Henry Gordon Dietz (Hank Dietz), Professor and James F. Hardymon Chair in Networking

Degrees:

Ph.D. in Computer Science: 1987.
Department of Electrical Engineering, Polytechnic University, New York
M.S. in Computer Science.
Department of Electrical Engineering, Polytechnic Institute of New York, New York
B.S. in Computer Science.
Department of Electrical Engineering, Polytechnic Institute of New York, New York

Number of Years of Service on this faculty: 11

Employment at University of Kentucky

Professor and James F. Hardymon Chair in Networking, Department of Electrical and Computer Engineering. 1999 to present.

Other Related Experience:

Associate Professor, School of Electrical and Computer Engineering, Purdue University. 1992 to 2000.
Visiting Professor, Computing and Communications Research Center, Computer Science Department, Department of Electrical Engineering, and Institute for Biomedical Computing, Washington University, Missouri. 1997.
Assistant Professor, School of Electrical and Computer Engineering, Purdue University. 1986 to 1992.
Adjunct Professor, Department of Computer Science, Stevens Institute of Technology, New Jersey. 1985-1986
Academic Associate, Electrical Engineering Department, Computer Science Division, Polytechnic University, New York. 1984 to 1986.
Adjunct Lecturer, Department of Electrical Engineering, Computer Science Division, Polytechnic Institute of New York, New York. 1983-1984.

Consulting, Patents, etc.:

Consultant, various companies including Comstron, Thinking Machines Corporation, Lexmark, The Henry G. Dietz Co. Inc.; expert services for patent litigation. 1977 to present.
Patents in process: single-pattern structured light 3D capture, time-domain continuous imaging, SenScape multi-modal sensor integration, etc.
Founder, `Aggregate.Org` research consortium.
Open source software and hardware: *PCCTS/ANTLR* (Purdue Compiler Construction Tool Set / ANother Tool for Language Recognition), *CDR/BDR* (Cluster/Beowulf Design Rules) cluster supercomputer design tool, *SWAR* (SIMD Within A Register) compiler and libraries (libmmx, libsse, etc.), *FNN* (Flat Neighborhood Network) design tools and drivers, *AFAPI* (Aggregate Function Application Program Interface) library and various network hardware designs supporting it, *HelpMe* audio diagnostics, *Digital Fisheye Imaging for Under $20*, *MOG* (MIMD On GPU) environment, *Anaperture* single-lens anaglyph aperture design tool, etc.; most are available via links at `Aggregate.Org`

States in Which Registered:

None

Principle Publications (last 5 years):

"MIMD Interpretation on a GPU," Dietz, H.G.; Young, B.D.; *Languages and Compilers for Parallel Computing (LNCS)*, Springer; Volume 5898/2010, 2010, pp. 65-79 (15); http://www.springerlink.com/content/x3k8k3uw7j42j553/

"Hardware Support for OpenMP Collective Operations," Kim, S.P.; Midkiff, S.P.; Dietz, H.G.; *Languages and Compilers for Parallel Computing (LNCS)*, Springer; Volume 5898/2010, 2010, pp. 31-49 (15); http://www.springerlink.com/content/d508r4718jrq0575/

"Designing a Cluster for Your Application," Dieter, W.R.; Dietz, H.G.; *Computing in Science & Engineering,,* Volume 9, Number 4, July/August 2007, pp. 72-79 (9);http://doi.ieeecomputersociety.org/10.1109/MCSE.2007.73

"Low-Cost Microarchitectural Support for Improved Floating-Point Accuracy," Dieter, W.R.; Kaveti, A.; Dietz, H.G.; *Computer Architecture Letters,* Volume 6, Issue 1, January 2007, pp. 13-16 (4); http://ieeexplore.ieee.org/xpl/freeabs_all.jsp?arnumber=4278827

"Floating-Point Computation with Just Enough Accuracy," Dietz, H.; Dieter, W.; Fisher, R.; Chang, K.; *Computational Science – ICCS 2006 (LNCS)* , Springer; Volume 3991/2006, May 2006, pp. 226-233 (8); http://www.springerlink.com/content/4r232uum684x2425/

"Manipulating MAXLIVE for Spill-Free Register Allocation", Arcot, S.D.; Dietz, H.G.; Rajachidambaram, S.P.; *Languages and Compilers for Parallel Computing (LNCS)*, Springer; Volume 4339/2006, May 2007, pp. 32-46 (15); http://doi.ieeecomputersociety.org/10.1109/MCSE.2007.73

"Sparse Flat Neighborhood Networks (SFNNs): Scalable Guaranteed Pairwise Bandwidth and Unit Latency", Mattox, T.I.; Dietz, H.G.; Dieter, W.R.; *International Parallel and Distributed Processing Symposium (IPDPS)*, April 2005, 8 pages; http://ieeexplore.ieee.org/Xplore/defdeny.jsp?url=/iel5/9722/30685/01420215.pdf&arnumber=1420215&code=2

Professional Memberships:

Member of IEEE, ACM, LPLUG

Honors and Awards:

James F. Hardymon Chair in Networking (since 1999), Gordon Bell Award (2000 Honorable Mention for supercomputing Price/Performance), Computerworld Smithsonian Lauriate (2001), Kentucky Colonel, various records for supercomputing price/performance

Institutional and Professional Service:

University Service: Member, Physical Sciences and Engineering Area Committee (Chairman in 2007-2008); Member, University of Kentucky Futures Task Force; Engineer's Day coordinator for the Electrical and Computer Engineering Department (1999-2007); member of various other college and department committees including the committee that created the Computer Engineering Degree Program; prior to coming to Kentucky, served as Computer Engineering Area Chairman at Purdue (1993-1994)

Professional Service: Co-founder of *EPICS* (Engineering Projects In Community Science) at Purdue University; various program committee member/chair positions for conferences including *ICPP* (International Conference on Parallel Processing), *LCPC* (Languages and Compilers for Parallel Computing), and *IPDPS* (International Parallel and Distributed Processing Symposium); author of the *Parallel Processing HOWTO* for the *Linux Documentation Project* (translated into multiple languages & bundled with Linux distributions); various open source projects

Percentage of time available for research or scholarly activities: 45%

Percentage of time committed to the program: 100%