

CURRICULUM VITAE

University of Idaho

NAME: Soule, Terence

DATE: February 25, 2016

RANK OR TITLE: Professor

DEPARTMENT: Computer Science

OFFICE LOCATION AND CAMPUS ZIP: JEB 229, 1010

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DATE OF FIRST EMPLOYMENT AT UI: August 2000

DATE OF TENURE: 2006

DATE OF PRESENT RANK OR TITLE: 2014

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Ph.D., University of Idaho, Moscow, Idaho, May 1998, Computer Science, Summa cum Laude

M.S., Washington State University, Pullman, Washington, December 1994, Physics

B.A., Reed College, Portland, Oregon, May 1991, Physics, Commendation for excellence in scholarship.

EXPERIENCE:

Teaching, Extension and Research Appointments:

Associate Professor, University of Idaho, Moscow, Idaho, 2006-present.

Member, BCB Program, University of Idaho, Moscow, Idaho, 2003-present.

Member, Neuroscience Program, University of Idaho, Moscow, 2003-present.

Director, Neuroscience Program, University of Idaho, Moscow, Idaho, Fall 2009-Spring 2012.

Assistant Professor, University of Idaho, Moscow, Idaho, 2000-2006.

Assistant Professor, St. Cloud State University, St. Cloud, Minnesota, 1998-2000.

Teaching Assistant, University of Idaho, Moscow, Idaho, 1994-98.

Teaching Assistant, WSU, Pullman, Washington, 1992-94.

Instructor, Midlands Technical College, Columbia, South Carolina, 1991-92.

Consulting:

Xcraft, phone to drone connections, 2015

BioXcelerator, using evolutionary techniques to improve industrial processes, 2009-present.

Aurum Industries, St Cloud, Minnesota, assisted with writing NSF-SBIR grant applications, Summer 2001, Summer 2002.

TEACHING ACCOMPLISHMENTS:

Areas of Specialization:

Computer Science: Evolutionary computation and bioinformatics.

Introductory Programming

Courses Taught:

University of Idaho:

Computational Thinking and Problem Solving, CS112, Spring 2013,2014,

Computer Science 404 Video Games and Evolution, Spring 2014

Computer Science 504 Smartphone Robots, Spring 2013

Computer Science 404/504 COTSBots, Spring 2012

Artificial Intelligence, CS470/570 Fall 2000, 2001, 2003, Spring 2005, 2007-2013

Evolutionary Computation, CS472/572 Spring 2001, 2002, 2003, Fall 2005, 2007, 2009, 2011,2015

Courses Taught (cont.):

Topics in Neuroscience, Neuro 508, Fall 2009, 2010, 2011, Spring 2010, 2011, 2012
 Stochastic and Evolutionary Optimization for Industrial and Laboratory Applications CS504, Spring 2010
 Reading, Writing, and Research, CS504, Fall 2006, 2007
 Theory of Computation, CS490 (Math385), Fall 2002, 2010, 2012
 Computer Languages, CS310, Spring 2004, Fall 2004
 Computer Science I, CS120, Fall 2005, 2008, 2011, 2012,2014,2015 Spring, 2006, 2011, 2013,
 Computer Science II, CS121, Spring 2007
 Seminar, CS401/501, Fall 2008
 Computer Science as a Profession, Fall 2008
 Computer Science 101, Fall 2009

St. Cloud State University:

Evolutionary Computation, CSCI475/575 Fall 1999
 Introduction to the Theory of Computation, CSCI490, Spring 2000
 Computer Security, CSCI494/694, Fall 1999
 Introduction to Data Structures and Algorithms, CSCI 301, Fall 1999
 Computers in Society CSCI169 Fall 200
 Fundamentals of Computer Science, CSCI 201, Spring 2000

Midlands Technical College:

Remedial Math, Fall 1991, Winter 1991, Spring 1992
 Mechanical Physics, Spring 1992

Students Advised:

Undergraduate Students:

I typically advise 20-25 undergraduate students a year.

Graduate Students:

Major Professor:

Completed:

Juan Felipe Marulanda Arias, MS, Computer Science, Dec. 2014.
 Lungsi Sharma, PhD, Neuroscience
 Dallas Stinger, MS, Computer Science, Dec. 2012.
 Matt Settles, PhD, Bioinformatics and Computational Biology, Dec. 2011.
 Tim Tate, MS, Computer Science, Dec, 2010.
 Brandon Morton, M.S., Computer Science, 2010
 Tim Meekhof, M.S., Computer Science, August, 2009.
 Stan Gotshall, Ph.D., Computer Science, August 2007
 Russell Thomason, MS, Computer Science, August 2007
 Jason Stevens, MS, Computer Science, May 2007
 Al Piszcz, Ph.D., Computer Science, 2006
 Sireesha Besetti, M.S., (Thesis) BCB, December 2005
 Xian Liu, M.S., (Thesis) Computer Science, June 2005
 Stan Gotshall, M.S. (Thesis), Computer Science, May 2005
 Matt Settles, M.S. (Thesis), Computer Science, May 2005
 Jeremy Duffy, M.S. (Project), Computer Science, May 2005
 Pavankumarreddy Komireddy, M.S. (Project), Computer Science, December 2004
 Chris Willis-Ford, M.S. (Thesis), Computer Science, December 2004
 Ed Flowers, M.S. (Thesis), Computer Science, video outreach, May 2004
 Joe Richards, M.S. (Thesis), Computer Science, video outreach, December 2003
 YingYing Chen, M.S. (Thesis), Computer Science, May 2003
 Gang Wang, M.S. (Thesis), Computer Science, August 2002
 Wei Quan, M.S. (Project), Computer Science, May 2002

In Progress:

Travis DeVault, MS, Computer Science

Juan Felipe Marulanda Arias, PhD, Computer Science

Courses Developed:

Video Games and Evolution, CS404 (University of Idaho)
 Computational Thinking and Problem Solving, CS112 (University of Idaho)
 COTSBots, CS404/504 (University of Idaho)
 Stochastic and Evolutionary Optimization for Industrial and Laboratory Applications CS504 (University of Idaho)
 Reading, Writing, and Research CS504 (University of Idaho)
 Computer Security, CSCI475/694 (St. Cloud State University)

Non-credit Classes, Workshops, Seminars, Invited Lectures, etc.:

Week-long summer coding camp for middle-school girls, 2013, 2014, 2015
 Week-long Java camp for middle and high school students 2014, 2015
 Invited Seminar, Syracuse University, Fall 2012.
 Invited Seminar Eastern Washington University, Spring 2012.
 Invited Seminar, Florida State University, Spring 2011.
 I regularly give presentations to CS401/501 (seminar) and Neuro508 (seminar). These presentations describe my research, at a level of detail suitable to the course, and are important in broadening students' understanding of the field of computer science and introducing them to the research that is taking place in the department.

Teaching Honors and Awards:

Outstanding Faculty Award, ACM, University of Idaho Computer Science Chapter, 2011, 2012
 Mid-Career Award, University of Idaho, 2012
 Outstanding Educator Award, College of Engineering, University of Idaho, 2008
 Outstanding Faculty Award, ACM, University of Idaho Computer Science Chapter, 2008
 Outstanding Faculty Award, Disability Services, 2001

SCHOLARSHIP ACCOMPLISHMENTS:

Publications, Exhibitions, Performances, Recitals: (* Indicates a student coauthor)

Refereed/Adjudicated Papers:

Amador, Julie M and Soule, Terence, "Girls Build Excitement for Math from Scratch", Mathematics Teaching in the Middle School, 20:7, pg. 408-415, JSTO, 2015.

*DeVault, Travis and *Forrest, Seth and *Tanimoto, Ian and Soule, Terence and Heckendorn, Robert Learning from Demonstration for Distributed, Encapsulated Evolution of Autonomous Outdoor Robots", Proceedings of the Companion Publication of the 2015 on Genetic and Evolutionary Computation Conference, pg. 1381-1382, ACM, 2015.

*Fairey, J. and Soule, T., "Evolution of Communication and Cooperation", Proceedings of the Sixteenth International Conference on Genetic and Evolutionary Computation Conference (GECCO), ACM, pg. 169-176, 2014.

*Kucharzyk, Katarzyna H. and Soule, Terence and Hess, Thomas F, "Maximizing microbial perchlorate degradation using a genetic algorithm: consortia optimization", Biodegradation, 24:5, ppg. 583-596, Springer, 2013.

Refereed/Adjudicated Papers (cont.):

*Leidenfrost, H. T., *Tate, T. T., Canning, R. J., Anderson, M. J., Soule, T., Edwards, D. B., Frenzel, J. F., "Autonomous Navigation of Forest Trails by an Industrial-Sized Robot" Transactions of the ASABE, 56:4, ppg. 1273-1290, 2013.

*Katarzyna H. Kucharzyk, Ronald L. Crawford, Andrzej J. Paszczynski, Terence Soule, Thomas F. Hess, "Maximizing microbial degradation of perchlorate using a genetic algorithm: Media optimization ", Journal of Biotechnology, Volume 157, Issue 1, January 2012, Pages 189-197

- *Solomon, Michael and Soule, Terence and Heckendorn, Robert B., “A comparison of a communication strategies in cooperative learning”, “Proceedings of the Fourteenth International Conference on Genetic and Evolutionary Computation Conference”, pp. 153-160, ACM, 2012. (Best paper award)
- Settles, Matthew L and Coram, Tristan and Soule, Terence and Robison, Barrie D, “An improved algorithm for the detection of genomic variation using short oligonucleotide expression microarrays”, *Molecular Ecology Resources*, 12:6, pp 1079-1089, 2012.
- Soule, Terence, “Evolutionary Dynamics of Tag Mediated Cooperation with Multi-Level Selection”, *Journal of Evolutionary Computation*, MIT Press, V19:1, 2011.
- Soule, T., and Heckendorn, R. B., “COTSBots: computationally powerful, low-cost robots for Computer Science curriculums”, *Journal of Computing Sciences in Colleges*, 27:1, pp. 180-187, 2011.
- *Lew, R. and Dyre, B.P. and Soule, T. and Ragsdale, S.A. and Werner, S., “ASSESSING MENTAL WORKLOAD FROM SKIN CONDUCTANCE AND PUPILLOMETRY USING WAVELETS AND GENETIC PROGRAMMING”, *Factors and Ergonomics Society Annual Meeting Proceedings*, 54:3, 254-258, 2010.
- *McMullin, M. and Soule, T., “Constant versus variable arity operators in genetic programming”, *Proceedings of the 12th annual conference on Genetic and evolutionary computation*, 987—988, ACM 2010.
- *Meekhof, T. and Soule, T., “Noise pressure: systematic overestimation of population fitness in genetic algorithms with noisy fitness functions”, *Proceedings of the 12th annual conference on Genetic and evolutionary computation*, 833—834, ACM, 2010.
- Soule, T. and Heckendorn, R.B., “A developmental algorithm for multi-agent swarms with scalable hierarchies”, *Proceedings of the 12th annual conference on Genetic and evolutionary computation*, 647—648, ACM, 2010.
- *Jones, Frank, Soule, T., “Dynamic particle swarm optimization via ring topologies”, *Conference on Genetic and Evolutionary Computation (GECCO-09)*, pp. 1745—1746, 2009.
- Soule, T., Heckendorn, R., “Environmental Robustness in Multi-agent Teams”, *Conference on Genetic and Evolutionary Computation (GECCO-09)*, pp. 177-184, 2009.
- *Meekhof, Tim, Soule, T., “Improving Markov Chain Classification using String Transformations and Evolutionary Search”, *Conference on Genetic and Evolutionary Computation (GECCO-09)*, pp. 1259—1266, 2009.
- *Thomason, Russell, Heckendorn, R. B., and Soule, T., “Training Time and Team Composition Robustness in Evolved Multi-agent Systems”, *Genetic Programming: Proceedings of the 6th European Conference on Genetic Programming, EuroGP 2008*, Lecture Notes in Computer Science 4971, Springer-Verlag, ppg. 1-12, 2008.

Refereed/Adjudicated Papers (cont.):

- *Gotshall, Stanley and Soule, T., “Evolving Stable Behavior in a Spino-neuromuscular System Model,” *the Conference on Genetic and Evolutionary Computation Conference (GECCO-2008)*, pp. 286, 2008.
- *Piszcz, Alan, and Soule, T. "Genetic Programming Profiling Reasonable Parameter Value Windows with Varying Problem Difficulty," *International Journal of Innovative Computing and Applications*, 1(2), 108120, 2007.

- *Gotshall, Stan, Browder, K., *Sampson, J., Wells, R., and Soule, T." Stochastic Optimization of a Biologically Plausible Spino-neuromuscular System Model - A Comparison with Human Subjects", *Genetic Programming and Evolvable Machines, Special Issue on Medical Applications*, Vol 8:4, pg. 355-380, 2007.
- *Gotshall, Stan, and Soule, T., "Stochastic Optimization of a Biologically Plausible Spino-neural Muscle Control Simulation" *the Conference on Genetic and Evolutionary Computation Conference (GECCO-2007)*, pp. 253-260, 2007.
- *Thomason, Russell, and Soule, T., "Novel Ways of Improving Cooperation and Performance in Ensemble Classifiers" *the Conference on Genetic and Evolutionary Computation Conference (GECCO2007)*, pp. 1708-1715, 2007.
- Soule, Terence, and Heckendorn, R. B., "Evolutionary Optimization of Cooperative Heterogeneous Teams", *SPIE Defense and Security Symposium*, Vol. 6563, 2007.
- *Shyu, C., Soule, T., *Bent, S., Foster, J.A., and Forney, L.J. "MiCA: A Web-Based Tool for the Analysis of Microbial Communities Based on Terminal-Restriction Fragment Length Polymorphisms (T-RFLP) of 16S and 18S rRNA Genes," *Microbial Ecology*, Volume 53:4, pp. 562-570, 2007.
- *Jones, J. and Soule, T. "Comparing Genetic Robustness in Generational vs. Steady State Evolutionary Algorithms", *the Conference on Genetic and Evolutionary Computation Conference (GECCO2006)*, pp. 143-149, 2006.
- *Zhong, X. and Soule, T. "Growth of Self-Canceling Genes in Evolutionary Systems", *the Conference on Genetic and Evolutionary Computation Conference (GECCO2006)*, pp. 223-229, 2006.
- *Piszcz, A. and Soule, T. "Dynamics of Evolutionary Robustness", *the Conference on Genetic and Evolutionary Computation Conference (GECCO2006)*, pp.871-877, 2006.
- *Piszcz, A., and Soule, T., "Genetic Programming: optimal population sizes for varying complexity problems," *The Conference on Genetic and Evolutionary Computation Conference (GECCO2006)*, pp. 953-954, 2006.
- *Piszcz, A., and Soule, T., "A Survey of Mutation Techniques in Genetic Programming," *The Conference on Genetic and Evolutionary Computation Conference (GECCO2006)*, pp. 951-952, 2006.
- Soule, T., "Resilient Individuals Improve Search," *Journal of Artificial Life*, Jan 2006, Vol. 12, No. 1: 17-34., 2006.
- Edlund , A., Soule, T., Sjöling, S. and Jansson, J.K. "Microbial community structure in Baltic Sea sediment along a pollution gradient," *Microbial Ecology*, V8:2, pp. 223-232, February, 2005.
- *Settles, M., *Nathan, P. and Soule, T. "Breeding Swarms: A new Approach to Recurrent Neural Network Training," *the Conference on Genetic and Evolutionary Computation Conference (GECCO2005)*, ACM Press, 185-192, 2005.
- *Settles, M., and Soule, T., "Breeding Swarms: A GA/PSO Hybrid," *the Conference on Genetic and Evolutionary Computation Conference (GECCO2005)*, ACM Press, 161-168, 2005.

Refereed/Adjudicated Papers (cont.):

- *Stevens, J., Heckendorn, R.B., and Soule, T., "Exploiting Disruption Aversion to Control Code Bloat," *the Conference on Genetic and Evolutionary Computation Conference (GECCO-2005)*, ACM Press, 1605-1612, 2005.

- *Willis-Ford, C., and Soule, T. "Non-Stationary Subtasks can Improve Diversity in Stationary Tasks" *the Conference on Genetic and Evolutionary Computation Conference (GECCO2004)*, 307-317, 2004.
- *Wang, G. and Soule, T. "How to Choose Appropriate Functions Sets for GP, " *Genetic Programming: Proceedings of the 7th European Conference on Genetic Programming, EuroGP 2004*, Lecture Notes in Computer Science, Springer-Verlag, 198-207, 2004.
- *Imamura, K., Soule, T., Heckendorn, R.B. and Foster, J. A. "Behavioral Diversity and a Probabilistically Optimal GP Ensemble," *Genetic Programming and Evolvable Machines*, Kluwer, 4:235-253, 2004.
- *Settles, M. and Soule, T., "Comparison of Genetic Algorithm and Particle Swarm Optimizer When Evolving a Recurrent Neural Network," *GECCO-2003: Proceedings of the Genetic and Evolutionary Computation Conference*, Chicago, IL, July 12-16, 2003.
- Soule, T. "Cooperative Evolution on the Intertwined Spirals Problem," *Genetic Programming: Proceedings of the 6th European Conference on Genetic Programming, EuroGP 2003*, Lecture Notes in Computer Science, Springer-Verlag, 2003.
- Soule, T. and Heckendorn, R.B., "An Analysis of the Causes of Code Growth in Genetic Programming," *Genetic Programming and Evolvable Machines*, September 2002, V3-3, 283-0310, Kluwer, 2002.
- Soule, T. "Exons and Code Growth in Genetic Programming," *Genetic Programming: Proceedings of the 5th European Conference on Genetic Programming, EuroGP 2002*, Lecture Notes in Computer Science, 2278, Springer-Verlag, 142-151, 2002.
- *Imamura, K., Heckendorn, R.B., Soule, T. and Foster, J.A., "N-Version Genetic Programming via Fault Masking," *Genetic Programming: Proceedings of the 5th European Conference on Genetic Programming, EuroGP 2002*, Lecture Notes in Computer Science, 2278, Springer-Verlag, 142-151, 2002.
- *Imamura, K., Heckendorn, R.B., Soule, T. and Foster, J.A., "Abstention Reduces Errors-decision Abstaining N-version Genetic Programming", *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO-2002)*, 796--803, Morgan Kaufmann Publishers Inc., 2002.
- *Rylander, B., Soule, T., Foster J.A., and Alves-Foss, J., "Quantum Evolutionary Programming," *GECCO-2001: Proceedings of the Genetic and Evolutionary Computation Conference*, Morgan Kaufmann, 1005-1011, 2001.
- Soule, T. and Ball, A.E., "A Genetic Algorithm with Multiple Reading Frames," *GECCO-2001: Proceedings of the Genetic and Evolutionary Computation Conference*, Morgan Kaufmann, 615-622, 2001.
- *Rylander, B., Soule, T., and Foster J.A., "Computational Complexity, Genetic Programming, and Implications," *Genetic Programming: Proceedings of the 4th European Conference, EuroGP2001*, Lecture Notes in Computer Science, 2038, Springer-Verlag, 348-360, 2001.
- Soule, T., "Heterogeneity and Specialization in Evolving Teams," *GECCO-2000: Proceedings of the Genetic and Evolutionary Computation Conference*, July 9-14, Las Vegas, Nevada, 2000.

Refereed/Adjudicated Papers (cont.):

- Soule, T., "Voting Teams: A Cooperative Approach to Non-Typical Problems," in Banzhaf, W., Daida, J., Eiben, A.E., Garzon, M.H., Harover, V., Jakiela, M., and Smith, R.E. editors,

GECCO-99: Proceedings of the Genetic and Evolutionary Computation Conference, July 13-17, Orlando, Florida, Morgan Kaufmann, 1999.

Soule, T., and Foster, J.A., "Removal Bias: A new Cause of Code Growth in Genetic Programming," The IEEE International Conference on Evolutionary Computation, 1998.

Soule, T., and Foster, J.A., "Effects of Code Growth and Parsimony Pressure on Populations in Genetic Programming," *Evolutionary Computation* 6(4), pg. 293-309, 1998.

Soule, T., and Foster, J.A., "Code Size and Depth Flows in Genetic Programming," *Genetic Programming 1997 Proceedings of the Second Annual Conference*, John R. Koza, Kalyanmoy Deb, Marco Dorigo, David B. Fogel, Max Garzon, Hitosho Iba, and Rick R. Riolo, editors, pages 313-320, San Francisco, California: Morgan Kaufmann, 1997.

Soule, T., and Foster, J.A., "Genetic Algorithm Hardness Measures Applied to the Maximum Clique Problem," *Proceedings of the Second Annual Conference on Genetic Algorithms*, Thomas Back, editor, pages 81-87, San Francisco, California: Morgan Kaufmann, 1997.

Soule, T., Foster, J.A., and Dickinson, J., "Code Growth in Genetic Programming," *Genetic Programming 1996 Proceedings of the First Annual Conference*, John R. Koza, David E. Goldberg, David B. Fogel, and Rick Riolo, editors, pages 215-223, Cambridge, Massachusetts: MIT Press, 1996.

Soule, T., Foster, J.A., and Dickinson, J., "Using Genetic Programming to Approximate Maximum Clique," *Genetic Programming 1996 Proceedings of the First Annual Conference*, John R. Koza, David E. Goldberg, David B. Fogel, and Rick Riolo, editors, pages 400-405, Cambridge, Massachusetts: MIT Press, 1996.

Walker, J. and Soule, T., "Chaos in a Simple Impact Oscillator: The Bender Bouncer," *American Journal of Physics*, Vol. 64 (4), April 1996.

Book Chapters:

Soule, T. and Heckendorn, R.B. "A Practical Platform for On-Line Genetic Programming for Robotics", *Genetic Programming Theory and Practice X*, Springer, 2012.

Soule, T. and Heckendorn, R.B. and Dyre, B. and *Lew, R. "Ensemble Classifiers: AdaBoost and Orthogonal Evolution of Teams, *Genetic Programming Theory and Practice VIII*. Pages. 55—69. 2010. Springer.

Soule, T., "Crossover and sampling biases," *Genetic Programming, Theory and Practice VI*, Springer, 2008.

Soule, T., Riolo, R. L., and Worzel, B., "Genetic Programming: Theory and Practice," *Programming, Theory and Practice VI*, Chapter 1, Springer, 2008.

Soule, T. and Heckendorn, R. B., "Improving Performance and Cooperation in Multi-Agent Systems," *Genetic Programming, Theory and Practice V*, chapter 13, pages 223-240. Ann Arbor, Springer, 2007.

Soule, T., Riolo, R. L., and Worzel, B., "Genetic Programming: Theory and Practice," *Genetic Programming, Theory and Practice V*, Chapter 1, pp. 1-12, Ann Arbor, Springer, 2007.

Book Chapters (cont.):

*Piszcz, A., and Soule, T., "Genetic Programming: Parametric Analysis of Structure Altering Mutation Techniques", *Parameter Setting in Evolutionary Algorithms*, Chapter 7, pp. 143-160, Springer, Series in Computational Intelligence 54. 2007.

- Soule, T. and Komireddy, P., "Orthogonal Evolution of Teams: A Class of Algorithms for Evolving Teams with Inversely Correlated Errors," *Genetic Programming, Theory and Practice IV*, Chapter 6, Springer, 2006.
- Soule, T., Riolo, R. L., and Worzel, B., "Genetic Programming: Theory and Practice," *Genetic Programming, Theory and Practice IV*, Chapter 1, pp. 1-10, Springer, 2006.
- *Hall, J. and Soule, T. "Does genetic programming inherently adopt structured design techniques?" *Genetic Programming, Theory and Practice II*, 159-174, 2004.
- Soule, T., "Operator Choice and the Evolution of Robust Solutions," *Genetic Programming, Theory and Practice I*, 257-270, 2003.
- Langdon, W.B., Soule, T., Poli, R., and Foster, J.A., "Evolution of size and shape," *Chapter for Advances in Genetic Programming III*, 163-190, 1999.

Books/Proceedings:

- Soule, T. "A Projected Based Introduction to C++", ISBN 978-1-4652-1328-0, KendallHunt, 2012
- Moore, J. and Soule, T., *Genetic and Evolutionary Computation Conference GECCO 2012, Proceedings of*, Sheridan Press, 2012.
- Riolo, R., Soule, T., Worzel, B., Editors, *Genetic Programming Theory and Practice (VI)*, Springer, 2008.
- Riolo, R., Soule, T., Worzel, B., Editors, *Genetic Programming Theory And Practice (V)*, Springer, 2007.
- Riolo, R., Soule, T., Worzel, B., Editors, *Genetic Programming Theory and Practice (IV)*, Springer, 2006.
- Keijzer, M., O'Reilly, U., Lucas, S., Costa, E., and Soule, T. editors *Genetic Programming: Proceedings of the 7th European Conference on Genetic Programming, EuroGP 2004*, Lecture Notes in Computer Science, Springer-Verlag, EuroGP 2004.
- Ryan, C., Soule, T., Keijzer, M., Tsang, E., and Poli, R., editors *Genetic Programming: Proceedings of the 6th European Conference on Genetic Programming, EuroGP 2003*, Lecture Notes in Computer Science, Springer-Verlag, EuroGP 2003.

Peer Reviewed/Evaluated:

- Soule, Terence and Robison, Barrie D and Heckendorn, Robert B., "Co-evolution of Sensor Morphology and Behavior", *Proceedings of the 2016 on Genetic and Evolutionary Computation Conference Companion*, 135—136, ACM, 2016.
- Cumbo, Kodi C.A.* and Heck, Samantha* and Tanimoto, Ian* and DeVault, Travis* and Heckendorn, Robert and Soule, Terence , "Bee-Inspired Landmark Recognition in Robotic Navigation", *Proceedings of the 2016 on Genetic and Evolutionary Computation Conference Companion*, 1039—1042, ACM, 2016.
- DeVault, Travis* and Forrest, Seth* and Tanimoto, Ian* and Soule, Terence and Heckendorn, Robert", *Learning from Demonstration for Distributed, Encapsulated Evolution of Autonomous Outdoor Robots*", *Proceedings of the Companion Publication of the 2015 on Genetic and Evolutionary Computation Conference*, 1381—1382, ACM, 2015.

Soule, Terence, “Designing and building powerful, inexpensive robots for evolutionary research”,
Proceeding of the fifteenth annual conference companion on Genetic and evolutionary
computation conference companion, ppg. 919-934, AM, 2013.

*Meekhof, T. and Soule, T., “Noise, fitness distribution, and selection intensity in genetic algorithms”,
Proceedings of the 13th annual conference companion on Genetic and evolutionary
computation, 147—148, 2011.

Peer Reviewed/Evaluated (cont.):

Soule, T. and Heckendorn, R.B., “Developmental scalable hierarchies for multi-agent swarms”,
Proceedings of the 13th annual conference companion on Genetic and evolutionary
computation, 207—208, 2011.

*K.H. Kucharzyk, T.F. Hess, A.J. Paszczyński, and T. Soule. “Use of a Genetic Algorithm to Increase
Degradation Rates of Perchlorate by Artificially Created Bacterial Consortia.” International
Symposium on Bioremediation and Sustainable Environmental Technologies, 2010 (*Winner
best Student Paper*).

*McMullin, M. and Soule, T., “Constant versus variable arity operators in genetic programming”,
Proceedings of the 12th annual conference on Genetic and evolutionary computation, 987—988,
2010

Soule, T. and Heckendorn, R.B, “A developmental algorithm for multi-agent swarms with scalable
hierarchies”, Proceedings of the 12th annual conference on Genetic and evolutionary
computation, 647—648, 2010.

*Hallin, J., Egbo, H., Ray, P., Soule, T., O'Rourke, M., Edwards, D., "Enabling Unmanned Underwater
Vehicles to Reason Hypothetically," Proceedings of Oceans '09 MTS/IEEE Biloxi, Biloxi,
Mississippi, October 26-29, 2009.

*Hallin, N.J., Johnson, B.L., Egbo, H.N., Ray, P.L., O'Rourke, M., Frenzel, J.F., Soule, T., Edwards,
D.B., "Using Language-Centered Intelligence to Optimize Mine-Like Object Inspections for a
Fleet of Autonomous Underwater Vehicles," Proceedings of the 16th International Symposium
on Unmanned Untethered Submersible Technology (UUST'09), Lee, New Hampshire, August
23-26, 2009.

*Hallin, N., Johnson, B., Egbo, H., O'Rourke, M., Soule, T., Edwards, D., "Simulating Human
Reasoning in Mine-Like Object Inspection Assignments for a Formation of Unmanned
Underwater Vehicles," Proceedings of the ECSIS Symposium on Learning and Adaptive
Behavior in Robotic Systems, Iasi, Romania, July 22-24, 2009.

*Alberts, Joel, Edwards, D., Soule, T., Anderson, M., O'Rourke, M., “Autonomous Navigation of an
Unmanned Ground Vehicle in Unstructured Forest Terrain,” *Bio-inspired, Learning and
Intelligent Systems for Security*, 2008.

*Evans, Daniel J and Manwaring, Mark L and Soule, Terence, “Inverse computational feedback
optimization imaging applied to time varying changes in a homogeneous structure”,
Engineering in Medicine and Biology Society, 2008. EMBS 2008. 30th Annual International
Conference of the IEEE}, pp. 3630—3633, 2008.

*Piszczyk, A. and Soule, T., “Genetic Programming: Analysis of Optimal Mutation Rates in a Problem
with Varying Difficulty” Proceedings of the Nineteenth International Florida Artificial
Intelligence Research Society Conference, pp. 451-456, American Association for Artificial
Intelligence, May 11-13 2006.

- Gotshall, S. and Soule, T. "Evolution of Biologically Plausible Behavior in a Model of the Spino-neuromuscular System," International Conference on Cognitive and Neural Systems, Boston University, 2006.
- *Piszcz, A. and Soule, T. " A Survey of Mutation Techniques in Genetic Programming", *the Conference on Genetic and Evolutionary Computation Conference (GECCO2006)*, 2006.
- *Thomason, R. and Soule, T. " Redundant Genes and the Evolution of Robustness", *the Conference on Genetic and Evolutionary Computation Conference (GECCO2006)*, 2006.

Peer Reviewed/Evaluated (cont.):

- *Piszcz, A. and Soule, T. "Genetic Programming: Optimal Population Sizes for Varying Complexity Problems", *the Conference on Genetic and Evolutionary Computation Conference (GECCO2006)*, 2005.
- *Settles, M., and Soule, T., "Choosing an Algorithm: An Experimental Comparison of the Genetic Algorithm and Binary Particle Swarm," Proceedings of the 17th IMACS World Congress Scientific Computation, Applied Mathematics and Simulation, in Press, 2005.
- *Gotshall, S., *Canine, C., *Jennings, B., and Soule, T. "Evolutionary Training of A Biologically Realistic Spino-neuromuscular System," *International Joint Conference on Neural Networks, IJCNN '05*.. pages: 280- 285, 2005.
- *Besetti, S. and Soule, T., "Function Choice, Resiliency and Growth in Genetic Programming," *the Conference on Genetic and Evolutionary Computation Conference (GECCO-2005)*, ACM Press, 1771-1772, 2005.
- *Quan, W., and Soule, T. "A Study of the Role of Single Node Mutation in Genetic Programming" *the Conference on Genetic and Evolutionary Computation Conference (GECCO2004)*, Volume II, Spring, pp. 717-718, 2004.
- *Settles, M., and Soule, T. "Breeding Swarms: A GA/PSO Hybrid" *the Conference on Genetic and Evolutionary Computation Conference (GECCO2004)*, Late Breaking Papers, 2004.
- *Labrum, M., Soule, T., *Blue, A., and Krone, S. "On the Evolution of Structure in Ecological Networks," *International Conference on Complex Systems*, 2004.
- *Settles, M. and Soule, T., "A Hybrid GA/PSO to Evolve Artificial Recurrent Neural Networks," *Artificial Neural Networks in Engineering, (ANNIE 2003)*, ASME Press, 2003.
- Soule, T., *Chen, YingYin, and Wells, Richard B., "Evolving a Strongly Recurrent Neural Network to Simulate Biological Neurons," proceedings of *The 28th Annual Conference of the IEEE Industrial Electronics Society*, 2002.
- Soule, T. and Heckendorn, R.B., "Function Sets in Genetic Programming," *GECCO-2001: Proceedings of the Genetic and Evolutionary Computation Conference*, Morgan Kaufmann, 190, 2001.
- Soule, T., "Using Genetic Algorithms to Evolve Cooperative Teams," *GECCO-2001: Proceedings of the Genetic and Evolutionary Computation Conference*, Morgan Kaufmann, 783, 2001.
- Soule, T., Heckendorn, R.B., and *Shen, J., "Solution Stability in Evolutionary Computation," *Proceedings of the Seventeenth International Symposium on Computer and Information Sciences*, 237-241, 2002.

Alves-Foss, J., and Soule, T., "A Weakest Precondition Calculus for Analysis of Cryptographic Protocols," *DIMACS Workshop on Design and Formal Verification of Security Protocols*, Hilarie Orman and Catherine Meadows, editors, 1996.

Posters:

*Edlund, A., Soule, T. and Jansson, J., "Exploring microbial diversity in Baltic Sea Sediments," *1st Annual Conference of European Microbiologists (FEMS 2003)*, 2003.

Posters (cont.):

*Shyu, C., Foster, J.A., Liao, K., *Bent, S., Sale, K., Forney, L., and Soule, T., "Computational Methods for the analysis of microbial community structure and composition," *Proceedings of American Society of Microbiology (ASM '02)*, 461, 2002.

* Shyu, C., J.A. Foster, K. Liao, S.J. *Bent, K. Sale, L.J. Forney, T. Soule. Microbial Community Analysis (MiCA): Web-Based Computational Tools for the Analysis of Microbial Community Structure and Composition Based on Terminal Restriction Fragment Length Polymorphism (T-RFLP) of 16S rDNA genes. *Proc. American Society of Microbiologists (ASM '02)*, p. 462, 2002.

*Shyu, C., J.A. Foster, K. Liao, S.J. *Bent, K. Sale, L.J. Forney, T. Soule. 2002. MiCA: Microbial Community Analysis, *Proc. IEEE 1st Bioinformatics Conference*, p. 341.

Other:

Book Review of Genetic Programming: An Introduction, for the Sigart Bulletin.

Book Review of Genetic Programming 1997, Proceedings of the Second Annual Conference, for the IEEE Transactions on Evolutionary Computation.

Soule, T., Foster, J.A., and Dickinson, J., "Limiting Program Size in Genetic Programming," Technical Report LAL 96-2, University of Idaho, Moscow, Idaho 83844-1010, 1996.

Soule, T., Foster, J.A., and Dickinson, J., "Using Genetic Programming to Find Maximum Cliques," Technical Report LAL 96-3, University of Idaho, Moscow, Idaho 83844-1010, 1996. Abstract presented at the Idaho Academy of Sciences, 1996.

Soule, T., Foster, J.A., and Dickinson, J., "Code Growth in Genetic Programming," Technical Report LAL 96-11, University of Idaho, Moscow, Idaho 83844-1010, 1996. Abstract presented at the Idaho Academy of Sciences, 1996. Winner: best graduate presentation in its category.

Professional Meeting Papers, Workshops, Showings, Recitals:

Many of the proceeding publications were also presented at professional conferences. What follows are those presentations that were part of a workshop or not published, or were published independently.

Soule, Terence, "Using Scratch to Increase Digital Literacies and Promote Technological Careers", presentation to the UI-Micron 2015 Idaho STEM Innovations Conference, summer, 2015

Soule, Terence, "Using commodity-off-the-shelf robots (COTSbots) for evolutionary learning from demonstration", Invited presentation to the CS-DC World eConference, Conference on Complex Systems, summer, 2015.

Soule, T. and Heckendorn, R.B., "A developmental approach to evolving scalable hierarchies for multi-agent swarms", Proceedings of the 12th annual conference on Genetic and evolutionary computation, Workshop on Evolutionary Computation and Multi-Agent Systems and Simulation (ECoMASS), 1769—1776, 2010.

Soule, T., Heckendorn, R., and Thomason, R., "Evolutionary Training of Heterogeneous Robot

Teams," NASA Idaho Space Grant Consortium Research Symposium, University of Idaho, Idaho, September 20-21, 2007.

Soule, T. and Komireddy, P., "Orthogonal Evolution of Teams: A Class of Algorithms for Evolving Teams with Inversely Correlated Errors," *Genetic Programming, Theory and Practice IV*, Ann Arbor MI., 2006 - later published as a chapter in a book of the same title.

Piszcz, A., and Soule, T., "Genetic Programming: Parametric Analysis of Structure Altering Mutation Techniques," *The Conference on Genetic and Evolutionary Computation Conference (GECCO2005)*, Workshop on Neutral Evolution in Evolutionary Computation, Washington, DC, 2005.

Soule, T., "Evolution and Resiliency," Tutorial, *The Conference on Genetic and Evolutionary Computation Conference (GECCO2005)*, Washington, D.C., 2005.

Soule, T., "What is Neutral?," *The Conference on Genetic and Evolutionary Computation Conference (GECCO2004)*, Workshop on Neutral Evolution in Evolutionary Computation, Seattle, Washington, 2004.

Hall, J. and Soule, T. "Does genetic programming inherently adopt structured design techniques?" Workshop on Genetic Programming, Theory and Practice II, Ann Arbor, MI., 2004 – later published as a chapter in a book of the same title.

Soule, T., "Operator Choice and the Evolution of Robust Solutions," Workshop on Genetic Programming, Theory and Practice I, 257-270, 2003 – later published as a chapter in a book of the same title.

Foster, J. and Soule, T., "Comments on the Intron/Exon Distinction as it Relates to Genetic Programming and Biology," Workshop on exploring non-coding segments and genetic-based encodings, ICGA97, 1997.

Soule, T., Foster, J.A., and Dickinson, J., "Using Genetic Programming to Find Maximum Cliques," Idaho Academy of Sciences, Technical Report LAL 96-3, University of Idaho, Moscow, Idaho 83844-1010, 1996. Abstract presented at the Idaho Academy of Sciences, 1996.

Soule, T., Foster, J.A., and Dickinson, J., "Code Growth in Genetic Programming," Idaho Academy of Sciences, Technical Report LAL 96-11, University of Idaho, Moscow, Idaho 83844-1010, 1996. Winner: best graduate presentation in its category.

Professional Meetings, Conferences, etc. attended:

Conference on Genetic and Evolutionary Computation Conference, (GECCO2015), 2015 – Track chair and presented a poster.

Conference on Genetic and Evolutionary Computation Conference, (GECCO2014), 2014 – Track chair and presented a paper

Conference on Genetic and Evolutionary Computation Conference, (GECCO2013), 2013 – Track chair and presented a tutorial

Conference on Genetic and Evolutionary Computation Conference, (GECCO2012), 2012 – Editor in Chief and presented a paper

Conference on Genetic and Evolutionary Computation Conference, (GECCO2011), 2011 – Presented a workshop paper, and two posters.

Conference on Genetic and Evolutionary Computation Conference, (GECCO2009), 2009 – Presented a paper, a poster, and served on the graduate student panel.

Conference on Genetic and Evolutionary Computation Conference (GECCO2008), 2008 – Presented a poster, co-chaired the competitions track, served on the graduate student panel.

European Conference on Genetic Programming (EuroGP-2008) – Presented a paper.

Workshop on Genetic Programming, Theory and Practice VI, 2008 – co-chair, presented a paper

Conference on Genetic and Evolutionary Computation Conference (GECCO2007), 2007 – Presented several papers

Workshop on Genetic Programming, Theory and Practice V, 2007 – co-chair, presented a paper

Conference on Genetic and Evolutionary Computation Conference (GECCO2006), 2006 –co-chaired the graduate student workshop, chaired a genetic programming session, presented a tutorial, served as a session chair, had several papers presented by students.

Workshop on Genetic Programming, Theory and Practice IV, 2006 – co-chair, presented a paper

Conference on Genetic and Evolutionary Computation Conference (GECCO2005), 2005 – chaired genetic programming session, served on the graduate student workshop panel, presented a tutorial, presented a poster, served as a session chair, had several papers presented by students.

Conference on Genetic and Evolutionary Computation Conference (GECCO2004), 2004 – presented a poster, presented research at one of the workshops, session chair, had several papers presented by students.

Workshop on Genetic Programming, Theory and Practice II, 2004 – presented a paper

7th European Conference on Genetic Programming (EuroGP 2004) – publication chair, presented a paper.

Conference on Genetic and Evolutionary Computation Conference (GECCO2003), 2003 – presented a paper

Workshop on Genetic Programming, Theory and Practice I, 2003 – presented a paper

6th European Conference on Genetic Programming (EuroGP 2003) – coeditor-in-chief, presented a paper.

5th European Conference on Genetic Programming (EuroGP 2002) – presented two papers.

The 28th Annual Conference of the IEEE Industrial Electronics Society, 2002 – presented a paper.

Proceedings of the Seventeenth International Symposium on Computer and Information Sciences, 2002 – presented a paper

Conference on Genetic and Evolutionary Computation Conference (GECCO2001), 2001 – presented a paper, presented two posters, co-author on a presented paper.

Conference on Genetic and Evolutionary Computation Conference (GECCO2000), 2000 – presented a paper.

Conference on Genetic and Evolutionary Computation Conference (GECCO1999), 1999 – presented a paper.

IEEE International Conference on Evolutionary Computation, 1998 – presented a paper.

Second Annual Conference on Genetic Algorithms, 1997 – presented a paper.

Genetic Programming 1997, Stanford University, 1997 – presented paper.

Genetic Programming 1996, Stanford University, 1996 – presented two papers.

Idaho Academy of Sciences Meeting, 1996 – presented two papers.

Grants and Contracts Awarded:

- “Landmark Guidance: An integrated study in bees, using Avida, and physical robots,” Fred Dyer, Laura Grabowski, Robert Heckendorn, Frank Bartlett, and Terence Soule, \$113,379, internal BEACON award, funded, 2015.
- “Genetic and Evolutionary Feature Extraction for Evolutionary Robotics”, BEACON NSF Center for the Study of Evolution in Action, \$72109, 5/2014-5/2015 (PIs: Soule, Heckendorn)
- “Configurable UUV Sensor Network”, Department of the Navy, \$924,781, 05/15/2014 – 12/31/2016 (PIs: Edwards, Wolbrecht, Frenzel, Anderson, Soule)
- “Digital Innovation Generating New Information Technology (Dig’ n IT)”, Micron, \$14,550, August 2013-May, 2014, (PIs: Julie Amador, Terence Soule).
- “Distributed, Onboard Evolution in a Robotic Cloud”, BEACON NSF Center for the Study of Evolution in Action, \$168,231, June, 2013 - May 2014, (Lead PI: Soule, T., Co-PIs: Heckendorn, R.,McKinley, P., Zhan, J., Harrison, S.), (Internal BEACON Award).
- “Evolution Curriculum for Elementary Classrooms: Implementation and Assessment of LadyBug and

Supporting Activities,” \$87,696, June, 2012-May, 2013, (PIs: Thomas Getty (MSU) and Terence Soule (UI)).

Grants and Contracts Awarded (cont.):

Wind River MILS 2.0 High Level Verification Phase III SOW 4 of the SKPP Verification Project, \$382,000 funded by Wind River Corp., Sept 2009-May 2011 (Lead PI: J. Alves-Foss, Co-PIs: P. Oman, C. Jeffery, and T. Soule).

“Algorithmic Improvement of Calls and Reads in 454 Sequencing”, Center of Biomedical Research Excellence (COBRE), \$33,287, May 1, 2010 through April 30, 2011, PIs: Soule, T. and Heckendorn, R. (Internal Award).

"Evolutionary Games for K-6th," BEACON NSF Center for the Study of Evolution in Action, \$11,108, June, 2011, May 2012, PI: Soule, T. (Internal BEACON Award).

“Magnetic Signature Assessment System using Multiple Autonomous Underwater Vehicles (AUVs) Phase 3”, PI: Dean Edwards, Investigators: Soule, et al. Office of Naval Research, \$1,111,600, 2009-2011.

“Magnetic Signature Assessment System using Multiple Autonomous Underwater Vehicles (AUVs) Phase 2”, PI: Dean Edwards, Investigators: Soule, et al. Office of Naval Research, \$1,338,330, 2010-2012.

BEACON: an NSF Science & Technology Center for the Study of Evolution in Action, PI: Eric Goodman (Michigan State University), NSF, \$25,000,000, 2010-2015.

"A Robotic Test Bed for Determining Energy Optimal Walking Gaits for Compliant Wheeled Walking in Varied Terrains: Research to Support NASA's ATHLETE and TRI-ATHLETE Rover Robots", Wolbrecht, Eric (Principal), Soule, Terence (Co-Principal), Sponsored by Idaho NASA EPSCoR Research Initiation Grant, University of Idaho, \$30,000. (August 1, 2009 - 2011).

Wind River Proof System Tools SOW 3 of the SKPP Verification Project, \$415,000 funded by Wind River Corp., July 2008-Aug 2009 (Lead PI: J. Alves-Foss, Co-PIs: P. Oman, C. Jeffery, and T. Soule).

“Orthogonal Evolution of Teams: Evolving Teams of Specialized Members for Robust Intelligence,” NSF, (PI: T. Soule), January. 2006-December. 2007, \$175,673.

“REU Site: Summer Computational Neuroscience and Technology Research Experience for Undergraduates,” NSF, (PI: R. Wells, Co-PIs: T. Soule, D. Stenkamp, J. Frenzel, and V. Kantabutra, 2004-2007, \$232,222.

“CREPe project,” NIH COBRE, (PI: L. Forney, Investigators: J. A. Foster, R. Heckendorn, T. Soule, H. Wichman, E. Top, J. Sullivan, P. Joyce, S. Krone, G. Daughdrill, 2002-2007, \$10,340,113.

“Neuro-fuzzy soft computing via Silicon Structures,” NSF-EPSCoR, (PI Investigators: B. Wells, J. Frenzel, J. A. Foster, T. Soule, B. Wilamowski, V. Kantabutra, 2002-2005, \$1,200,000.

“Evolving Cooperative Teams using Genetic Programming,” University of Idaho Research Office, Seed Grant, (PI: T. Soule), 2001, \$9,000.

Scholarship Honors and Awards:

Mid-Career Award, University of Idaho, 2012

Idaho Innovator Award, University of Idaho, 2009.

Best Presentation, EuroGP-2002, “N-Version Genetic Programming via Fault Masking”

Best graduate presentation, Idaho Academy of Sciences, “Code Growth in Genetic Programming,” 1996.

SERVICE:

Major Committee Assignments:

Director, Neuroscience Program, Fall 2009-Spring 2012.
 Chair, department graduate committee, 2010-Present
 Member of the Biology Chair Search committee, 2006.
 Member of the chair search committee, 2005-2006.
 Member of the chair evaluation committee, 2004-05.
 Department representative to the college curriculum committee, 2002-03.
 Member of the department curriculum committee, 2002-03.
 Chair, department curriculum committee, 2002-03.
 Chair, department petitions committee, 2003.
 Member of the faculty search committee, 2001.

Program member for conferences:

Track chair, Genetic and Evolutionary computation Conference, 2013, 2014, 2015
 Editor in Chief, Genetic and Evolutionary Computation Conference, 2012.
 Co-Chair, Genetic Programming: Theory and Practice workshop VI, Ann Arbor, MI, 2008
 Co-Chair, Competitions Track, GECCO 2008.
 Member, Graduate Workshop Panel, GECCO 2008, 2009.
 Co-Chair, Genetic Programming: Theory and Practice workshop V, Ann Arbor, MI, 2007
 Chair, Graduate Student Workshop, GECCO, 2006
 Co-Chair, Genetic Programming: Theory and Practice workshop IV, Ann Arbor, MI, 2006
 Track chair, Genetic Programming track, GECCO, 2005
 Steering Committee Member for EuroGP, 2005
 Publication Chair (Editor-in-Chief), EuroGP, 2004
 Co-Chair, EuroGP, 2003

Reviewer/Committee Member:

Journal of Heuristics 2010
 Advances in Complex Systems, 2009
 World summit on Genetic and Evolutionary Computation (GEC), 2008
 Genetic Programming and Evolvable Machines Journal, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012
 Journal of Computer Security, 2004
 IEEE Transactions on Evolutionary Computation, 2004, 2005, 2006, 2007, 2008, 2010
 Natural Computation journal, 2005
 Theoretical Computer Science C, 2004
 7th International Conference on Artificial Evolution, 2005
 Committee Member, EuroGP 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2007, 2008, 2009, 2010, 2011, 2012
 Committee Member, GECCO, 1999, 2001, 2003, 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2012
 37th Hawaii International Conference on Systems Sciences, 2003
 Evolution Artificielle, 2007

Other:

Member, SIGEVO Board, 2013-present
 Associate Editor, Genetic Programming and Evolvable Hardware Journal, 2011-Present
 Outside reviewer for NSF, 2006

Member, editorial board of the Genetic Programming and Evolvable Hardware Journal, 2003-2011
NSF Panel member, January 2004.
NSF Panel member, January 2005, March 2005.
Reviewer INL, LDRD grant program, 2005, 2006

Community Service:

Presented at ValleyFest (<http://www.valleyfest.org/index.html>), Robotics & STEM Activities, held at the CenterPlace Regional event Center in Spokane Valley on Sept. 26th, 2015,
Presented at the World Science Fiction convention (<http://sasquan.org/>), as part of their Science Saturday. This was an all-day event held on August 22nd, 2015.
Mentored an elementary school Lego Rover team, 2010
Mentored an elementary school Lego Rover team, 2011
Served as a judge for the NASA sponsored Lego Rover Competition held in Moscow, ID, January, 2009.
Served as a judge for the NASA sponsored Lego Rover Competition held in Moscow, ID, February, 2008.
In January 2004 I was a member of a panel discussion on artificial intelligence for the future problem solvers at the Moscow High School. The future problem solvers consist of high achieving local junior high school and high school students. Each year they investigate a topic of growing importance.