

Carol L. Stimmel

Box 401, Canaan, NY 12029 | cstimmel@manifestmind.com | 303.819.2068

PERSONAL PROFILE

After a 25-year career leading in advanced technology and sustainability, including engineering, product design, and writing scholarly books and research publications, I continue to expand my depth-of-knowledge, capabilities, and overall effectiveness in advancing international development and social progress through technological innovation. Currently completing my graduate studies in International Development, I continue to actively research and present on a global stage, sharing my passion for balanced technology designs and innovations that result in the advancement of a just society and protection of the natural environment.

I am a highly-accomplished professional with decades of experience in the fields of advanced technology, sustainability, and social change. From my very first professional endeavour, I have focused on applying my skills and talents to improving outcomes for at-risk populations who face myriad challenges, such as health and safety, climate change, personal privacy, and violent crime and exploitation. In all of these areas, I've concentrated on the ethical application and use of advanced technologies to help solve these societal problems, including actively working with law enforcement on exploitation cases, starting a volunteer group of high-tech investigators to help low-income fraud and abuse victims, publishing three books, producing scholarly reports, designing new products, writing long-form articles and opinion pieces, public speaking, and providing media support. I am also an enthusiastic student, and enjoying the continuation of my academic career, even as I continue my personal writing and speaking efforts.

EDUCATION

Clark University, MA, International Development and Social Change, expected Spring 2018
Stanford University, coursework in Energy Information and Emerging Technologies, 2013
University of Denver, Certification in Leadership Effectiveness Training, 1998
FAA, Certified Pilot, Single Engine Land, 1998
Randolph-Macon Woman's College, BA, Philosophy, 1987
University of Virginia, undergraduate coursework in anthropology, 1986
Lord Fairfax Community College, undergraduate coursework as a high schooler, 1982

EMPLOYMENT

Manifest Mind, Founder and CEO, 2012-Present
Navigant, Director of the Smart Utilities Practice, 2012
Tendril, Sr. Director of Product Management, Director of the Platform, 2008-09, 2011-12
E Source, Vice President of Research, 2009-11
OneRiot, Director, Software Engineering, 2006-08
Computer Intelligence through the Science of Forensics, Principal, 2004-06
Gartner, Vice President, Consulting, New Ventures, 2000-04
MediaOne Broadband Innovation Lab and USWest AT, Member of Technical Staff, 1997-2000
EDS Group, Advanced Systems Programmer, 1996-97
NCAR, NOAA, NASA, Software Engineer, 1991-96
Resource Systems Management, IT Specialist, 1990-91

PROFESSIONAL MEMBERSHIPS

Certified Computer Examiner (CCE), 2004-present
Alliance for Sustainable Colorado, Advisor, 2013-15
Boulder Chamber of Commerce, Active Member, 2013-15
High-Tech Crime Investigation Association (HTCIA), 2004-06

PROFESSIONAL BIOGRAPHY

Carol is an advisor to governments from across the globe, NGOs, solutions providers, and investors. She is the founder of 2 companies, served in operational leadership roles, engineered complex data systems for the US Government, led agile teams related to developing real-time systems, and worked on behavioural energy management. In the course of her career, she has won several patents, worked with cutting-edge teams, and participated in markets experiencing major upheaval, including telecommunications and energy. She is valued for her abilities to challenge status-quo thinking, yet find practical and pragmatic approaches to consistently move projects forward.

With the experience of 25 years in the trenches and in leadership positions, Carol applies her breadth of skills to cleantech projects with companies and investors who are placing money for a more inclusive and clean economy while looking to achieve a reasonable return on investment. Deeply optimistic, she believes that we can create positive change given the right insight that improves the capabilities for investments in the sustainable and efficient delivery of energy, food, and water.

Carol is a sought after speaker, analyst and author, including the books "Building Smart Cities: Analytics, ICT, and Design Thinking", "Big Data Analytics Strategies for the Smart Grid". She is a keynote speaker, media expert, guest journalist and source, and participates in many panels and forums. She has twice been named as a utility industry luminary, has advised the government of Ontario on their smart grid investments, and presented to the US DOE on changing business models. One of the first to write about radical market change driven by clean and distributed technologies, she frequently speaks on topics related to climate, including finance, behavioural motivations, and technical challenges.

FUTURE RESEARCH INTERESTS

My primary research interests are persuasion, social influence, and the uses of soft power involving the use of advanced technology and data manipulation to influence long-term economic and cultural outcomes.

AUTHORED BOOKS AND CHAPTERS

Stimmel, C.L. (2017). Contributing author to "Big Data Analytics for Power Systems."
Stimmel, C.L. (2017). "Evolving Innovation Ecosystems: A Guide to Open Idea Transformation in the Age of Future Tech."
Stimmel, C.L. (2016). Contributing author with the Chr. Michelsen Institute (CMI) and Instituto de Estudos Sociais e Economicos (IESE), Maputo, Mozambique, in "The Voice of China in Africa – Media and Soft Power."
Stimmel, C. L. (2015). "Building Smart Cities: Analytics, ICT, and Design Thinking."
Stimmel, C. L. (2014). "Big Data Analytics Strategies for the Smart Grid."
Olson, D. S. and Stimmel, C. L. (2002).
"The Manager Pool: Patterns for Radical Leadership."

SCHOLARLY PUBLICATIONS

- Stimmel, C. L. (2015). "Building the Foundation for Data Analytics." EDPACS 52(1): 1-13.
- Benes, C. R., R. F. Premus, M. K. Ruth, C. L. Stimmel, A. C. Tuck and A. J. Wheeler (2015). "Collaborative energy benchmarking systems and methods."
- Stimmel, C. and B. Gohn (2012). "Smart grid data analytics: smart meter, grid operations, asset management, and renewable energy integration data analytics: global market analysis and forecasts."
- Stevens, J. C. and C. L. Stimmel (2012). "Automating Inventory Management Of Consumer Items."
- Stevens, J. C. and C. L. Stimmel (2011). "Method and system for automating inventory management of consumer items."
- Stimmel, C. (2008). "Best Practices for Computer Forensics in the Field."
- Stimmel, C. L. (2004). "Virtual workplace intercommunication tool."
- Stimmel, C. L. and K. Anderson (2002). "Method and system for delivering a synchronized stream of broadcast event data, live event data, and static event data over a hybrid fiber coax network."
- Stimmel, C. L. (1999).
"New technologies and the quest for a balanced life: if women are hitting the glass ceiling now, what will it mean if they become invisible?"
Technology and Society, 1999. Women and Technology: Historical, Societal, and Professional Perspectives. Proceedings. 1999 International Symposium on Technology and Society, IEEE.
- Stimmel, C. (1999).
"Hold Me, Thrill Me, Kiss Me, Kill Me Pattern Language for Developing Effective Concept Prototypes." Proceedings of PLOP.

SYNDICATED RESEARCH

- Simpkins, D., Jungers, B.D., Stimmel, C.L. (2015). "Controlled Environment Agriculture: Systems, Issues, Crop Values, and Global Market Forecasts."
- Jungers, B.D., Stimmel, C.L. (2014). "Energy Management: How Techno-Fetishism Unraveled the HEM Market and How Services Will Mend it."
- Jungers, B.D., Stimmel, C.L. (2014). "Advanced Lighting for Indoor Agriculture: Performance, Adoption, and Cost- and Energy Savings."
- Jungers, B.D., Stimmel, C.L. (2014). "The Greening of Marijuana Growing: Energy Efficiency and Conservation in the Cannabis Industry."
- Simpkins, D., Stimmel, C.L. (2015). "The Emerging Hydroponics Market: Systems, Issues, Crop Values, and Global Market Forecasts."
- Machinchick, T., Stimmel, C.L. (2013). "The Mobile Telecommunications Market in Africa: Market Dynamics and Challenges, Unique Innovations, Sustainability Issues, and African Telecom Market Forecasts through 2020."
- Karlin, R., Simpkins, D., Stimmel, C.L. (2013). "Tapping into the Power of Civic Responsibility in Designing Conservation Programs."
- Vyas, C., Stimmel, C.L. (2012). "Energy & Environment Consumer Survey," Navigant Research.
- Hedin, M., Stimmel, C.L. (2012). "Automated Demand Response," Navigant Research.
- Strother, N., Stimmel, C.L. (2012). "Smart Gas Meters," Navigant Research.
- Kirkpatrick, K., Stimmel, C.L. (2012). "Power Line Communications for Smart Grids," Navigant Research.
- Strother, N., Stimmel, C.L. (2012). "Smart Grid Deployment Tracker 2Q12," Navigant Research.
- Lockhart, B., Stimmel, C.L. (2012). "Meter Data Management." Navigant Research.
- Vyas, C., Stimmel, C.L. (2012). "Smart Appliances." Navigant Research.

Asmus, P., Stimmel, C.L. (2012). "Microgrid Enabling Technologies." Navigant Research.
 Hedin, M., Stimmel, C.L. (2012). "Demand Response for Residential Markets." Navigant Research.
 Stimmel, C.L. (2011). "Frequently Asked Questions About Smart Meters," E Source.
 Stimmel, C.L. (2011). "Abandonment in the Residential Home Energy Management Space: Do Customers Care?" E Source.
 Stimmel, C.L. (2010). "Energy Management Systems: Consumers Aren't Buying It," E Source.
 Stimmel, C.L. (2010). "Addressing the Equity of Your Smart-Meter Enabled Pricing Program," E Source.
 Stimmel, C.L. (2010). "Reaping the Benefits of Smart Grid Through the Smart Grid Consumer Collaborative," E Source
 Stimmel, C.L. (2009). "What Customers Really Want from Energy Use Displays," E Source.
 Stimmel, C.L. (2009). "Should Utilities Wait for Smart Grid Standards?" E Source.
 Stimmel, C.L. (2009). "Using AMR Meters to Enable a Smart Home," E Source.
 Stimmel, C.L. (2009). "The Rundown on OpenADR," E Source.

AUTHORED INDUSTRY PUBLICATIONS

"If the center doesn't hold: Why the electric power industry could one day collapse," March 23, 2015, Guest Opinion, UtilityDive.
 "In New Utility Era, Energy Must Be Optimized," October 26, 2012, Navigant Research.
 "In-Home Displays Face Adoption Hurdles," October 8, 2012, Navigant Research.
 "LIFX Reinvents the Light Bulb," September 24, 2012, Navigant Research.
 "The Adaptable Utility: In a Darwinian Era, Only the Evolving Companies Will Thrive," September 17, 2012, Navigant Research.
 "The energy efficiency rebound: major fire or blowing smoke?" August 31, 2012, Washington Post.
 "Data Analytics for the Distractible," August 28, 2012, Navigant Research.
 "Are Investments in Changing Energy Consumers' Behavior Worth it?" July 26, 2012, Navigant Research.
 "Nudging Users Toward Smart Energy Choices," July 18, 2012, Navigant Research.
 "Building a Foundation for the Next Phase of Smart Grid Deployments," July 9, 2012, Navigant Research.
 "Prepaid Metering: Another Power Shift," June 15, 2012, Navigant Research.
 "Utilities Get Smart With Smart Meter Data," June 1, 2012, Navigant research.
 "Smart grid data analytics in the real world," July 17, 2012, Smart Grid News.

SELECT MEDIA MENTIONS

"Feeling the Heat," Utegration, August 16, 2016.
 "15 Smart Grid Experts Who Are Transforming Energy Use Around the World," Control Solution, May 17, 2016.
 "Can growing lettuces in the cloud help feed the world?" BBC News, December 22, 2015.
 "Pot, Power, and Politics," POWER Magazine, November 12, 2015.
 "The future of utility data," Intelligent Utility, November 3, 2015.
 "Residential energy storage: The industry's next big thing," Oct 6, 2015.
 "Diary of a Grid Defector," Utility Dive, July 10, 2015.
 "How Opower is pushing behavioral demand response into the mainstream," Utility Dive, May 27th, 2015.
 "All you need to know about Tesla's big battery announcement," Utility Dive, May 1, 2015.
 "How customer empowerment is helping utilities cut 'energy fat'," Utility Dive, March 26, 2015.
 "Frozen portions of Niagara Falls make for an icy spectacle," Mashable, February 19th,

2015.
 "How the home energy management market is reinventing itself," Utility Dive, January 28, 2015.
 "Why an energy services management marketplace for customers matters," Utility Dive, June 9, 2014.
 "SMUD: Time-of-use is the future of rate design," Utility Dive, May 13, 2014.
 "A new kind of utility: Why SolarCity wants to be 'more than a solar company'," Utility Dive, April 21, 2014.
 "Bringing energy efficiency to cannabis operations," Fierce Energy, April 22, 2014.
 "This is the grid. This is the grid on legalized marijuana. Any questions? Utility Dive, February 27, 2014.
 "The why, when, and how of full-circle customer engagement, Smart Grid News, January 3, 2013.
 "Smart appliance market to grow after 2015, Smart Grid News, October 3, 2012.

SELECT INVITED TALKS

Are We Ready for the Energy Revolution? Keynote Panel Moderator, European Utility Week, 2016.
 Winning in Competitive Energy Retail Markets, Moderator, European Utility Week, 2016.
 Distributed Energy Systems – Unpacking the Utility, Moderator, European Utility Week, 2016.
 2016 Southwest Utilities Days, Closing Keynote, 2016.
 Utility Analytics Forum, SAS, 2015, Keynote.
 The Role of Utilities in Smart Cities, Moderator, European Utility Week 2015.
 Cybersecurity: Does the Grid Need a New Approach, Moderator, European Utility Week 2015.
 Smart Meter Data - What is it good for? Moderator, European Utility Week 2015.
 Electric Vehicles: Grid Disaster or Opportunity? Moderator, European Utility Week 2015.
 The Internet of Things - Bursting the Hype 100%, Moderator, European Utility Week 2015.
 Renewable! The Microgrid - The Future of the Grid , Moderator, European Utility Week 2015.
 Disruptive Business Models -
 From Shifting Electrons to Energy Services, Moderator, European Utility Week 2015.
 European Utility Week/Engerati, 2014 & 2015, Contributing Advisor, On-camera subject matter expert, and interviewer (10 interviews).
 DOE, SunShot Initiative, 2015, Keynote.
 Smart Cities Week, 2015, On-camera subject matter expert, and interviewer (18 interviews), including spot with Julián Castro, secretary of US Dept of HUD.
 Utility Analytics Week, 2014, Closing Keynote.
 AESP Summer Conference, CA, 2014, Speaker and Moderator.
 Smart Energy Analytics, 2014, Speaker.
 Smart Grid Data Analytics for Utilities, 2013, Chairperson.
 Smart Grid Data Analytics for Utilities, 2012, Chairperson.
 Accelerate Canada/Smart Grid Canada, 2012, Speaker and Moderator.
 Accelerate Canada, Speaker, 2012.
 Smart Grid Canada, Moderator, 2012.
 Smart Grid Data Analytics for Utilities, 2012, Chairperson.
 Deming Center, Productive Collisions, 2012, Speaker.
 E Source Forum, 2011, Speaker and Moderator.
 American Load Control Alliance, 2011, Speaker.
 E Source Intelligent Grid Roundtable, 2011, Presenter.
 Distributech, 2010, Speaker.
 Sustainable Roundtable at the Kellogg School, 2009, Speaker.
 Energy Axis Conference 2009, Speaker.

SELECT CITATIONS, EXCLUDING PRIOR ART REFERENCES

- Troiano, Luigi, Alfredo Vaccaro, and Maria Carmela Vitelli. "On-line smart grids optimization by case-based reasoning on big data." *Environmental, Energy, and Structural Monitoring Systems (EESMS), 2016 IEEE Workshop on*. IEEE, 2016.
- González-Vidal, Aurora, et al. "Towards Energy Efficiency Smart Buildings Models Based on Intelligent Data Analytics." *Procedia Computer Science* 83 (2016): 994-999.
- Jindal, Anish, Neeraj Kumar, and Mukesh Singh. "A data analytical approach using support vector machine for demand response management in smart grid." *Power and Energy Society General Meeting (PESGM), 2016*. IEEE, 2016.
- Wei, Jin, and Gihan J. Mendis. "A deep learning-based cyber-physical strategy to mitigate false data injection attack in smart grids." *Cyber-Physical Security and Resilience in Smart Grids (CPSR-SG), Joint Workshop on*. IEEE, 2016.
- Asad, Zakia, and Mohammad Asad Rehman Chaudhry. "A Two-Way Street: Green Big Data Processing for a Greener Smart Grid."
- Sakamoto, Mizuki, and Tatsuo Nakajima. "Making citizens' activities flourish through a crowdsourcing-based social infrastructure." *Enriching Urban Spaces with Ambient Computing, the Internet of Things, and Smart City Design* (2016): 232.
- Dasari, Kiran, Anjaneyulu Lokam, and P. V. Jayasri. "A Study on Utilization of Polarimetric SAR Data in Planning a Smart City." *Procedia Computer Science* 93 (2016): 967-974.
- Anttiroiko, Ari-Veikko. "City-as-a-Platform: The Rise of Participatory Innovation Platforms in Finnish Cities." *Sustainability* 8.9 (2016): 922.
- Inoubli, Wissem, et al. "Big Data Frameworks: A Comparative Study." *arXiv preprint arXiv:1610.09962* (2016).
- Yager, Ronald R. "Diversity Measures for Smart Cities." *Towards Cognitive Cities*. Springer International Publishing, 2016. 197-209.
- Vyas, S. and R. Kumar (2015). "Sizing and strategic scheduling of distributed generators in a smart microgrid for the Indian pulp and paper industry." *Proc. India Smart Grid Week 2015*: 287-292.
- Shyam, R., S. Kumar, P. Poornachandran and K. Soman (2015). "Apache Spark a Big Data Analytics Platform for Smart Grid." *Procedia Technology* 21: 171-178.
- Diamantoulakis, P. D., V. M. Kapinas and G. K. Karagiannidis (2015). "Big Data Research." Albano, M., L. L. Ferreira and L. M. Pinho (2015). "Convergence of Smart Grid ICT architectures for the last mile." *Industrial Informatics, IEEE Transactions on* 11(1): 187-197.
- Sharma, M. and R. Padmanaban (2014). *Leveraging the Wisdom of the Crowd in Software Testing*, CRC Press.
- Girtelschmid, S., M. Steinbauer, V. Kumar, A. Fensel and G. Kotsis (2014). "On the application of Big Data in future largescale intelligent Smart City installations." *International Journal of Pervasive Computing and Communications* 10(2): 168-182.
- Girtelschmid, S., M. Steinbauer, V. Kumar, A. Fensel and G. Kotsis (2013). *Big Data in Large Scale Intelligent Smart City Installations. Proceedings of International Conference on Information Integration and Webbased Applications & Services*, ACM.
- CEH, E. H. C. (2013). "Introduction to Microgrids."
- Stanton, T. (2012). *Are Smart Microgrids in Your Future? Exploring Challenges and Opportunities for State Public Utility Regulators*, National Regulatory Research Institute, Report.
- Henze, G. P., V. J. Cushing, C. D. Corbin and S. Plamp (2012). "Integration of commercial building operations with electric system operations and markets."
- Kruschitz, C. and M. Hitz (2010). *Analyzing the HCI design pattern variety. Proceedings of the 1st Asian Conference on Pattern Languages of Programs*, ACM.
- Scaramellino, T. J. and E. J. Hausfather (2009). "Methods and apparatus for greenhouse gas footprint monitoring."
- Culp, C. H., D. E. Claridge, J. S. Haberl, W. D. Turner and M. Liu (2009). "System and method for diagnostically evaluating energy consumption systems and components"

of a facility."

Haskins, C. (2007). Not just another conference. Fifth Nordic Conference on Pattern Languages of Programs.

Thilmany, C. (2004). "NET patterns: architecture, design, and process."

Smith, E. M., D. R. Sewell and P. T. Golden (2004). "System and method for energy management."

Rising, L. and M. L. Manns (2004). "Fearless change: patterns for introducing new ideas."

Prince, M. and A. Schneider (2003). Excepts from a Set of Technical Leadership Patterns. EuroPLoP.

Kitchen, D. C., D. P. Space and D. P. Worksboi (2003). "1 COFFEE KITCHEN."

Proceedings of the 7th European Conference on Pattern of Languages of Programs, 2002, UVK, Universitätsverlag Konstanz.

Coldewey, J. and C. C. BDU (2002). Interaction Patterns of Agile Development. EuroPLoP.

Manns, M. L. and L. Rising (2000). Evolving a Patterns Culture. EuroPLoP.

Harrison, N. B. (1999). "The language of shepherding." Pattern languages of program design 5: 507-530.

Rising, L. (1998). "Introducing Patterns (or any new idea) into an Organization."