

John Murray Ph.D.

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Technical Management Consultancy

Accomplished investor, business unit leader and well-established multi-disciplinary data analytics researcher on complex dynamic, collaborative, interactive systems. Extensive experience forming and running innovative R&D initiatives, and initiating and managing multi-institution projects, in national and international commercial settings.

Core Professional Skills

Software Engineering Management ▶ Cognitive Ergonomics ▶ Human Performance Analytics
Industrial/Operations Engineering ▶ Autonomous Transportation Systems
Robotics & Artificial Intelligence ▶ Smart Product Design ▶ Strategic Business Planning

Education Credentials

Ph.D.; M.Sc., College of Engineering, University of Michigan, MI

M.Sc. Mechanical Engineering, Design Division (d-School), Stanford University, CA

B.Sc. Electrical Engineering, Dublin Institute of Technology, Ireland

Media Ecology Graduate Program, School of Education, New York University, NY

Professional Activities

Calidris Partners, Portola Valley CA
Manager and General Partner

Jan 2010 – Present

- Entrepreneur and technical adviser, pursuing new technology transfer opportunities in virtual reality, artificial intelligence, and spacecraft communications. Business plan development. Investor pitch deck preparation. SBIR proposal preparation. Strategies for international business structures.
- Seed funding investments. Design portfolio assessment and IP protection policy. Conduct GDPR and sensitive data management planning. Member: Keiretsu Forum.
- Facilitate management consulting and workshops on: AI, Ethics, and Society; Strategies for Global Cyber-Research; Innovation, Design, and Entrepreneurship.

SRI International, Menlo Park CA
Research Program Director, Computer Science Laboratory

Feb 2005 – May 2018

- Developed \$150M+ successful leadership proposals for contract R&D services, covering artificial intelligence, linguistics, pedagogical technologies, human cognition, crowd-sourced analytics, and transnational data mining, modeling, and simulation.
- Served as Principal Investigator and Lead Scientist on \$20M+ innovative analytics research on global virtual worlds, educational video games, and neuro-computational modeling of interpersonal trust.
- Coordinated and supervised multi-jurisdictional studies of human performance and behavior, primarily focused on cybersecurity analytics and decision support tools. Divisional Representative on Institutional Review Board (IRB), overseeing human subject research ethics.

Pemstar Pacific Consultants, Mountain View CA
Vice-President, New System Ventures

Mar 2000 – Jan 2005

- Key contributor to company growth from self-financed engineering design startup to successful \$20M+ acquisition by multi-national contract manufacturing firm.
- Prepared winning proposals for \$11M+ R&D contracts in communications, medical equipment, transportation, defense, and corporate security.
- Managed pioneering development projects for advanced wearable computers, navigation systems and ad hoc wireless networks for US Government and commercial clients.

Exponent/Failure Analysis, Menlo Park CA **Aug 1997 – Feb 2000**
Managing Research Scientist, Engineering Division

- Implemented \$2M+ rapid prototyping demonstrations and proof-of-concept engineering pilots for mobile data/voice communications systems.
- Conducted statistical analyses of vehicle transportation data, and supervisory control of nuclear power plants, in support of system security enhancements.
- Instituted \$1M Y2K consulting practice, using error prevention strategies, FMEA, etc. Analyzed cybersecurity failures and embedded systems reliability.

Selected Academic/Professional Service Engagements

University of Michigan, Ann Arbor MI **Sept 1991 – Jun 1997**
Engineering Researcher/Adjunct Professor

- Undertook human subject cognitive modeling experiments to study data visualizations, using verbal protocol coding and analysis, and statistical data models.
- Coordinated user-interactive UNIX software development, real-time analytics and scheduling for shuttle science operations center at NASA JSC.
- Taught undergraduate and graduate courses in introductory user interactive systems, cognitive ergonomics analyses, and HCI in a team teaching environment.

San José State University, San José CA **Feb 2012 – Present**
Visiting Researcher, College of Science

- Academic consultant on cross-disciplinary design research collaborations, independent study projects, and international educational outreach. Lecturer: Summer in Silicon Valley program.
- Support campus-wide strategies on digital privacy studies, virtual reality, and cybersecurity. Assist with research proposal development and grant applications.
- Member: Academic Senate WASC university accreditation committee, Advisory Board - Virtual Reality Laboratory.

USACM National Technical Policy Council **Jun 2016 – Present**

- Member, Association for Computing Machinery (ACM) US Technical Policy Council. Focus on national and international issues related to GDPR, commercial AI ethics, cybersecurity, individual data rights.

SRI Machine Consciousness Workshops **May 2017 – Aug 2017**

- Co-leader of AI Technology & Machine Consciousness international workshop series, an innovative eight-week multi-disciplinary program hosting over fifty neuro-scientists, philosophers, roboticists, data mining theorists, and other thought leaders.

Technologico de Monterrey, Mexico **Feb 2018 – Mar 2018**

- Global Faculty Program, Queretaro International Programs Office. Lectures and seminars on: artificial intelligence, ethics, and society; strategies for global cyber-research; innovation, design, and entrepreneurship; navigating uncertainly workshops.

Stanford University, d-School, Mechanical Eng. Design Division **Sept 2002 – Jun 2016**

- Graduate student design team sponsor/mentor/adviser – ME310, global product design entrepreneurship and innovation education.

Faculty of Arts, Aarhus University, Denmark **Jul 2016 – Nov 2016**

- Visiting Researcher, Centre for Digital Media. Joint studies on interactive collaborative systems. Consult on curriculum development for cybersecurity, innovation and entrepreneurship, and citizen science initiatives.

US Patents

- 6,909,706: Multicast wireless ad hoc packet routing
- 6,914,894: Role-based IP multicast addressing in a wireless LAN
- 8,928,582: Method for adaptive interaction with a legacy software application
- 9,423,827: Head-mounted display for viewing three-dimensional images

Selected Academic Publications & Speaking Engagements (Lead/Key Co-Author)

- **Playing With Our Selves: Examining Real Life Through Virtual Media**
Interdisciplinary workshop, GBT Conference, Roanoke VA, April 2019.
- **Towards Artificial Phronesis: Some Potential First Steps to Moral Agency Using Case Studies**
AAAI Spring Symposium, Stanford CA, March 2019.
- **VERUS: A Multi-Disciplinary International Study of Virtual World Users**
Social Interaction in Virtual Worlds, Cambridge University Press, June 2018.
- **Is Machine Consciousness Necessary for True AI Ethics?**
International Research Conference: Robo-Philosophy Workshop, Vienna, Austria, February 2018.
- **Formal Methods and Software Validation in the Real World**
Keynote talk, TrustInSoft Technical Seminar, ARMTechCon, Santa Clara CA, October 2017.
- **Explorations on the Fringes of Consciousness**
Technology & Consciousness Workshop Series, SRI International, Menlo Park CA, June 2017.
- **Game-Centric Pedagogy and Curriculums in Higher Education**
IISES Academic Sciences Conference, Rome, Italy, April 2017.
- **Innovation and Entrepreneurship in Education: Advanced Digital Education & Lifelong Learning**
Preface to Vol 2, Papadopoulos P, Burger R, Faria A (eds), Emerald Group Publishing, 2017.
- **Recent Adventures in Virtual Worlds: Some Traveller's Tales**
Science at Home Summit on Human Problem Solving and AI, Sandbjerg, Denmark, November 2016.
- **Research Ethics in Networked Society: Case Examples, Cultural and Transnational Challenges,**
<https://goo.gl/deQ5PK>, Centre for Teaching Development, Aarhus University, Denmark, October 2016.
- **Interpreting the Collectivity: AI Research Adventures in Virtual Environments**
Collective Intentionality X, European Conf. on Artificial Intelligence, Den Haag, Netherlands, August 2016.
- **Intelligent Coaching Systems in Higher-Order Applications**
Social & Economic Sciences Conf., Org. for Economic Cooperation and Development (OECD), France, 2016.
- **Privacy and Security in Crowd-Sourcing: Some Issues and Strategies**
Foundations of Digital Games Conference, Dundee, Scotland, July 2016.
- **Global Awareness Issues for End-To-End Internet-of-Things Cybersecurity**
IEEE End-to-End Trust And Security for the Internet of Things, Washington DC, February 2016.
- **Architecting Ethics Awareness in Transnational Online Research Programs**
Beyond IRBs: Ethical Reviews for Big Data Research. Future of Privacy Forum, Washington DC, Dec. 2015.
- **Detection of Demographics and Identity in Spontaneous Speech and Writing**
Multimedia Data Mining and Analytics: Disruptive Innovation, Springer 2015.
- **Aligning Research Ethics and Cybersecurity Studies in Transnational Environments**
24th Usenix Security Symposium, Washington DC, August 2015.
- **Something in the Way We Move: Quantifying Patterns of Exploration in Virtual Spaces**
Foundation of Digital Games Conference, Pacific Grove CA, June 2015.
- **Xylem: The (Code) Of Plants – Crowd-Sourcing Software Verification Though Video Games**
<https://www.youtube.com/watch?v=IQzczLDdsWY> Menlo Park CA, January 2014.
- **Identifying Individual Demographic Traits Through Virtual World Language Use**
Academy of Science and Engineering Conference on Social Computing, Alexandria VA, September 2013.
- **The Future Face of Human Interfaces**
SV Forum Game Changing Technology Conference, Microsoft Inc., Mountain View CA, May 2013.
- **Protocols for the Analysis of Interpersonal Trust (PAINTR) – Final Report**
US Air Force Research Laboratory, Wright-Patterson AFB OH, FA-8650-11-C-7113, December 2012.
- **Reynard VERUS Research Project – Final Report**
US Air Force Research Laboratory, Wright-Patterson AFB OH, RY-WP-TR-2012-0286, November 2012.
- **TEDx Talk: The Future of Identity – New Research Ideas at SRI International**
<https://www.youtube.com/watch?v=qteteaPieB0>, Menlo Park CA, May 2012.
- **Virtual Environment Real User Studies: Design and Methodological Considerations**
Journal of Applied Learning Technology, V1.1, Winter 2011.