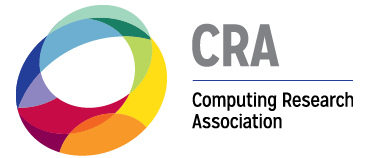


William Regli

Professor and Director, Computing, Institute for Systems Research & Department of Computer Science
The University of Maryland at College Park



Awards and Honors and Year Received

- 2017, Fellow of the Computer Society of the Institute of Electrical and Electronics Engineers (IEEE) for "contributions to 3D search, design repositories and intelligent manufacturing."
- 2016, Award for Excellence (Meritorious Service), Under Secretary of Defense (AT&L), United States Department of Defense
- 2010-2014, U.S. Department of State, Fulbright Specialist Scholar (2010-2011, Czech Republic, Czech Technical University, Prague)
- 2009, Frontiers of Engineering, National Academy of Engineering
- 1998, CAREER Award, National Science Foundation

Involvement in CRA Activities

- I have been an actively engaged in the mentoring and nomination of undergraduate researchers to the CRA's Undergraduate Research Award program. I have had 10 students receive acknowledgment through this program, including one winner (Lisa Anthony, 2001) and one finalist/runner-up (Dimitry Besspalov, 2004?). I have been an active follower of CRA's policy and advocacy work since my time in graduate school in the early 1990s.
- As a representative of DARPA, I was a panelist at the most recent CRA CCC "Addressing National Priorities and Societal Needs 2017" symposium.
- CCC Vice Chair Mark D. Hill volunteered this text for my application: I encouraged Dr. Regli to run for CRA board and strongly endorse him, because of his effective, articulate advocacy of CS at DARPA DSO and in DC in general, as well as the great value his DARPA insights might provide CRA and CS community. I would also value him on CCC, but an institution conflict precludes this at this time.

Other Relevant Experience

- 2018-Present: Director, University of Maryland Institute for Systems Research (ISR), Clark School of Engineering; and Professor of Computer Science, College of Computing, Mathematics and Natural Sciences. The University of Maryland at College Park.

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- 2014-2017: Member of the leadership team of the Defense Advanced Research Projects Agency (DARPA). Deputy Director (2014-2016), Acting Director (2017) of the Defense Sciences Office (DSO). United States Department of Defense.
- 2010-2014: Scientific Adviser to Defense Programs, Office of the Nuclear Stockpile (NA-122), National Nuclear Security Administration (NNSA), United States Department of Energy.
- 1997-2014: Various roles at Drexel University, including Professor, multi-college/university wide Institute director, and Associate Dean for Research in the College of Computing and Informatics.
- 1992-1996: Computer Scientist and National Research Council Postdoctoral Fellow, Manufacturing Engineering Laboratory, National Institute of Standards and Technology (NIST).

Research Interests

Artificial Intelligence, Modeling and Simulation, Computer Graphics,

Personal Statement

I advocate computer science play a central role in national and global issues. Beyond my academic career, I have worked for three different government agencies and seen the fundamental role of computing in topics as diverse as nuclear weapons to infectious disease. As the only computer scientist to hold a leadership position for the Defense Science Office at DARPA, I had the opportunity to develop projects in which computing was use to transform science and engineering problems. I am seeking to commit my energy and experiences to advance my community's capacity to contribute to national and planetary well-being.

Abbreviated Curriculum Vitae: William C. Regli

October 21, 2017

Education:

Ph.D.	1995 December 22	University of Maryland at College Park	Computer Science
B.S.	1989 May 20	Saint Joseph's University	Math and CS

Employment:¹

Date	Position	Institution
01/18–present	Director	Institute for Systems Research
	Professor	Department of Electrical and Computer Engineering
		Department of Mechanical Engineering
		Clark School of Engineering
	Professor	Department of Computer Science
		College of Computing, Mathematics and Natural Sciences
		The University of Maryland at College Park
1/13–present	Founder and Adviser	Bellerophon Mobile LLC
08/03–present	Founder and Adviser	Drakontas LLC
07/17–12/17	Special Assistant to the Director	Defense Advanced Research Projects Agency (DARPA)
01/17–07/17	Acting Director	Defense Sciences Office (DSO)
		Defense Advanced Research Projects Agency (DARPA)
09/14–01/17	Deputy Director	Defense Sciences Office (DSO)
		Defense Advanced Research Projects Agency (DARPA)
09/07–12/17	Professor	Drexel University
12/10–9/14	Scientific Adviser	United States Department of Energy (DoE)
		National Nuclear Security Administration (NNSA)
		Office of Nuclear Stockpile, Defense Programs, NA-122.1
09/13–8/14	Senior Associate Dean	College of Computing & Informatics
07/12–09/13	Associate Dean for Research	The iSchool at Drexel University
06/08–08/10	Executive Director	Drexel University
		AJ Drexel Applied Communications and Information
		Networking Institute
09/03–05/05	Visiting Researcher	Advanced Technology Labs
		Lockheed Martin Corporation
09/01–08/07	Associate Professor	Drexel University
06/99–09/99	Visiting Researcher	AT&T Labs
07/97–08/01	Assistant Professor	Drexel University
01/97–09/97	Visiting Research Engineer	Carnegie Mellon University
01/96–01/97	Post-Doctoral Research Associate	National Institute of Standards and Technology (NIST)
05/92–12/95	Computer Scientist	National Institute of Standards and Technology (NIST)

Recent & Relevant Fellowships, Prizes, and Awards

Date	Award	Institution/Organization
2017	Fellow of the Institute of Electrical and Electronics Engineers (IEEE)	
	For “contributions to 3D search, design repositories and intelligent manufacturing.”	
2016	Award for Excellence (Meritorious Service during FY 2015)	
	Under Secretary of Defense (AT&L), United States Department of Defense	

¹Employment status effective January 1st, 2018.

2015	NAE/NAS/NIM President's Circle Invitee	
2013	NAE/Keck Futures Meeting, Future of Nuclear Technologies	
2010–2014	U.S. Department of State	Fulbright Specialist Roster
	2010–2011, Czech Republic, Czech Technical University, Prague	
2010	467th Fastest Growing Company in the USA, Inc Magazine (Drakontas)	
2009	7th Fastest Growing Company	Philadelphia "100" (Drakontas)
2009	Frontiers of Engineering (invitation)	National Academy of Engineering
2009	Deployed Application Award	Innovative Applications of Artificial Intelligence (IAAI/AAAI)
2008	Director's Recognition Award	US Army, CERDEC
		~ Space and Terrestrial Communications Directorate (S&TCD)
2007	"Simulation and C2 Information Systems Connectivity Experimentation Program (SINCE)"	
	Best NCW Program from a Coalition Partner; Network Centric Warfare (NCW) Conference	
	The Institute for Defense and Government Advancement	
2006	"Simulation and C2 Information Systems Connectivity Experimentation Program (SINCE)"	
	Int'l Collaboration Award, 25th Army Science Conference, December 2006	
2005	Best Paper	IEEE Swarm Intelligence Symposium
1998	CAREER Award	National Science Foundation

Recent Editorials and Archival Journal Publications (Since 2010)

1. Design and Intelligent Machines, *AI Magazine*, Summer 2017.
2. Building DARPA's Brain, *IEEE Intelligent Systems*, July/August 2017.
3. Past as Prolog(ue): Humans, Machines, and 20 Years of Internet Computing, *IEEE Internet Computing*, Volume: 21, Issue: 3, May-June 2017, pp 8–10.
4. Wanted: Toolsmiths. *Communications of the ACM*, Volume 60, Number 4, March 2017, pp 26–28.
5. Car Parts, Neutrons, and Bridges, *SIAM News*, July 21, 2016.
6. Revisiting the Human-Machine Symbiosis, *Computing Research Association (CRA) Bulletin*, April 6, 2016, \small<http://cra.org/revisiting-human-machine-symbiosis/>.
7. The new frontiers in computational modeling of material structures, with Jarek Rossignac, Vadim Shapiro, and Vijay Srinivasan. *The Journal of Computer-Aided Design*, Volume 77, Issue C, August 2016, pp 73–85.
8. Development and Specification of a Reference Architecture for Agent-Based Systems, with I. Mayk, D. Nugyen, C. T. Cannon, B. Kopena, R. N. Lass, W. M. Mongan, J. K. Salvage, E. A. Sultanik, K. Usbeck. *IEEE Transactions on Systems, Man and Cybernetics: Systems*, Volume 44, Number 2, February 2014, pp 146–161.
9. A Flexible and Extensible Approach to Automated CAD/CAM Format Classification, with Vincent Cicirello. *Computers & Graphics*, Volume 37, Issue 5, August 2013, pp 484–495.
10. Network-Centric IED Detection Planning, with Kyle Usbeck and Jeffrey Cleveland. *International Journal of Intelligent Defence Support Systems*. Volume 5, Number 1, 2012, pp 44–74.
11. Intelligent Support for Product Design: Looking Backward, Looking Forward, with Alice M. Agogino, Ashok K. Goel, Caroline C. Hayes and Irem Y. Tumer. *Transactions of the ASME, Journal of Computer and Information Science in Engineering* "10th Anniversary Special Issue," Volume 11, Issue 2, June 2011.
12. A Case Study in Physics-Based Simulation of a Snake Robot, with Richard Primerano and David Wilkie. *IEEE Transactions on Automation Science and Engineering*, Volume 8, Issue 3, July 2011. pp 664–671.
13. On the long-term retention of geometry-centric digital engineering artifacts, with Joseph Kopena and Michael Grauer. *Journal of Computer Aided Design*, Special issue from the SIAM/ACM Joint Sym-

- posium on Geometric and Physical Modeling. Volume 43, Number 7, July 2011. pp 820–837.
14. Putting the Crowd to Work in a Knowledge-Based Factory, with J. R. Corney, C. Torres-Sanchez, A. P. Jagadeesan, X. T. Yan and H. Medellin. *Advanced Engineering Informatics*, Volume 24, Issue 3, August 2010. pp 243–250.
 15. Outsourcing labour to the cloud, with Jonathan Corney, Carmen Torres-Sanchez, and A. Prasanna Jagadeesan. *International Journal of Innovation and Sustainable Development*, Volume 4, Number 4, 7 May 2010, pp. 294–313.
 16. Archiving the Semantics of Digital Engineering Artifacts: A Case Study, with Michael Grauer, David Wilkie, Joseph Kopena, Martin Piecyk, Jordan Osecki, Tim Simpson, Matt Bohm, Kemper Lewis and Rob Stone. *AI Magazine*, Special Issue from IAAI-09. Volume 31, Number 1, Spring 2010, pp 37–50.

Recent Peer-Reviewed Conference Papers (since 2010)

1. Dynamic Selection of Persistence and Transport Layer Protocols in Challenged Networks, with Aaron M. Rosenfeld, Robert N. Lass, and Joseph P. Macker. IEEE Military Communications Conference. San Diego, CA. November 2013.
2. Scalable and Robust Multi-agent Planning with Approximated DCOP, with Antonin Komenda, Robert N. Lass, Peter Novak and Michal Pechoucek. OPTMAS 2013 6th International Workshop on Optimisation in Multi-Agent Systems (in conjunction with AAMAS 2013 6th-7th May 2013, Minneapolis, MN).
3. SISTO: A proposal for serverless information services for tactical operations, Shur, D. ; Samtani, S. ; Fecko, M. ; Manousakis, K. ; Kaul, V. ; Regli, W.C. ; Kopena, J. IEEE Military Communications Conference, 2012—MILCOM 2012. Orlando, FL, October 29 – November 01. pp 1–6.
4. A comparison of group-based data persistence techniques in manets, Aaron M. Rosenfeld, Robert N. Lass, Dustin S. Ingram, William C. Regli, and Joseph P. Macker, IEEE Military Communications Conference, 2012—MILCOM 2012. Orlando, FL, October 29 – November 01.
5. Multi-Agent Simulation of En-Route Human Air-Traffic Controller, David Sislak, Premysl Volf, Michal Pechoucek, Christopher T. Cannon, Duc N. Nguyen, William C. Regli. Conference on Innovative Applications of Artificial Intelligence (IAAI), 2012.
6. An Evaluation of Serveless Group Chat, with R. Brian Adamson, Robert N. Lass, Joseph P. Macker, David Millar, Duc N. Nguyen. IEEE MilCom 2011, 8–10 November 2011, Baltimore, MD.
7. Human-Centered Network Visualizer: Visual abstractions of network operations in a tactical environment Cannon, C.T.; Pellegrino, D.A.; Hewett, T.T.; Regli, W.C.; Oddo, G. IEEE Military Communications Conference, 2011—MILCOM 2011
8. Net-centric information and knowledge management and dissemination for data-to-decision C2 applications using intelligent agents and service-oriented architectures Mayk, I.; Regli, W.; Nguyen, D.; Mai, M.; Chan, A.; Urness, T.; Goren, B.; Kizenko, S.; Randles, S.; Jastrebski, Z.; Ruschmeyer, J.; Lehman, L.; McCurdy, M.; Millar, D.; Simmons, I.; Cannon, C.; Kopena, J.; Patwardhan, A.; Tassone, G.; Lindquist, J.; Jewell, G.; Forkenbrock, R.; Nicholson, M.; Koss, F.; Wray, R.; Bradshaw, J.; Lott, J. IEEE Military Communications Conference, 2011 - MILCOM 2011; Digital Object Identifier: 10.1109/MILCOM.2011.6127531 Publication Year: 2011 , Page(s): 1568 - 1573
9. A Gossip-based Synchronization Protocol for State Consistency in Distributed Applications, Aaron M. Rosenfeld, Dara Kusic, Joseph B. Kopena, and William C. Regli, MobiHoc Tactical MANET Workshop (2011).
10. Tactical Information Technology for Assured Network Operations (TITAN) Information Dissemination and Management (ID&M) for Battle Command (BC) Support Services, with I. Mayk, M. Mai, A. Chan, T. Urness, B. Goren, S. Randles, Z. Jastrebski, W. Chatam, J. Ruschmeyer, Lex Lehman, D. Nguyen, M. McCurdy, D. Millar, I. Simmons, C. Cannon, W. Regli, A. Patwardhan, G. Tassone,

- J. Lindquist, G. Jewell, R. Forkenbrock, J. Moyer, Matt Nicholson, F. Koss, R. Wray, Mike Nardone, J. Bradshaw, J. Lott, P. Smith, A. Borgman and J. Dustin. 27th Army Science Conference, Orlando, Florida, November 29–December 2, 2010.
11. XO: XMPP Overlay Service for Distributed Chat, with Robert N. Lass, Joe Macker, David Millar, and Ian Taylor. MilCom 2010: Military Communications Conference, Oct 31–Nov 3, San Jose, CA.
 12. Fast Human Classification of 3D Object Benchmarks, with A. Prasanna Jagadeesan, Jan Wenzel, Jonathan R. Corney, Xiu Yan, Andrew Sherlock, Carmen Torres-Sanchez. 3DOR 2010: 55-62
 13. A Methodology for Developing an Agent Systems Reference Architecture, with Duc N. Nguyen, Kyle Usbeck, William M. Mongan, Christopher T. Cannon, Robert N. Lass, Jeff K. Salvage, Israel Mayk, Todd Urness. AOSE 2010: 177-188
 14. Distributed Scheduling Using Constraint Optimization and Multiagent Path Planning, with Cannon, C. T.; Lass, R. N.; Sultanik, E. A.; Sislak, D.; and Pechoucek, M., 2010. In Proceedings of the 12th International Workshop on Distributed Constraint Reasoning, 20-32, Toronto, Canada.
 15. Dominating Sets of Agents in Visibility Graphs: Distributed Algorithms for Art Gallery Problems. Evan A. Sultanik, Ali Shokoufandeh, and William C. Regli. In Proceedings of the International Conference on Autonomous Agents and Multiagent Systems. May, 2010, Toronto, ON, Canada. pp. 797-804.
 16. Ontologies for Distributed Command and Control Messaging, with Duc N. Nguyen, Joseph B. Kopena and Boon Thau Loo. Proceedings of the International Conference on Formal Ontology in Information Systems, May 2010.
 17. Towards Crowdsourcing Translation Tasks in Library Cataloging, with Jonathan Corney, Andrew Lynn, Carmen Torres, and Paola Di Maio. 2010 IEEE International Conference on Digital Ecosystems and Technologies (IEEE DEST 2010), Dubai, U.A.E., April 2010.

Most Recent 10 Research Contracts, Grants and Donations

Total² grant and contract award activity as (PI, co-PI or Senior Personnel) since joining Drexel University on 07/01/97 is in excess of \$87,203,179, of which \$13,722,134 is as Principal Investigator. These grants and contracts funded \$23,017,329 in activities at Drexel University.

10/2013–09/2016

Vadim Shapiro (PI) and William Regli

“The Informatics of Making,” National Science Foundation, Division of Civil, Mechanical, and Manufacturing Innovation, Grant CMMI-#1344205 “INSPIRE Track 1: The Informatics of Making,” \$799,672.00. (Drexel portion \$300,000).

1/2012–12/2015

William Regli (PI) and Joseph B. Kopena

“THOR: TACTICAL HETEROGENEOUS ONTOLOGY REPRESENTATION: Phase II,” (plus up) Defense Advanced Research Projects Agency (DARPA), CONTENT-BASED MOBILE EDGE NETWORKING (CBMEN), BAA 11-51. \$669,504.

06/2013–05/2014

Stuart Wagner (PI), CJ Taylor, William Regli

“MARAN: Mission Aware Robotics-Assisted Networking,” Telcordia/ACS/UPenn/Drexel seedling grant from DARPA, \$45,086.49.

05/2013–06/2014

Brian Daly, Frank J. Lee, James Connell and William Regli

²Does not include “in kind” contributions, GFE or donations.

MindFun: Using Video Games for Enhancing Executive Function for Children with ADHD. Shire Pharmaceuticals Innovation Fund, \$200,000.

02/2013–09/2014

William Regli, Lori Richards

An Infrastructure to support Scientific Research Data Curation at the FAA, Task #6 under DTFATC-12-A-80003-TO6-1, \$250,000, Federal Aviation Administration, William J. Hughes Technical Center.

10/2012–09/2014

David Shur (PI), William Regli et al.

“Serverless Information Services based on Torrents (SISTO)”, with Applied Communications Sciences (formerly Telcordia Technologies) under Office of Naval Research ONR BAA 11-007, \$301,327.00

12/2011–12/2013

“Overlays for Group Communications on Heterogeneous Networks,” U.S. Naval Research Laboratories, Networks and Communication Systems, Information Technology Division, Code 5520. \$550,000.

10/2011–03/2016

Reagan W Moore (PI), Jonathan L Goodall, John A Orcutt, Arcot K Rajasekar, William C Regli

“DataNet Federation Consortium,” NSF 07-601, OCI-0940841, National Science Foundation, Office of Cyber-Infrastructure. \$7,999,998 (est); Drexel Portion, \$500,000 (est).

3/2011–3/2012.

William Regli (PI)

“C2MAX: Mobile Situation Awareness” Phase 11, U.S. Army, CECOM, C2D Directorate, Subaward under DoD contract DAAB07-01-9-L504. \$200,000.

01/2011–06/2011

Robert Wray (PI), William Regli, Joseph Kopena

“CODESMART,” U.S. Army, CERDEC, S&TCD, NetOps Branch, SBIR Phase I A09-150. Total program funding, \$100,000 to SOAR Technologies; Drexel portion, \$22,000.