, G. Fox, D. Gannon, r. Heiland, A. Lumsdaine, D.F. McMullen, T. Miller, D. Siefert-Herron, C.A. Stewart, S. Wallace, M. Pierce and G. Travis. *Pervasive Technology Labs Program Report, July 2007*. 2007. <http://hdl.handle.net/2022/3210>
- McRobbie, M., M.P. Baker, G. Fox, D. Gannon, R. Heiland, A. Lumsdaine, D.F. McMullen, T. Miller, D. Siefert-Herron, C. Stewart, and S. Wallace. *Pervasive Technology Labs Program Report, July 2006*. 2006. <http://hdl.handle.net/2022/456>
- McRobbie, M., G. Fox, D. Gannon, M.J. Palakal, and C.A. Stewart. *Extensible Terascale Facility (ETF): Indiana-Purdue Grid (IP-Grid)*. Indiana University, Bloomington, IN, 2006. <http://hdl.handle.net/2022/472>
- McRobbie, M., K. Adams, M.P. Baker, G. Fox, D. Gannon, R. Heiland, A. Lumsdaine, D.F. McMullen, C.A. Stewart, and S. Wallace. *Pervasive Technology Labs Program Report, August 2005*. 2005. <http://hdl.handle.net/2022/455>
- McRobbie, M., R. Bramley, J.C. Huffman and C.A. Stewart. *Creation of the AVIDD Data Facility: A Distributed Facility for Managing, Analyzing and Visualizing Instrument-Driven Data (AVIDD)*. Indiana University, Bloomington, IN, 2003. <http://hdl.handle.net/2022/477>
- Stewart, C.A. *IU-IBM Protein Family Annotator Project Final Report*. 2004. <http://hdl.handle.net/2022/1830>
- Stewart, C.A. *IU-IBM DiscoveryLink Project Final Report*. 2003. <http://hdl.handle.net/2022/1831>
- Stewart, C.A., M. Papakhian, D. Hart, A. Shankar, A.D. Arenson, D.F. McMullen, M. Palakal, M. Dalkilic and P. Ortoleva. *2003 Report on Indiana University Accomplishments supported by Shared University Research Grants from IBM, Inc.*, 2003. <http://hdl.handle.net/2022/2186>
- Stewart, C.A., R. Bramley, G. Bernbom, J.W. Dunn, Z. Meglicki, D.F. McMullen, D. Hart and M. Papakhian. *Indiana University Shared University Research grants - Report on Accomplishments*. 2000. <http://hdl.handle.net/2022/2185>

POSITION PAPERS, AND CONGRESSIONAL TESTIMONY:

Coalition for Academic Scientific Computation. The future of the TeraGrid and the national advanced cyberinfrastructure: a perspective from the Coalition for Academic Scientific Computation. 2008. <http://hdl.handle.net/2022/3082>

Stewart, Craig A. Testimony before the United States House of Representatives Committee on Science and Technology Hearing on Leadership Under Challenge: Information Technology R&D in a Competitive World (2007 report of the President's Council of Advisors on Science and Technology). 2008. <http://hdl.handle.net/2022/5124>

Coalition for Academic Scientific Computation. Opportunities for Biomedical Research and the NIH through High Performance Computing and Data Management. 2003. <http://hdl.handle.net/2022/5123>

OTHER (NOT PEER-REVIEWED) PUBLICATIONS:

Stewart, C.A. State of the Coalition for Academic Scientific Computing (CASC) – 2008. <http://www.hpcwire.com/offthewire/State-of-the-Coalition-for-Academic-Scientific-Computing-CASC--2008-37099739.html>

McRobbie, M.A., K.R. Subbaswamy, D.C. Brater, and C.A. Stewart. Indiana University Life Sciences Strategic Plan. 2006. http://lifesciences.iu.edu/doc/strategic_plan.pdf

Lingwall, M., and C.A. Stewart. 2007. The Promise of Petascale Computing. http://www.bio-itworld.com/BioIT_Article.aspx?id=51184

Stewart, C.A. and G. Bertoline. I-Light: A Network for Collaboration Between Indiana University and Purdue University. In: Proceedings of the 2005 I-Light Conference. E.A. Wernert, G.R. Bertoline and G.S. Moore (eds). Indiana University Bloomington, IN. 2005. <http://hdl.handle.net/2022/435>

Stewart, C.A. 1992. Statistical and mathematical computing at IU: A look back; a look forward. UCS Times Nov-Dec 1992: 1-3. Published by University Computing Services, Indiana University Bloomington. <http://hdl.handle.net/2022/13618>

Stewart, C.A., 1991. Big improvements in statistical software support. UCS Times Sep-Oct 1991: 15-16. Published by University Computing Services, Indiana University Bloomington. <http://hdl.handle.net/2022/13609>

BOOKS AND JOURNAL ISSUES EDITED:

Lehner, W., N. Meyer, A. Streit, C. Stewart (eds.). Euro-Par 2006 Parallel Processing: Workshops: In: CoreGRID 2006, UNICORE Summit 2006, Petascale Computational Biology and Bioinformatics, Dresden, Germany (Lecture Notes in Computer Science). Springer-Verlag Berlin Heidelberg.

SPECIAL ISSUE: Bioinformatics: transforming biomedical research and medical care. *Communications of the ACM*. 47(11), November 2004. ISSN:0001-0782. <http://cacm.acm.org/magazines/2004/11>

Peromyscus Newsletter. Co-editor, 1997-1998. <http://stkctr.biol.sc.edu/Peromyscus.Newsletter.htm>

TUTORIALS:

Stewart, C.A. 2006. Scientific Data Management. Tutorial presented at PittCon 2006, 12-17 March 2006. Orlando, FL.

Stewart, C.A. 2005. Introduction to computational biology. Tutorial presented at High Performance Computing Center, Stuttgart. 1 July 2005, Stuttgart, Germany.

Stewart, C.A. 2005. Scientific Data Management. Tutorial presented at PittCon 2005, 27 Feb- 4 March, Orlando, FL.

Stewart, C.A., R. Repasky, A. Arenson. 2004. Open source tools for computational biology. Tutorial presented at SC2004, 6-12 Nov 2005, Pittsburgh, PA.

Stewart, C.A. 2004. Scientific Data Management. Tutorial presented at PittCon 2004, 7-12 Mar, Chicago, IL.

Stewart, C.A. 2003. Computational Biology. Tutorial presented at SC2003, 15-21 Nov, Phoenix, AZ.

Stewart, C.A. 2002. Scientific Data Management. Laboratory Information Management Systems Conference, 2-3 May, Philadelphia, PA.

Zorn, M., et al. 2000. Computational Biology and High Performance Computing. Tutorial presented at SC2000, Dallas, Nov. 2000. Also printed as a special report of Lawrence Berkeley National Laboratory. <http://cbcg.lbl.gov>

Hewitt, D., and C.A. Stewart. Online Help Systems and Knowledge Bases: Building a Virtual Helpdesk. Half-day tutorial given at CAUSE96, San Francisco, Dec. '96. <http://hdl.handle.net/2022/13611>

DATA SETS PUBLISHED:

Welch, V., Sheppard, R., Lingwall, M.J., Stewart, C.A. 2011. Current structure and past history of US cyberinfrastructure (data set and figures). <http://hdl.handle.net/2022/13136>

PRESENTATIONS:

2011

Stewart, C.A., and V. Welch. 2011. Overview of NSF ACCI Task Force on Campus Bridging Report. CASC (Coalition for Academic Scientific Computing) Meeting 17 March 2011. Arlington AV. Available <http://hdl.handle.net/2022/13421>.

Stewart, C.A. "Educational Applications of Supercomputing and Cyberinfrastructure." Presentation at KAUST Economic Development International Symposium at ISC'11, 21 June 2011. Available from: <http://hdl.handle.net/2022/13365>

Stewart, C.A. 2011. "Management and organizational structure of large scale innovative projects." Presentation. Presented at FLEET Working Group Meeting, 19 July, 2011, Vienna, Austria. Available from: <http://hdl.handle.net/2022/13403>

Stewart, C.A. 2011. "Communicating with government & public stakeholders." Presentation. Presented at FLEET Working Group Meeting, 19 July, 2011, Vienna, Austria. Available from: <http://hdl.handle.net/2022/13404>

Stewart, C.A. 2011. "A tale of two grids – Open Science Grid & TeraGrid." Presentation. Presented at FLEET Working Group Meeting, 20 July, 2011, Vienna, Austria. Available from: <http://hdl.handle.net/2022/13405>

Stewart, C.A. 2011. XSEDE Campus Bridging. CASC (Coalition for Academic Scientific Computation) Meeting. 7 September 2011. Arlington, VA. <http://hdl.handle.net/2022/13608>

Knepper, R., C.A. Stewart, and J.W. Ferguson. XSEDE Campus Bridging Birds of a Feather. (Presentation) TeraGrid '11 (Salt Lake City, UT, 18-21 Jul, 2011). Available from: <http://hdl.handle.net/2022/13423>

2010

Stewart, C.A. 2010. Future of Supercomputer Centers: an evolutionary ecology view. Presented as part of panel "Future of Supercomputing Centers" at SC10, New Orleans, LA, 19 November 2010. Panel organized by Thom Dunning, NCSA. Location: <http://hdl.handle.net/2022/9918>

2006

Stewart, C.A. 2006. Forschungsvorschlag: BLAST Leistungskennzeichnung, Leistungsanalyse, und Leistungsverbesserung. (Research proposal: BLAST performance measurement, analysis, and improvement). Technische Universität Dresden, Dresden, Germany. 11 April.

Stewart, C.A. 2006. Life Sciences and Cyberinfrastructure: a perspective from Indiana University. Colloquium. Technische Universität Dresden, Dresden, Germany. 18 April

Stewart, C.A. 2006. Life Science Software and High Performance Computing: Seminar Series Part I. Technische Universität Dresden, Dresden, Germany. 13 April

Stewart, C.A. 2006. Life Science Software and High Performance Computing. Seminar Series Part II. Technische Universität Dresden, Dresden, Germany. 20 April

Stewart, C.A. 2006. Life Science Software and High Performance Computing Seminar Series Part III. Technische Universität Dresden, Dresden, Germany. 25 April

Stewart, C.A. 2006. Life Science Software and High Performance Computing

Seminar Series Part IV. Technische Universität Dresden, Dresden, Germany. 27 April

2005

Indiana University. 2005. Research Works. Indiana University Display at SC2005, Seattle, WA.

Stewart, C.A., and G. Bertoline. 2005. I-Light: A Network for Collaboration between Indiana University and Purdue University. 22 September. I-Light Symposium

Stewart, C.A.. 2005. Research and Computing 23 September. . I-Light Symposium.

Stewart, C.A., and W. Stephan. 2005. The Health & Life Sciences Economy of Indiana: Today and Tomorrow. TechPoint Tech Summit 8, 1 November 2005.

2004

Indiana University. 2004. Display at IEEE/ACM SC2004 Conference.

Stewart, C.A. 2004. Bioinformatics: Have fun, change the world. 1 December 2004, Marian College, Indianapolis, Indiana

Stewart, C.A. 2004. Information technology, collaboration, and achieving IU's research goals. Indiana Research Symposium, Bloomington, IN 12 Nov 2004.

Stewart, C.A. 2004. BioGrids in the US: Current status and future opportunities. Presented at International School on Physics and Industry workshop on Particle Accelerators and Detectors: from Physics to Medicine. Ettore Majorana Foundation and Center for Scientific Culture, Erice, Italy. emcsc.ccsem.infn.it/ccsem2004/Iarocci.pdf

Stewart, C.A. 2004. Research and open source software. Techpoint panel led by Voss

Stewart, C.A. 2004. Transforming life science research with advanced Information Technology at Indiana University. IBM Life Sciences Symposium, May 31, Pällisades, NY.

Stewart, C.A. Information Technology Leadership & Strategies in the Life Sciences. Kelley School of Business, Bloomington IN, 2 Dec 2004

Stewart, C.A. 2004. IBM – IU Recent Research Activities and Collaboration Opportunities. Bloomington, IN, 18 May 2004

Stewart, C.A., A. Arenson, A. Shankar. 2004. The centralized life science data service at Indiana University. IBM solutions seminar, 2-3 March, Bethesda, MD.

Stewart, C.A., R. Keller, M. Hess, and M. Mueller. 2004. Global grid analysis of arthropod evolution. 7th HLRs Metacomputing and

GRID Workshop, Stuttgart, Germany 26-27 April, 2004. <http://www.hlr.de/news-events/events/2004/metacomputing/program.html>

Stewart, C.A., R. Repasky, J. Colbourne, D. Hart, D.K. Berry, R. Sheppard, E. Wernert, M. Papakhian, J.N. Huffman. 2004. Global analysis of arthropod evolution. 2nd I-light Symposium, DATE!!! <http://www.iupui.edu/~ilight/symposium04/index.html>

2003

Research in Indiana. Collaborative display by Indiana University, Purdue University, University of Notre Dame. Presented at SC2003, Phoenix, NM, November 2003. <http://www.research-indiana.org/>

Stewart, C.A. 2003. Global analysis of arthropod evolution. HPC Challenge presentation. SC2003. 19 November 2003, Phoenix, AZ.

Stewart, C.A. 2003. Information technology, collaboration, and achieving IU's research goals. Indiana University Research Symposium, Bloomington, IN DATE!!!! - I don't recall the date off the top of my head, but it was the day Andrea died

Stewart, C.A. 2003. RAC (Computational) Overview. Statewide IT Conference

Stewart, C.A. 2003. "Computational Biology: Practical lessons and thoughts for the future.," Presented at Technical University of Dresden, Germany, June 19, 2003.

Stewart, C.A.. 2003. "Computational biology: strategies and challenges," Presented at University of Stuttgart, Germany, June 17, 2003.

Stewart, C.A. 2003. "1 TFLOPS achieved with a distributed Linux Cluster," Department of Computer Science Colloquium, University of Stuttgart, Germany, 28 May.

Stewart, C.A. 2003. "Current challenges and opportunities in Biogrids," Presented at 6th Metacomputing Symposium, 22 May, 2003, High Performance Computing Center, Stuttgart, Germany.

Stewart, C.A. 2003. "Overview of supercomputing, grid, and computational biology activities at Indiana University," Presented at University of Stuttgart, Germany, May 14, 2003.

Stewart, C.A.. 2003. "INGEN's advanced IT facilities," Presented to Dept. of Psychiatry, IU School of Medicine. February, 2003.

Stewart, C.A. 2003. "INGEN's advanced IT facilities," Presented to Dept. of Physiology, IU School of Medicine. February, 2003.

Stewart, C.A. and A. Arenson. 2003. INGEN's Implementation of DiscoveryLink for data integration. "Discovery Link at IU: The Centralized Life Science Data (CLSD) Service", IBM/Lilly/IU Data Integration Conference, 17 January, Indianapolis, IN.

Stewart, C.A., and E. Wernert. 2003. "Computational Biology: Data, computation, and visualization," Presented at Arctic Region Supercomputing Center, Alaska, August 7, 2003.

2002

Indiana University. 2002. University Information Technology Services/INGEN IT Core display booth at Iconomy conference. Indiana Marriott. Jan 2003. <http://www.iconomy.org/>

Repasky, R., D. Hart, and C.A. Stewart. 2002. The Indiana Genomics Information Technology Core. INGEN Proteomics Symposium. 15 November, Indianapolis, IN.

Research in Indiana. Collaborative display by Indiana University, Purdue University, University of Notre Dame, and the Rose Hulman Institute of Technology. Presented at SC2002, Baltimore, MD, November 2002. <http://www.research-indiana.org/>

Stewart, C.A. 2002. "INGEN's advanced IT facilities," Presented to Division of of Nephrology, IU School of Medicine. November, 2002.

Stewart, C.A. 2002. "INGEN's advanced IT facilities," Presented to Indiana Health Industry Forum meeting, October 2002.

Stewart, C.A. 2002. "INGEN's advanced IT facilities," Presented to Wells Center, IU School of Medicine. June, 2002.

Stewart, C.A. 2002. "Indiana University facilities in support of Bioinformatics Research" School of Informatics, Indianapolis, IN.

Stewart., C.A. 2002. "Opportunities in bioinformatics," Department of Biology, Wittenberg University, Springfield, OH. April 28, 2002.

Stewart, C.A. 2002. "INGEN's advanced IT facilities," Presented to Department of of Endocrinology, IU School of Medicine. March, 2002.

Stewart, C.A. 2002. "INGEN's advanced IT facilities." Presented to Department of Medical Genetics, IU School of Medicine. January, 2002.

Stewart, C.A. (convenor).2002. "Computational Biology," Panel session at SC2002 conference. November 2002, Baltimore, MD. <http://www.sc-conference.org/sc2002/>

Stewart, C.A. 2002. "Implementing Advanced IT facilities for Indiana Genomics Initiative." Presentation to HPC@IDC User Forum, April '02, Sante Fe, NM.

2001

Research in Indiana. Collaborative display by Indiana University, Purdue University, University of Notre Dame, and the Rose Hulman Institute of Technology. Presented at SC2001, Denver, CO, November 2001. <http://www.research-indiana.org/>

Research in Indiana. Collaborative display by Indiana University, Purdue University, and the University of Notre Dame. Presented at SC2001, Denver, CO, November 2001. <http://www.research-indiana.org/>

2000

Stewart, C.A. and Z. Meglicki. 2000. "High Performance Storage System at Indiana University." Presented at High Performance Computing Center, University of Stuttgart symposium on massive storage systems. Jan 18, 2000.

Stewart, C.A., et al. 2000. Evolutionary biology and high performance computing. Presented at CASCON, Toronto, Canada, Nov. '9

Hart, D., Lauer, D.A., J.W. Naab, C.A. Stewart, and D.F.R. McMullen. 2000. "Performance of parallel programs on PC clusters: NT vs. Linux." Presented at 2000 SIAM conference on Computational Science and Engineering, 21-24 September, Washington, D.C. www.siam.org/meetings/cse00/

1990s

Stewart. C.A. 1999. IU's Compaq Parallel PC Cluster. Presented at Indiana University, March, 1999.

Stewart, C.A. Evolutionary Biology and Computational Grids. CASCON, Toronto, Canada. 10 Nov 1999

Stewart, C.A., D. Hart, D. K. Berry. 1998. Maximum likelihood estimation of phylogenetic relationships with geographically distributed supercomputers. Presented at CASCON, Toronto, Canada, Nov. '98.

Hart, D., J. Palmer, W. Fischer, S. Turner, D.K. Berry, E. Wernert, C.A. Stewart. 1998. Maximum Likelihood Analysis Of Phylogenetic Data. Presented at SC98, Orlando, FL, November 1998. <http://www.startup.net/igrid98/maxLikeAnApbionet98.html>

Voss, B., C.A. Stewart, and D. Jung-Gribble. 1996. "The leveraged support model." Presented CUMREC, May 1996.

Voss, B., C.A. Stewart, and D. Jung-Gribble. 1995. "The leveraged support model." Presented Educause, October 1995.

1980s

Stewart, C.A. 1986. Diurnal variation in metabolic parameters of white-footed mice (*Peromyscus leucopus*). Presented at annual meeting, American Society of Mammalogists, May, 1986.

Stewart, C.A. 1981. A preliminary analysis of diet and resource partitioning in *Etheostoma caeruleum* Storer and *Etheostoma flabellare* Rafinesque in Rock Run, Clark County, OH. Presented at Ohio Academy of Science, Wooster, OH. Ohio J. Science 81 (April Program Abstracts): 17.

Reash, R., and C.A. Stewart. 1981. Preliminary investigations of longitudinal distribution and fish species diversity in Rock Run, Clark County, Ohio. Beta Beta Beta Annual Meeting, Bios 52: 178 (abstract).

GRANTS, CONTRACTS, AND FELLOWSHIPS RECEIVED:

Current Grants:

Fox, G.C., L. Hayden, C.A. Stewart, M. Pierce, M. LeCompte. Acquisition of PolarGrid: Cyberinfrastructure for Polar Science. NSF. \$1,964,049. 8/1/2007 – 9/31/2010.

McCaulay, D.S., F. Luehring, C.A. Stewart. 2007. Open Science Grid Subcontract: Grid Operations Center. \$2,130,000. 2/1/2007 – 9/30/2012.

Stewart, C.A., D.S. McCaulay. 2011. Subcontract of NSF 0932251: TeraGrid Extension: Bridging to XD. NSF (subaward from University of Chicago). IU subcontract amount: \$1,835,000. 4/1/2010 – 3/31/2012

Stewart, C.A., B.A. Plale, D.S. McCaulay. Subcontract of NSF 0503697: Grid Infrastructure Group Providing System Management and Integration to the TeraGrid. NSF (sub-award from University of Chicago). IU subcontract amount: \$2,519,689. 8/1/2005 – 3/1/12.

McRobbie, M.A., K. Subbaswamy, T. Widlanski, P. Cherbas, C.A. Stewart. The Indiana METACyt Initiative. Lilly Endowment, Inc. 2005. \$53,000,000. 1/1/2005 – 12/31/2011. Stewart is Information Architect, and Co-Director of the Center for Computational Cytomics within the METACyt Initiative.

McRobbie, M.A., Pescovitz, O., et al. 2000. Indiana Genomics Initiative. Grant from Lilly Endowment, Inc. Stewart is Director of the Indiana Genomics Initiative Information Technology Core, budgeted at \$6,700,000.

Completed Grants:

Stewart, C.A., M. Bruhn, D.S. McCaulay. 2005. TeraGrid Resource Partners. NSF. \$4,414,078. 8/1/2005-6/31/2010.

Stewart, C.A., C. Pilachowski, R. Bramley, S. Simms. 2005. Major Research Infrastructure: Data Capacitor. \$1,720,000. 10/1/2005-9/30/2008.

Stewart, C.A. 2004. Center for Computational Homeland Security. Subcontract from Purdue University (A. Churvedi, Purdue PI). \$150,000

Stewart, C.A., A. Shankar, and A. Arenson. 2003. Consortium for Study of Fetal Alcohol syndrome - Information Technology Core. National Institutes of Health. \$324,000. 10/1/2003-9/30/2007.

McCaulay, D.S., B.A. Plale, S.D. Mooney, R. Bramley, R. Heiland, Y. Ma, C.A Stewart, A. Arenson, R. Repasky, E. Wernert. 2006. Taming the data deluge: Grid and Web services for managing massive flows of data. IBM Shared University Research grant (hardware grant).

Stewart, C.A., B. Voss, A. Shankar. 2005. TeraGrid: Early Operations. NSF. \$832,000.

McRobbie, M.A., Gannon, D., Voss, B., Stewart, C.A., et al. 2003. IP-Grid - Indiana Purdue Grid. National Science Foundation. \$2,900,000.

C.A. Stewart, M.A. McRobbie, O. Pescovitz, H. Edenberg, M. Dalkilic, J.C. Huffman, P. Cherbas, S. Kim, V. Moskvina, M. Papakhian, A. Shankar, R. Repasky, D. Hart, D. Steward. 2003. Data-intensive and distributed computing in the life sciences. IBM Inc. Shared University Research grant (hardware grant-in-kind).

Boerner, K., C.A. Stewart, E. Wernert. Sun Center of Excellence: Data Visualization. (hardware grant-in-kind).

Dalkilic, M., and C.A. Stewart. 2002. Development of the Protein Family Annotator. Joint Development Contract with IBM. Inc. \$35,000.

McRobbie, M.A., C.A. Stewart, R. Bramley, J.C. Huffman. 2001. Creation of the AVIDD Data Facility: A distributed facility for managing, Analyzing and Visualizing Instrument-Driven Data. NSF MRI grant, \$1,800,000.

Stewart, C.A., M.A. McRobbie, G. Bernbom, K. Dunn, S. Fang, D. Hart, G. Hutchins, B. Molitoris, S. Mukhopadhyay, P. Ortoleva, M. Palakal, R. Raje, R. Repasky, E. Wernert. 2001. Information Technology Applications for the Life Sciences. IBM Inc. Shared University Research grant (hardware grant-in-kind).

McRobbie, M.A., C.A. Stewart, R. Bramley, H. Cohn, P. Lugger, G. Martyna, G. Meglicki, S. Slavin. 2000. Tightly integrated distributed supercomputing: the Indiana TeraCloud. IBM Inc. Shared University Research grant (hardware grant-in-kind).

Maki, D., W.P. Ziemer, W.H. Wheeler, J. Hall, C.A. Stewart. 2000. WeBWorK: An Electronic Homework Environment for Mathematics and other academic disciplines. Sun Microsystems Inc. Academic Equipment Grant award (hardware grant-in-kind).

Bramley, R., M.A. McRobbie, C.A. Stewart, Z. Meglicki, D.F. McMullen, G. Bernbom. 1999. Infrastructure for deep computing: High Performance Computing component technologies and transparent, unlimited I/O in support of data-intensive research. IBM Inc. Shared University Research grant (hardware grant-in-kind).

Bramley, R., M.A. McRobbie, C. Stewart, C. Peebles, D.F. McMullen, Z. Meglicki, J. Villacis, T. Stuckey. 1998 Development of parallel component technologies for high performance computing. IBM Inc. Shared University Research grant (hardware grant-in-kind).

Stewart, C.A. 1982. Geographical variation in lipid stores of the white-footed mouse (*Peromyscus leucopus*). \$500 graduate student research support grant, Indiana Academy of Sciences.

AWARDS:

- 2007 Bandwidth Challenge Award at Supercomputing 2007 conference (<http://sc07.supercomputing.org/>) for a project using a wide area file system to support several data-intensive research projects, including analysis of amyloid proteins implicated in Alzheimer's disease.
- 2007 IEEE Bioinformatics and Bioengineering Excellence in Service Award
- 2006 Bandwidth Challenge honorable mention at Supercomputing 2006 conference (<http://sc06.supercomputing.org/>).
- 2003 High Performance Computing Challenge Award, at Supercomputing 2003 conference (<http://www.sc-conference.org/sc2003/>) Stewart led an international team that created a global grid of supercomputers spanning every continent except Antarctica to perform maximum likelihood analysis of DNA data to analyze the phylogenetic relationships of arthropods.
- 1981 Wittenberg University; Biology major of the year, Mathematics major final exam passed with distinction.

TECHNICAL SKILLS:

I have particular expertise in bioinformatics, especially computational phylogenetics and bioinformatics applications of high performance computers. I have had broad experience in Information Technology, including hands-on responsibility for support, systems administration, administrative applications, and networking. Quality assessment, business process improvement, delivery of online information, and customer service are also areas of expertise. Other technical skill areas include high performance computing architectures, online help systems, statistical and mathematical software, and Unix system administration.

LANGUAGE SKILLS:

German (read, write, speak). I am not quite fluent, but am able to carry on a prolonged technical conversation in German, or give a seminar in German.

PROFESSIONAL ASSOCIATION MEMBERSHIPS & ACTIVITIES:

Institute of Electrical and Electronics Engineers

Association for Computing Machinery

Formerly Chair, Coalition for Academic Scientific Computing, 2007-2008

STEERING & PROGRAM COMMITTEES

Current Steering, Advisory, and Program Committees:

Member, NSF Advisory Committee for Cyberinfrastructure

InCommon Steering Committee

NEESit Advisory Committee

University of Buffalo TeraGrid XD Technology Analysis Science Advisory Committee

Program Committee of CSEDU 2012 (“4th International Conference on Computer Supported Education”) (<http://www.csedu.org/>).

Recent Steering, Advisory, and Program Committees:

Chair, Advisory Committee for Cyberinfrastructure Task Force on Campus Bridging

Member, Kentucky Cyberinfrastructure Steering Committee, 2009

Executive Committee, Coalition for Academic Scientific Computation, 2009-2010

Reviewer, Aspirations in Computing Award, National Center for Women & IT (NCWIT)

OTHER INFORMATION:

USA Track & Field Member Number 6110304616