

CURRICULUM VITAE

Glenn W. Ellis

NAME: Glenn W. Ellis

ADDRESS: Picker Engineering Program
Smith College
100 Green Street
Northampton, MA 01063
Tel: (413) 585-4598
Email: gellis@email.smith.edu

248 Main Road
Montgomery, MA 01085
Tel: (413) 862-3264

DEGREES:

Ph.D.	1987	Princeton University	Civil Engineering and Operations Research Dissertation: "Modelling Earthquake Ground Motions in Seismically Active Regions using Parametric Time Series Methods." Advisor: Dr. A.S. Cakmak
M.A.	1985	Princeton University	Civil Engineering and Operations Research
B.S.	1983	Lehigh University	Civil Engineering

AWARDS AND HONORS:

2015	Finalist for the 2015 Revere Award for Beyond the Classroom (recognizing best product supporting teaching and learning)
2015	Semifinalist for the 2016 Cherry Award, Baylor University (one of four)
2007	U.S. Professor of the Year for Baccalaureate Colleges, Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education
2006	Sherrerd Prize for Distinguished Teaching, Smith College
2004	Benjamin Dasher Award, Frontiers in Education Conference (best paper/presentation)
2004	Best Paper Nomination, American Society of Engineering Education Annual Conference
2003	Best Paper Nomination, American Society of Engineering Education Annual Conference
1991	Student Association Outstanding Teacher Award, Clarkson University (first recipient)
1991	Elected Faculty Senator, Clarkson University
1991	Outstanding New Teacher Award, Clarkson University (first recipient)
1991	Tau Beta Pi Faculty Award, Clarkson University
1991	Outstanding Adviser Award, Clarkson University
1982	Tau Beta Pi Honor Society, Lehigh University
1982	Chi Epsilon Honor Society, Lehigh University

EMPLOYMENT HISTORY:

2001-present	Smith College, Northampton, MA Professor, Picker Engineering Program Associate Professor, Picker Engineering Program Associate Professor-in-Residence, Picker Engineering Program Ford Motor Visiting Professor of Engineering Education, Picker Engineering Program
1998-2001	Brunswick School, Greenwich, CT Science Director
1997-1998	United States Air Force Academy, Colorado Springs, CO Visiting Professor of Civil and Environmental Engineering
1993-1997	St. Paul's School, Concord, NH Physics Program Coordinator
1988-1993	Clarkson University, Potsdam, NY Assistant Professor and Geotechnical Program Coordinator
Summer, 1988	Kobori Research Division, Kajima Corporation, Japan Invited Scholar
1987-1988	Stevens Institute of Technology, Hoboken, NJ Assistant Professor

GRANTS RECEIVED:

National Science Foundation (2018-2022): *Collaborative Research: Design and Development of Transmedia Narrative Based Curricula to Engage Children in NGSS and Engineering Design* (role: principal investigator)
\$2,500,622

National Science Foundation (2012-2018): *Full Scale Development: Collaborative Research – Using Narrative in a Digital Learning Environment to Engage Children and Teens in Engineering* (role: principal investigator)
\$2,999,874

Davis Educational Foundation (2012-2015): *Creating a Learning Environment that Support Knowledge Building* (role: co-principal investigator)
\$153,000

Longobardo-Wyckoff Engineering Fund (2010-2013): *Talk to Me* (role: principal investigator)
\$50,000

National Science Foundation Engineering MSP Start Partnerships (2008-2010): *Drafting a Blueprint for Educating Tomorrow's Engineers Today* (role: senior personnel—leadership team)
\$283,102

Ford Motor Company (2006-2007): *Project on Engineering Education Excellence* (role: principal investigator)
\$20,000

GE Foundation (2006-2007): *Designed for Her: Engineering that Engages Girls in Learning*. (role: principal investigator)
\$100,000

National Science Foundation Engineering Education Program (2004-2007): *Enhancing Diversity in the Undergraduate Mechanical Engineering Population through Curriculum Change*. (role: co-principal investigator)
\$999,962

Ford Motor Company (2005-2006): *Project on Engineering Education Excellence*. (role: principal investigator)
\$30,000

Ford Motor Company (2005): *Ford PAS Curriculum Institute*. (role: co-principal investigator)
\$11,025

National Science Foundation Combined Research and Curriculum Development and Educational Innovation Program (CRCD/EI) (2004-2005): *Incorporating Power-Aware Computing Techniques into the Curriculum*. (role: co-principal investigator)
\$75,000

GE Fund Math Excellence Program (2004): *Extension of Math Excellence Grant*. (role: co-principal investigator)
\$8,800

Massachusetts Board of Higher Education (2004-2005): *Pioneer Valley PreK-16 Science, Technology, Engineering and Mathematics (STEM) Education Regional Network*. (role: co-principal investigator)
\$269,000

Hewlett-Packard Company (2004): *Campus School Engineering Education Laboratory*. (role: principal investigator)
\$31,980

Ford Motor Company (2001-2005): *Project on Engineering Education Excellence*. (role: principal investigator)
\$555,500

Hewlett-Packard (2003): *Project to Develop and Disseminate Engineering Education for K-16*. (role: principal investigator)
\$10,000

National Science Foundation Bridges for Engineering Education Program (2003-2004): *Building an Engineering and Education Partnership*. (role: principal investigator)
\$100,000

LLL Foundation (2003-2004): *Smith College: Engineering the Future – Developing a K-6 Engineering Learning Laboratory*. (role: I was the leader in writing the proposal, implementing the grant and reporting to the funding agency. As program director, Dr. Domenico Grasso was listed as the PI, but he did not participate in the grant.)
\$25,000

GE Fund Math Excellence Program (2002-2005): *Engineering and Education Partnership, A Learner-Centered Approach Toward Quantitative Excellence*. (role: principal investigator)
\$300,000

National Science Foundation Initiation Grant (1991-1993): *Neural Network Analysis of Granular Fabric*. (role: principal investigator)
\$60,000

National Science Foundation (1992): *Neural Network Analysis of Granular Fabric: REU Supplement*. (role: principal investigator)
\$10,000

National Center for Earthquake Engineering Research (1987-1988): *Modelling Ground Motion from Multiple Shock Earthquakes*. (role: principal investigator)
\$12,000

PUBLICATIONS

Peer-Refereed Papers:

Ellis, G.W., Rudnitsky, A., Huff, I., McGinnis-Cavanaugh, B. and Ellis, S.K. (2018) Engaging Children in Design Thinking through Transmedia Narrative, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Salt Lake City, UT, June 24-27.

Ellis, G.W. and Zhang, Y. (2016) The Development of 21st Century Skills in the Knowledge Building Environment, International Journal of Engineering Education, Vol. 32, No. 3(A), 1160-1170.

Rudnitsky, A., **Ellis, G.**, Mikic, B. (2016) Knowledge Building and Higher Education, Leading Student Achievement: Networks for Learning (LSA), Vol. 3.

McGinnish-Cavanaugh, B., Huff, I., **Ellis, G.W.**, Ellis, S.K., Rudnitsky, A. (2015) Through a New Window: 21st Century Engineering Education, Children's Technology and Engineering, Vol. 20, No. 1.

Ellis, G.W., Rudnitsky, A., McGinnis-Cavanaugh, B., Huff, I., Ellis, S.K. (2015) Designing a Multimedia Learning Environment that Engages Children Through Narrative, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Seattle, WA, June 14-17.

- Ellis, G.W.**, Ipesa-Balogun, H.A., Yu, Y., Zhang, Y., Jiang, X. (2014) Developing a Learner-Centered Classroom through Collaborative Knowledge Building, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Indianapolis, IN, June 15-18.
- Turner, W.A. and **Ellis, G.W.**, (2014) A Comparison of Student Misconceptions in Rotational and Rectilinear Motion, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Indianapolis, IN, June 15-18.
- Rudnitsky, A., **Ellis, G.W.**, Shea, K., DiBartolo, P. (2013) Professional Development in a Liberal Arts Setting, To Improve the Academy, Vol. 32, 127-144.
- Ellis, G.W.** and Yu, Y. (2013) Using Knowledge Building to Support Deep Learning and the Development of 21st Century Skills, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Atlanta, GA, June 23-27.
- Ellis, G.W.** (2012) Creating a Learning Environment that Supports Innovation and Deep Learning in Geotechnical Engineering, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, San Antonio, TX, June 10-13.
- Huff, I., **Ellis, G.W.**, Ellis, S.K., McAuliffe, L.R., McGinnis-Cavanaugh, B. (2012) Technology and Tornadoes: Using Imaginative Education to Foster a Technologically Literate Society, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, San Antonio, TX, June 10-13.
- Ellis, G.W.** and Silva, K.L.S. (2011) An Integrated Approach: Using Artificial Intelligence to Teach Language Arts, Electronic Journal of Literacy through Science, 10 (1), 1-22.
- Ellis, G.W.** and Thornton, K. (2011) Using Cognitive Tools to Engage the Imagination and Frame Learning in Geotechnical Engineering. Journal of Applications and Practices in Engineering Education, 2 (1).
- Ellis, G.W.**, Rudnitsky, A.N., Moriarty, M.A., Mikic, B. (2011) Applying Knowledge Building in an Engineering Class: A Pilot Study. International Journal of Engineering Education, 27 (5).
- McAuliffe, L.R., **Ellis, G.W.**, Ellis, S.K., Huff, I., McGinnis-Cavanaugh, B. (2011) Mysteries and Heroes: Using Imaginative Education to Engage Middle School Learners in Engineering, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Vancouver, BC, June 26-29.
- Busch-Vishniac, I., Kibler, T., Campbell, P.B., Patterson, E. Guillaume, D., Jarosz, J., Chassapis, C., Emery, A., **Ellis, G.W.**, Whitworth, H., Metz, S., Brainard, S., Ray, P. (2011) Deconstructing Engineering Education Programs: The DEEP Project to Reform the Mechanical Engineering Curriculum, European Journal of Engineering Education, 36 (3) 269-283.
- Ellis, G.W.**, Rudnitsky, A.N., Moriarty, M.A. (2010) Theoretic Stories: Creating Deeper Learning in Introductory Engineering Courses. International Journal of Engineering Education, 26 (5) 1-11.
- Turner, W. and **Ellis, G.W.** (2010) Weight, Weight, Don't Tell Me! A single measurement, graphical approach to the study of the motion of an elevator, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Louisville, KY, June 20-23.

- McGinnis-Cavanaugh, B. and **Ellis, G.W.** (2010) Drafting a Blueprint for Educating Tomorrow's Engineers Today, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Louisville, KY, June 20-23.
- Ellis, G.W.**, Rudnitsky, A., Moriarty, M. (2010) Using Knowledge Building to Support Deep Learning, Collaboration and Innovation in Engineering Education, 40th ASEE/IEEE Frontiers in Education Conference, Washington, DC, October 27-30.
- Ellis, G.W.**, Silva, K.L., Epstein, T., Giammaria, N.C. (2009) Artificial Intelligence in Pre-College Education: Learning within a Philosophy of the Mind Framework. International Journal of Engineering Education, 25 (3) 511-522.
- Tee, C.Y., Cardell, J., and **Ellis, G.W.** (2009) Short-Term Load Forecasting Using Artificial Neural Networks. North American Power Symposium, Starkville, MS, October 4-6.
- Turner, W. and **Ellis, G.W.** (2009) Graphical Analysis and Equations of Uniformly Accelerated Motion—A Unified Approach, Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Austin, TX, June 14-18.
- Ellis, G.W.**, Moriarty, M.A., Felder, G. (2008) A Learner-Centered Approach for Preparing At-Risk Students. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Pittsburgh, PA, June 22-25.
- Ellis, G.W.**, Lauer, J., Nina, N., Silva, K. (2007) Assessing Preconceptions about Artificial Intelligence to Improve Learning. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Honolulu, HI, June 24-27.
- Ellis, G.W.**, Wodin-Schwartz, S., Moritz, C., Koren, I., Krishna, C. (2006) Integration of Low-Power Digital Circuitry into Undergraduate Curricula. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Chicago, Illinois, June 19-22.
- Ellis, G.W.**, Rudnitsky, A., Scordilis, G. (2005) Finding Meaning in the Classroom: Successful Approaches to Engaging Students in Engineering. International Journal of Engineering Education 21 (6) 1148-1158.
- Ellis, G.W.**, Ory, E.C., Bushan, N. (2005) Organizing a K-12 AI Curriculum using Philosophy of the Mind. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Portland, Oregon, June 12-15.
- Etheredge, S., Lewis, C., **Ellis, G.**, Gralinski, T. (2005) To Pop or not to Pop: Elementary Teachers Explore Engineering Design with Pop-up Books. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Portland, Oregon, June 12-15.
- Ellis, G.W.**, Rudnitsky, A. and Silverstein, B. (2004) Using Concept Maps to Enhance Understanding in Engineering Education. International Journal of Engineering Education 20 (6) 1012-1021.
- Ellis, G.W.**, Andam, B. (2004) Teaching Students to Teach Machines. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Salt Lake City, Utah, June 20-23. (nominated for best paper award)
- Andam, B., **Ellis, G.W.**, Etheredge, S., Grasso, D., Gralinski, T. (2004) Teaching Teachers to Teach Engineering. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Salt Lake City, Utah, June 20-23.

- Riley, D., **Ellis, G.W.**, Howe, S. (2004) 'To Move People from Apathy': A Multi-Perspective Approach to Ethics across the Engineering Curriculum. Proceedings of the American Society for Engineering Education Annual Conference and Exposition, Salt Lake City, Utah, June 20-23.
- Ellis, G.W.**, Lee, K., Tham, A. (2004) Learning Engineering Mechanics through Video Production. Proceedings of Frontiers in Education 2003, Savannah, GA, October 20-23.
- Ellis, G.W.**, Scordilis, G.E., Cooke, C.M. (2003) New Pedagogical Approaches in Engineering Mechanics Yield Increased Student Understanding, Confidence, and Commitment. Proceedings of Frontiers in Education 2003, Boulder, Colorado, Nov. 5-8. (winner: Benjamin Dasher Award)
- Ellis, G.W.**, Mikic, B., Rudnitsky, A.N. (2003) Getting the 'big picture' in engineering: Using narratives and conceptual maps. Proceedings of the 2003 American Society for Engineering Education Annual Conference and Exposition, Nashville, Tennessee, June 22-25. (nominated for best paper award)
- Ellis, G.W.**, Turner, W. (2003) Helping students organize and retrieve their understanding of dynamics. Proceedings of the 2003 American Society for Engineering Education Annual Conference and Exposition, Nashville, Tennessee, June 22-25.
- Voss, S.E., **G.W. Ellis** (2002) Applying Learner-Centered Pedagogy to an Engineering Circuit-Theory Class at Smith College. Proceedings of Frontiers in Education 2002, Boston, Massachusetts, Nov. 6-9.
- Ellis, G.W.**, Turner, W.A., Improving the Conceptual Understanding of Kinematics through Graphical Analysis. Proceedings of the 2002 American Society for Engineering Education Annual Conference and Exposition, Montreal, Canada, June 15-19.
- Ellis, G.W.**, C. Knoll, V. Lee, M. Malita, P. Reid, B. Schuman, A. Temkin and P. Zendaian, (2001) Designing New Approaches in Engineering Curricula. National Consortium for Specialized Secondary Schools of Mathematics, Science & Technology Journal 7 (1) 9-10.
- Heck, S., **Ellis, G.W.**, Hoermann, V. (2001) Modeling the Effectiveness of Ozone as a Water Disinfectant using an Artificial Neural Network. Environmental Engineering Science 18 (3) 205-212.
- Turner, W.A., **Ellis, G.W.** (1999) The Energetics of a Bouncing Ball. The Physics Teacher 37 (8) 496-498.
- Heck, S., **Ellis, G.W.**, Grasso, D. (1997) Artificial Neural Network Analysis of Ozone as a Water Disinfectant. Proceedings of the Tenth International Florida Artificial Intelligence Research Symposium, May 12-14, 1997.
- Ellis, G.W.**, Yao, C., Zhao, R., Penumadu, D. (1995) Stress-Strain Modeling of Sands using Artificial Neural Networks. Journal of Geotechnical Engineering, American Society of Civil Engineers 121 (5) 429-435.
- Ellis, G.W.**, Schantz, B. and Batson, G.B. (1994) Neural Network Analysis of SFRC Beams. Proceedings of the ACI Spring Convention, March 20-25.
- Ellis, G.W.**, Grasso, D. Ge, X. (1993) ARMA Processes and Reliability-Based Design of Wastewater-Treatment Facilities. Journal of Environmental Engineering, American Society of Civil Engineers 119 (3) 463-477.

- Ellis, G.W.,** Yao, C., Zhao, R. (1993) Neural Network Modeling of Sand Behavior during Undrained Shear. Proceedings of MEET'N'93, Charlottesville, Virginia, June 6-9, 652-658.
- Collins, A.G., **Ellis, G.W.** (1992) Information Processing Coupled with Expert Systems for Water Treatment Plants. Instrument Society of America Transactions 31 (1) 61-72.
- Ellis, G.W.,** Collins, A.G., Ge, X., Ford, C. (1992) Closure to "Chemical Dosing of Small Water Utilities using Regression Analysis." Journal of Environmental Engineering, American Society of Civil Engineers 118 (6) 999-1001.
- Ellis, G.W.,** Yao, C., Zhao, R. (1992) Neural Network Modeling of the Mechanical Behavior of Sand. Proceedings of the ASCE Ninth Engineering Mechanics Conference, College Station, Texas, May 25-27, 421-424.
- Ellis, G.W.,** Cakmak, A.S. (1991) Effect of Spatial Variability on ARMA Modelling of Ground Motion. Journal of Structural Safety 10 181-191.
- Ellis, G.W.,** Collins, A.G., Ge, X., Ford, C. (1991) Chemical Dosing of Small Water Utilities using Regression Analysis. Journal of Environmental Engineering, American Society of Civil Engineers, 117 (3) 308-319.
- Grasso, D., **Ellis, G.W.,** Chin, Y.-P., Koch, N., Flood, K., Matheson, M., Wilkins, M. (1991) Physicochemical Processes. Journal of the Water Pollution Control Federation 63 (4) 583-593.
- Collins, A.G., **Ellis, G.W.,** Ford, C.R., Bristol, L.R. (1991) Coupling Expert Systems to Databases for Small Water Treatment Plant Control. Proceedings of the 1991 AWWA Annual Conference, June 23-27, Philadelphia, PA.
- Ellis, G.W.,** Cakmak, A.S. (1990) Modelling Strong Ground Motion from Multiple Event Earthquakes. Journal of Soil Dynamics and Earthquake Engineering, 10 (1) 42-53.
- Grasso, D., Walters, R., **Ellis, G.,** Chin, Y.-P., Morico, K., Koch, N., Flood, K., Armstrong, R. (1990) Physicochemical Treatment Processes. Journal of the Water Pollution Control Federation 62 (4) 387-398.
- Ellis, G.W.,** DeVeaux, R., Cakmak, A.S. (1990) Multivariate Time Series Modelling of Strong Motion Accelerograms Recorded in Mexico and Taiwan. Journal of Soil Dynamics and Earthquake Engineering 9 (5) 218-227.
- Ellis, G.W.,** Ge, X., Grasso, D. (1990) Time Series Analysis of Wastewater Quality. Proceedings of the 5th IAWPRC Workshop on Instrumentation, Control and Automation of Water and Wastewater Treatment and Transport Systems, Tokyo, Japan 595-600.
- Ellis, G.W.,** Collins, A.G., Ge, X. (1990) A Stochastic Approach to Chemical Dosage Requirements for Small Treatment Plants. Proceedings of the 5th IAWPRC Workshop on Instrumentation, Control and Automation of Water and Wastewater Treatment and Transport Systems, Tokyo, Japan 595-600.
- Ellis, G.W.** (1989) Discussion of: "Load Allocation for Toxics using Monte Carlo Techniques." Journal of the Water Pollution Control Federation 61 (1) 97-99.
- Cakmak, A.S., **Ellis, G.W.,** Srinivasan, M. (1989) The Modeling of Strong Ground Motions. Proceedings of the International Conference on Earthquake Resistant Construction and Design, Berlin, Germany, June 13-16.

Ellis, G.W., Cakmak, A.S. (1988) Effect of Spatial Variability on ARMA Modelling of Ground Motion. Proceedings of the International Workshop on Spatial Variation of Earthquake Ground Motion, Dunwalke, NJ, Nov. 7-9.

Ellis, G.W., Cakmak, A.S., Ledolter, J. (1987) Modelling Earthquake Ground Motion in Seismically Active Regions using Parametric Time Series Methods. Proceedings of the Third International Conference on Soil Dynamics and Earthquake Engineering, Princeton, NJ 551-566.

Ellis, G.W. (1986) Dynamic Consolidation of Flyash. Proceedings of the International Symposium on Environmental Geotechnology, Bethlehem, PA, 564-573.

Cakmak, A.S., Sherif, R.I., **Ellis, G.W.** (1985) Modelling Earthquake Ground Motion in California using Parametric Time Series Methods. Journal of Soil Dynamics and Earthquake Engineering 4 (3) 124-131.

Fang, H.Y., **Ellis, G.W.,** Chaney, R.C. (1984) Laboratory Study of Dynamic Densification of Flyash. Proceedings of the International Symposium on Development of Low Cost and Energy Saving Construction Materials, Rio de Janeiro, Brazil 357-370.

Chaney, R.C., Fang, H.Y., **Ellis, G.W.** (1983) Dynamic Response of Flyash, Proceedings of the ASCE Specialty Conference on Engineering Mechanics, West Lafayette, IN 347-350.

Refereed Book Chapter

Ellis, G.W. and Andam, B. (2005) Designing the Engineering Classroom for Women. About Invention and Impact: Building Excellence in Undergraduate STEM (Science, Technology, Engineering, and Mathematics) Education, American Association for the Advancement of Science (AAAS), Washington, D.C.

Refereed Posters

Ellis, G.W., Rudnitsky, A., McGinnis-Cavanaugh, B., Ellis, S.K., Huff, I. (2016) Engaging Children in Knowledge Building through Story, Knowledge Building Summer Institute, Singapore, June 19-24.

Yu, Y. and **Ellis, G.W.** (2012) Designs for Social and Systematic Innovation in Undergraduate Engineering Education, 16th Annual Knowledge Building Summer Institute, Toronto, Canada, August 7-10.

Educational Websites

Ellis, G.W., McGinnis-Cavanaugh, B., Rudnitsky, A., Ellis, S.K., Huff, I. (2018) Collusia, Available at www.collusia.com.

Ellis, G.W., Ellis, S.K., McGinnis-Cavanaugh, B., Rudnitsky, A., Huff, I. (2015) Through My Window, Available at www.throughmywindow.org.

Ellis, G.W., Ellis, S.K., McAuliffe, L., McGinnis-Cavanaugh, B., Silva, K., and Nina, N. (2010) Talk to Me, Previously available at www.talk2mebook.com.

Educational Videos

- Ellis, G.W.** and others (2013-2017) Dozens of original STEM education videos have been produced for the Through My Window project. The can be found at www.youtube.com/channel/UC7AJmtwHuSmWHzI9_Y74Ehg
- Ellis, G.W.** (2012) Knowledge Building: Engineering Lessons from a Big Tornado, Video produced by Smith College. Available at <http://www.smith.edu/video/knowledge-building-engineering-lessons-big-tornado>.
- Ellis, G.W.**, Karr, R., McKenzie, T., McCarthy, B., Riley, J., Fischer, K. (2011) Teaching Strategies that Create that... Aha! Moment, Video produced by STARLINK for the Professional Development Network for Higher Education. Available at www.starlinktraining.org.
- Ellis, G.W.** (2009) Can a Machine Be Human? And Is That a Good Thing? , Video produced by One Day University. Available at www.onedayu.com.

Other Publications (Not Refereed)

- Judson, G., **Ellis, G.W.**, Charette, K. (2017) Play Matters: Play-Full Teaching in Higher Education, imaginED, available at www.educationthatinspires.ca/
- Ellis, G.W.** (2017) Tapping into the Imaginations of Engineers, imaginED, available at www.educationthatinspires.ca/
- Beichner, R.J., Turner, W.A. and **Ellis, G.W.** (2008) Test of Understanding Graphs – Rotational Kinematics, Department of Physics, North Carolina State University.
- Turner, W.A. and **G.W. Ellis** (2004) Life in Motion: A Learner-Centered Approach using Graphical Analysis to Explore Kinematics and Calculus. Available through the Engineering Education Partnership (www.smith.edu/engin-eep).
- Ellis, G.W.**, Collins, A.G., Grasso, D. and Ge, X. (1990) Applications of Auto-Regressive Moving Average (ARMA) Processes in Water Quality Engineering. Proceedings of the Second International Conference on Statistical Methods for the Environmental Sciences, Lake Como, Italy, Sept. 27-30.
- Ellis, G.W.**, Srinivasan, M., Cakmak, A.S. (1990) A Program to Generate Site Dependent Time Histories: EQGEN. National Center for Earthquake Engineering Research Technical Report, NCEER-90-0009, State University of New York at Buffalo, NY.
- Ellis, G.W.**, Cakmak, A.S. (1988) Modelling Ground Motion from Multiple Shock Earthquakes. National Center for Earthquake Engineering Research Technical Report, NCEER-88-0042, State University of New York at Buffalo, Buffalo, NY.
- Ellis, G.W.**, Cakmak, A.S. (1987) Modelling Earthquake Ground Motions in Seismically Active Regions using Parametric Time Series Methods. National Center for Earthquake Engineering Research Technical Report, NCEER-87-0014, State University of New York at Buffalo, Buffalo, NY.
- Fang, H.Y., **Ellis, G.W.** (1983) Effective Depth of Deep Dynamic Densification. Fritz Engineering Laboratory Report, No. 462.13, Lehigh University.
- Fang, H.Y., **Ellis, G.W.** (1983) Laboratory Study of Ground Response to Dynamic Densification, Fritz Engineering Laboratory Report, No. 462.6, Lehigh University.

9. SCHOLARLY LECTURES AND OTHER PRESENTATIONS:

Invited

Increasing Engagement Through the Use of Cognitive Tools, Foundations, Stevens Institute of Technology, Hoboken, NJ, March 21, 2018.

Changing Education to Support Knowledge Age Thinking, Stevens Center for Faculty Engagement & Advancement, Stevens Institute of Technology, Hoboken, NJ, March 21, 2018.

Increasing Engagement and Transfer in Engineering Education, University of Massachusetts, Amherst, MA, February 9, 2018.

Designing Engineering Education for the Knowledge Age, University of Pennsylvania, Philadelphia, PA, December 5, 2017

Deep Learning: Defining and Measuring Evidence Based Practices, Stevens Institute of Technology, Hoboken, NJ, May 5, 2017.

PASE Presents! Smith College – Through the Eyes of the Protagonist: Using Story to Engage Children with STEM, Partnership for After School Education, New York, NY, April 8, 2016. (With S. Ellis and I. Huff)

Holy Trinity STEM Symposium, Panelist, Trinity High School, Chicago, April 24, 2015.

Teaching and Learning Graduate Seminar Panelist, University of Massachusetts, April 28, 2014.

Supporting Learning with Understanding in STEM Education. Keynote lecture at the Consortium on High Achievement and Success (CHAS) Science and Math Faculty Forum, Smith College, June 3, 2011.

Using Technology to Support Learning with Understanding. Keynote lecture at the Faculty Instructional Technology Summer Institute, University of New Hampshire, June 17, 2011.

Rethinking Education to Prepare Children for Success in the Knowledge Age, Invited lecture at Advancing Girls in STEM: An NCGS Symposium, Wellesley College, Wellesley, MA, July 21, 2011.

Promoting Deep Learning Through the Use of Technology. Keynote lecture at the Faculty Instructional Technology Summer Institute, University of New Hampshire, June 14, 2010.

Using Technology to Support Discourse and Learning. Keynote lecture at the Teaching, Learning, Technology Conference, St. Anselm College, Manchester, NH, May 21, 2010.

On Current Thinking and Future Trends of STEM. Invited lecture at the Groton School, Groton, MA, May 12, 2010.

Using Technology to Enhance Learning in the Knowledge Age. Keynote lecture at the Faculty Instructional Technology Summer Institute, University of New Hampshire, June 15, 2009.

Preparing our Students for Success in the Knowledge Age. Invited lecture at the Castilleja School, Palo Alto, CA, May 25, 2009.

Learning Engineering through Video, Invited lecture at Beyond Information Discovery, Northeast Regional Computer Program, Portsmouth, NH, November 3, 2008.

Can a Machine be Human? And is that a Good Thing? Invited lecture at One Day University, Babson College, July 19, 2008.

Using Technology to Build Community & Knowledge. Keynote lecture at the Faculty Instructional Technology Summer Institute, University of New Hampshire, June 9, 2008.

No More Hazing: A Learner-Centered Approach to Engineering Education, Invited presentation at Smith/SWE Specialist to Strategist: Business Excellence for Women in Science, Technology, & Engineering Program, Smith College, March, 2008.

Learner-Centered Pedagogy: Gender Equity in Engineering. Invited seminar at the City College of New York, May 5, 2006.

K-12 Engineering Outreach at Smith College, Invited seminar at the Tufts Center for Educational Outreach, Tufts University, November, 2005.

A Century of College Education for Engineers. Invited panel presentation at American Society of Engineering Education Annual Conference, Portland, Oregon, June 2005 .

Empowering Diverse Learners in Engineering. Invited seminar at the Department of Mechanical Engineering, Johns Hopkins University, January 2005.

Engineering a Sustainable World. Keynote lecture at the Western Massachusetts Guidance Symposium for Engineering and Engineering Technology, Smith College (sponsored by the Boston Museum of Science), April 12, 2005.

Re-focusing Engineering Education on the Learner. Invited workshop presentation for Invention and Impact: Building Excellence in Undergraduate STEM Education, NSF Course, Curriculum, and Laboratory Improvement (NSF-CCLI) program conference, Arlington, VA, April 17, 2004.

Effective Learner-Centered Educational Strategies for use in the Science and Engineering Classroom. Invited presentation at the National Consortium for Specialized Secondary Schools in Mathematics, Science and Technology 2004, New York, NY, March 11, 2004.

Preparing Women for the Technological World. Invited poster presentation at Invention and Impact: Building Excellence in Undergraduate STEM Education, National Science Foundation, Washington, D.C., April 2004. (with Andam, B., Cooke, C., Etheredge, S., Gralinski, T. Mikic, B., Rudnitsky, A., Scordilis, G)

The Commitment of Engineering to Public Education. Invited lecture at The Engineer's Responsibility to Society seminar series, Bucknell University, January 30, 2003.

K-12 Engineering Education Outreach at Smith College. Invited panelist at Engineering in Mass Collaborative, Waltham, MA, December 12, 2003.

Rudnitsky, A., Etheredge, S., Grasso, D., Andam, B., Cooke, C., Fazal, Z., Gralinski, T., Lewis, C., O'Rourke, J., Scordilis, G., Silverstein, B.(2003) Engineering and Education Partnership: Both Programs Benefit," Invited poster presentation at 2003 Engineering & Education Computing Program Grantee Meeting, National Science Foundation, Washington, D.C., September 22, 2003.

Creating a Partnership between Engineering and Education. Invited lecture at the Department of Civil and Environmental Engineering, University of New Hampshire, November 1, 2002.

Redesigning Engineering Education. Invited presentation at MassTEC Conference, University of Massachusetts, November 1, 2002.

Is there Gravity on the Moon and Other Thoughts on Teaching. Invited lecture at the University of Connecticut, March 1999.

Reliability-Based Design of Wastewater Treatment. Invited lecture at the Environmental Research Institute, University of Connecticut, May 1989.

Applications of ARMA Processes in Water Quality Engineering. Invited lecture at the Second International Conference on Statistical Methods for the Environmental Sciences, Lake Como, Italy, September 29, 1990.

Modelling Multiple Event Earthquakes. Invited lecture at the Kobori Research Institute, Tokyo, Japan, August 1988.

Other

Going Beyond Surface Learning—A Guide for Teachers and Learners in the Knowledge Age, Faculty Reunion Lecture, Smith College, Northampton, MA, May 18, 2018 and May 25, 2018.

Through My Window, Society of Women Engineers, Smith College, Northampton, MA, April 23, 2018.

Smith Students Join to Design an Imaginative World that Engages Children in Engineering, Smith Club of Palm Beaches, Florida, January 12, 2017.

Through My Window, National Afterschool Association Convention, Orlando, FL, March 20-23, 2016. (With B. McGinnis-Cavanaugh, S. Ellis and I. Huff)

throughmywindow.org, NSF Advancing Informal STEM Learning PI Meeting, North Bethesda, MD, February 29-March 2, 2016. (With B. McGinnis-Cavanaugh and I. Huff)

Through the Eyes of a Protagonist: Experiencing Knowledge Building in a Novel Way, Plenary Session, Knowledge Building Summer Institute, Trieste, Italy, September 9, 2015. (With B. McGinnis-Cavanaugh, S. Ellis and I. Huff)

Through My Window, National Science Foundation Advancing Informal STEM Learning (AISL) PI Meeting, Washington D.C., August 21, 2014. (With B. McGinnis-Cavanaugh)

Taking a Knowledge Building Approach to Teaching College Undergraduates, Knowledge Building Summer Institute, Laval University, Quebec City, Canada, August 13, 2014. (With A. Rudnitsky and B. Mikic)

Engineering and Narrative, Smith College Club of Hartford, West Hartford, June 23, 2014.

Through My Window, National After School Association Convention, New York, NY, February 28-March 2, 2014.

Through My Window, National Science Teacher Association National Conference, Boston, MA, 2014.

Through My Window, USA Science and Engineering Festival, Washington, D.C., April 25-27, 2014.

Creating a Learning Environment that Supports Knowledge Building, Smith College Club of Princeton, New Jersey, May 7, 2012.

Designing Learning Environments that Prepare Students for Success in the Knowledge Age, Association of American Colleges and Universities--Student Success: Pushing Boundaries, Raising Bars Network for Academic Renewal Conference, Seattle, Washington, March 22-24, 2012.

Knowledge Building, Sherrerd Center for Teaching and Learning Retreat, January 19, 2012.

Talk to Me, U.S. Science and Engineering Festival, Washington, D.C., October 16-17, 2010.

What is quicksand and can it really suck me to my death? Science at the Center, Smith College, March 31, 2010.

Fixing the Leaky Pipeline: Engaging and Retaining Women in Engineering, Smith College Club of Portland, Oregon, February 9, 2009.

Fixing the Leaky Pipeline: Engaging and Retaining Women in Engineering, Smith College Club of Chicago, Illinois, June 7, 2008.

Engineering Education Activities, Advancement Conversations, Smith College, March 2008.

Engineering, Education and Outreach. Sigma Xi, Smith College, April 5, 2005. (With Scordilis, G.E.)

Building an Engineering Program Integrated with Education and Child Study, Presentation at 2002 American Society for Engineering Education Annual Conference and Exposition, Montreal, Canada, June 2002.

Micro-Computer Based Physics Laboratory. Presentation at New England Teachers Conference, Springfield, Massachusetts, November 1995.

Application of Stochastic Processes for Environmental Risk Assessment. Presentation at the Statistical Methods for the Assessment of Point Source Pollution conference, Burlington, Ontario, Sept. 12-15, 1988. (with Grasso, D.)

Application of Autoregressive Integrated Moving Average Processes to Model Environmental Time Series. Presentation at the Fourth Annual Regional Symposium of the Society of Environmental Toxicology and Chemistry, New Brunswick, NJ.

OTHER PROFESSIONAL ACTIVITIES

Article and Book Reviewer

American Society of Engineering Education Annual Conference

Frontiers in Engineering Education Annual Conference

International Journal of Electronics and Electrical Engineering

International Journal of Engineering Education

International Journal of Mechanical Engineering Education

International Network for Engineering Education and Research

John Wiley & Sons, Inc.

Journal of Engineering Education

Journal of Environmental Engineering, American Society of Civil Engineers

Journal of Environmental Engineering and Science
Journal of Geotechnical Engineering, American Society of Civil Engineers
Journal of Soil Dynamics and Earthquake Engineering
Journal of Technology and Society, Institute of Electrical and Electronics Engineers, Inc.
Prentice Hall
Roman and Littlefield
Scientific Journal of Educational Technology
The Physics Teacher
Thompson Engineering

Grant Proposal Reviewer

NSF Innovations in Engineering Education, Curriculum, and Infrastructure (IEECI), June 2008.
NSF Course, Curriculum, and Laboratory Improvement (CCLI), July 2005.

Professional Committees and Boards

Advisory Board, FOUNDATIONS: Integrating Evidence-based Teaching and Learning into the Engineering Curriculum . National Science Foundation, 2015-2020.
Advisory Board, ENGAGE: Engaging Students in Engineering Through Instruction and Mentoring Women in Engineering Proactive Network (WEPAN), National Science Foundation, 2009-2014.
Science, Engineering and Mathematics Division Advisory Board, Holyoke Community College, 2010-2016.
Complex Systems Optimization Laboratory (COSOLA) Advisory Board, 2010-2011.
MACILE Preparatory Advisory Board, 2010-2011.
Higher Education Task Force on K-12 Math and Science, Great Schools Campaign, Mass Insight Education, 2005-2006.
ASEE K-12 Engineering and Outreach Program Committee, 2004-2005.
Engineering Program Review Board, Holyoke Community College, 2002.

Invited Participant at Professional Meetings and Panels

Workshop on Future Directions for Undergraduate Education in Mechanics of Solids, February 2-3, 2012, Houston, TX.
Participant in Beyond Human Intelligence: The Possibility of Technological Singularity, Short Term Kahn Project, Smith College, November 12-13, 2010.
Attended Workshop on Changing Engineering Education, Olin College, Needham, MA, July, 2009.
U.S. Professor of the Year Judging Panel, Carnegie Foundation for the Advancement of Teaching, Stanford University, August 8, 2008.
Mechanical Engineering Curriculum Reform Meeting, University of Washington, April, 2007.
Mechanical Engineering Curriculum Reform Meeting, Michigan State University, September, 2006.
Mechanical Engineering Curriculum Reform Meeting, Stevens Institute of Technology, April, 2006.
Liberative Pedagogies in Engineering Education, Smith College, Northampton, MA, 2005.

Mechanical Engineering Curriculum Reform Meeting, California State University, Los Angeles, CA, 2005.
GE College Bound/Math Excellence Conference, Stamford, CT 2005.
Engineer of 2020 National Education Summit, National Academy of Engineering, Washington, DC, 2004.
NSF Engineering & Computing Education Grantees Conference, Washington, DC, 2003.
Leveraging Experience to Accelerate Progress (LEAP): Moving Towards Gender Equity in Engineering Education Conference, National Academy of Engineering, Washington, DC, 2003.
NSF Engineering & Computing Education Grantees Conference, Washington, DC, 2002.
GE Fund Education Institute, GE Leadership Development Institute, Crotonville, NY, July, 2002.

CURRENT PROFESSIONAL MEMBERSHIPS

American Society of Engineering Education
National After School Association
Knowledge Building International

SERVICE AT SMITH COLLEGE

Service to Smith College

Member of Academic Honor Board, 2015-2018.
Led Sherrerd Center Teaching and Learning Seminar for New Faculty, 10 participants, 10 contact hours, 2018.
Faculty Fellow, Davis Educational Foundation Knowledge Building Grant, Smith College, 2012-2015.
Co-leader for Sherrerd Center Faculty Learning Community: Exploring the Potential Uses of Knowledge Forum to Promote Deeper Learning, 2011-2015.
Member of Sherrerd Teaching Award Committee, 2009-2011. (Chair 2010-2011)
Member of Smith College Committee on Educational Technology, 2006-2007, 2010-2011.
Faculty Learning Community Facilitator, Exploring the Potential Uses of Knowledge Forum to Promote Deeper Learning, 2010-2011.
Co-leader of Sherrerd Center Teaching and Learning Seminar, 8 participants in one group for 2009-2010; 18 participants in two groups for 2010-2011, 30 participants in three groups, 2011-2012.
Member of Science Planning: Classrooms Subcommittee, 2010-2011.
Member of Smith College Council on Community Policy, 2008-2011.
Member of Smith College Campus Planning Committee, 2006-2007, 2008-2011.
Organizing Fellow, How Useful is the Science of Learning? Kahn Institute, 2009.
Member of Grievance Committee 2008-2009 and 2012-2014 (participated in two cases).
Co-Chair, Center for Teaching and Learning working group, Fall 2008.
Co-developed and co-taught New Faculty Teaching and Learning Workshop, 2008.
Member of Smith College Teaching and Learning Center Committee, Spring 2008.

Member of Smith College Sponsored Research Advisory Committee, 2005-2007.
Search committee member for Director of Educational Assessment, 2006.
Search committee member for Director of Institutional Research, 2005.
Search committee member for Partnership and Outreach Coordinator, 2004.

Service to Picker Engineering Program

Faculty Mentor, 2015-2018.
Member of Book of Evidence Committee, 2016-2018.
Member of Curriculum Committee, 2013-2014.
Designed and taught statics review class for the Fundamentals of Engineering exam, 2014-2018.
Search committee member for Assistant Director, 2013.
Department Tenure and Promotion Committee (14 cases) 2006-2018.
Tau Beta Kappa honor society advisor, 2003-2018.
Master Tutor Coordinator, 2008-2009, 2013.
Director of Research and Honors Thesis, 2008-2009.
Department BA Curriculum Committee, 2007-2008.
Developed and taught one-week physics review course for academically at-risk students, 2007.
Member of Engineering Assistant Professor Search Committee, 2006-2007.
Chair of Engineering Assessment Officer Search Committee, 2006-2007.
Engineering Laboratory Supervisor search participant, 2006.
Chair of Department Curriculum Planning Committee, 2006-2007.
Member of Department Short Term Curriculum Issues Committee, 2006-2007.
Member of Department Curriculum Ad-hoc Committee, 2005.
Departmental representative to the Science Planning Committee, Spring 2003.
Student Portfolio Committee, 2001-2002.

Service to other Departments

Member of Statistical and Data Sciences Personnel Committee (2 cases), 2016-2018.
Member of faculty hiring committees for Statistical and Data Sciences, 2015-2016.
Member of Statistical and Data Sciences Steering Committee, 2014-2018.
Member of Statistics Program Advisory Group, 2010-2014.
Supervised the development of the Campus School Engineering Lab, 2003-2004.
Participated on faculty hiring committee for Physics Department, 2003.
Taught “Engineering Week”—one-week summer workshop to 21 education students, July 2003.
Developed technology/engineering teacher certification program, 2002-2003.
Participated in accreditation for Education and Child Study Program, 2002-2003, 2016.
Master’s Thesis Committee for Jill Belding, ESS, 2002.

Service to the Community through Educational Outreach

Worked with dozens of local schools and informal education programs using Through My Window educational website. 2013-2018.

Led half-day artificial intelligence workshop for Springfield Public School children, July 19, 2011.

Led one-day workshop for Springfield Public School teachers on the role of engineering in Springfield's history, March 26, 2011.

Organized and co-taught two-week construction technology and artificial intelligence professional development course for Springfield Public School teachers, July 2010.

Consultant to Groton School, Groton, MA on issues of teaching and learning in STEM fields, 2010.

Consultant to Castilleja School, Palo Alto, CA on issues of teaching and learning in STEM fields, 2009-2010.

Led one-day workshop for Springfield Public School teachers on engineering education, 2009.

Organized and co-taught two-week professional development for Springfield Public School teachers on engineering mechanics, July 2009.

Consultant to STEM Middle Academy, Springfield, MA on engineering design, 2008-2009.

Co-taught "Designing the Future for Teachers," one-week summer workshop for in-service teachers, Smith Summer Institute for Educators. Summer 2007.

Ford PAS Steering Committee. Worked with Pioneer Valley teachers to implement engineering education curriculum, 2004-2006.

Fellow, Foundation for Excellent Schools, AVD Partnership Program. Participant in program to partner college faculty and high school teachers, 2003-2005.

Smith Summer Institute for Educators. Developed and taught "Designing the Future for Teachers: Engineering in Middle and High School," one-week summer workshop for in-service teachers, Summer 2005.

Smith Summer Institute for Educators. Developed and taught "Designing the Future," two-week summer workshop for in-service teachers, Summer 2004.

Smith Summer Science and Engineering Program. Developed and taught "Discovering the Science of Music and Movement," two-week summer class, Summer 2002, Summer 2003.

SERVICE AT OTHER COLLEGES:

United States Air Force Academy

DFCE Curriculum Committee, 1997-1998.

DFCE Strategic Planning Committee, 1997-1998.

Clarkson University

University Faculty Senator, 1992-1993.

University Freshmen Life Committee, 1991-1993.

University Ad-Hoc Committee on Gender Issues in Engineering, 1992.

School of Engineering Curriculum Committee, 1990-1992.

Civil and Environmental Engineering Undergraduate Curriculum Committee, 1988-1993.

Civil and Environmental Engineering Teaching Improvement Committee—Chair, 1989-1993.

Civil and Environmental Engineering faculty mentor, 1991-1993.
Geotechnical Program Coordinator, 1992-1993.

Stevens Institute of Technology

Director of the Civil Engineering Department graduate program, 1987-1988.
Civil Engineering ABET committee, 1987-1988.

Educational Outreach

Culver Academy, Indiana. Program evaluator of mathematics, science and technology curriculum, 2000.

Conscious Creations: Computers, Minds, & Society. Consultant for obtaining funding, designing curriculum, teaching, and mentoring faculty in the four-week, NSF-funded Scientist as Humanist workshop. Concord, NH, 1993-1997.

Mind Talk: The Brain, the Mind and Human Meaning. Consultant for a documentary film developed by the New Hampshire Humanities Council, 1997.

MST '95 Math, Science, and Technology Research Conference. Organized research conference for high school students, St. Paul's School, 1995.