Paula S. deWitte, J.D., Ph.D., P.E.

- **Lead, Maritime Cybersecurity, Texas A&M Galveston, September 2019 – present.** Vision is to create world-class Maritime Cybersecurity Center in research, academics, professional/workforce development, and innovation/commercialization.
- **Adjunct Professor of Law, Texas A&M University School of Law, June 2019 – present.** Position is within the Masters of Jurisprudence program – targeting working professionals (and not attorneys).
  - Delivered Legal Risk Management within Risk Track in Masters of Jurisprudence, Summer 2019.
  - Developed and delivered Enterprise Risk and Data Analysis within Risk Track in Masters of Jurisprudence, Fall 2019.
  - Developing two certification tracks within Masters of Jurisprudence for Fall 2020 kick-off:
    - Cybersecurity Management
    - Data Privacy and Security
- **Interim Director, Texas A&M Cybersecurity Center, January 2019 – August 2019.** https://cybersecurity.tamu.edu/
- **Member, Editorial Advisory Board,** Computers and Security, published by Elsevier, June 2018 -- present.
- **Principal Investigator, Scholarship for Service (SFS), NSF,** Texas A&M University, January 2019 – present (awarded January 2018).
  - **Co-Principal Investigator, Scholarship for Service (SFS), NSF,** Texas A&M University, January 2018 – January 2019.
- **Principal Investigator, CySP Scholarship Program,** Department of Defense, January 2019 – present.
- **Co-Principal Investigator, Cyber-Physical Situation Awareness for Energy Systems (CyPRES),** Department of Energy, Katherine Davis, Ph.D., Principal Investigator.
- **Presentation, Hawaii International Conference on System Sciences (HICSS), January 2020,** "Maritime Cybersecurity: Meet Threats to Globalization's Great Conveyer," co-authored with Robert "Chris" Bronk. Invited to submit a symposium half-day workshop on Cyber Resiliency for the 2021 HICSS.
- Invited to participate in **New Approaches to Cybersecurity Education (NACE)** Workshop, June 9 – 10, 2018. https://www.cerias.purdue.edu/site/nace/
- **Distinguished Alumna, 2015 Purdue University, School of Science, Mathematics Department,** April 17, 2015, West Lafayette, IN.
- **Co-Inventor of patent awarded by the USPTO,** "Method for using particle size analysis in near-time and real-time to create a proper particle size distribution with a drilling fluid management system for improved well drilling efficiency," US 8,812,236 B1, August 2015.
- **Co-inventor on patent application submitted to European Patent Office,** "System and method for responding to a cyber-attack-related incident against an industrial control system." May 2015, Application Number: EP20150157569.

Associate Professor of Practice, Computer Science and Engineering Department, Computer Science and Engineering Department , College of Engineering, July 2017 – January 2019. July 2017 – present.

- Director (January 2019 – July 2019) and formerly Assistant Director (July 2017 – June 2018), Texas A&M University Cybersecurity Center. Shared responsibility for building Center through educational and research grants and developing curriculum**.**

- Developed CSCE 477/703 Cybersecurity Risk, CSCE 402/702 Cybersecurity Law & Policy, and CSCE 201 Foundations of Cybersecurity.
  - Both Cybersecurity Risk and Cybersecurity Law & Policy are fully compliant with NSA CAE-Cyber Operations (CO) designations.
  - Each course has been taught both in-class and on-line.
- **Adjunct Professor of Law, June 2019 – present.**
  - Delivered Law 689 Legal Risk Management under Risk Track, Masters of Jurisprudence, Summer 2019.
  - Developed and delivered LAW 689 Enterprise Risk and Data Analysis, under Risk Track, Masters of Jurisprudence, Fall 2019.

Owner, Paula deWitte, PLLC (legal and technical services firm) 2009 – present
- Practice focuses on technology companies or start-ups: cybersecurity policy, data privacy, compliance, business formation, contracts, technology commercialization, and software licenses.
- Consulting engagement with large government agency identifying gaps in their cyber security program. Prepared report and briefing to agency CIO—October 2015.
- Consulting engagement with commercial company on FEDRAMP compliance (cloud security standards based on NIST and Common Criteria standards)—December 2015.

Research/Adjunct Faculty, Cybersecurity, College of Technology, University of Houston, Houston, Texas (part-time), May 2015 – June 2017.
- Taught undergraduate and graduate cybersecurity courses.
- Taught summer cybersecurity "bootcamp" under Wagner-Peyser grant administered by State of Texas to unemployed mid-career
- Participated on funded research on cybersecurity curriculum issues.
- Volunteer Mentor with University of Houston RedLabs Student Accelerator (2013 – 2016) and Rice University OwlSpark Student Accelerator (2014 – 2016).

CEO & Legal Counsel, Particle Size Engineering, LLC, (PSE) August 2013 – August 2017 and Mud Labs, LLC, February 2014 – August 2017.
- Co-Inventor of patent awarded by the USPTO, **US 8,812,236 B1.** Patent licensed to sister company, Mud Labs, LLC for on-shore at-rig mobile laboratories.

Cybersecurity Consultant & General Counsel, Secure-NOK AS, June 2013 – December 2014
- Developed technical concepts for incident response in industrial control systems. Wrote Guidebook comparing standards bodies and understanding standards related specifically to drilling.
- Attended and presented at industry cybersecurity focused conferences including:
  - International Association of Drilling Contractors Cybersecurity Workshop, October 10, 2014.
  - "*The Legal Side of Critical Infrastructure Security: What's Here and What's Coming*," American Petroleum Institute Cybersecurity Conference, November 12, 2014.

President & Owner, Reata Computing Services, Inc. (technical consulting firm), 1997 – 2012
Representative Projects:
- Consulted with Veterans Administration (VA) to write "Privacy Officer Body of Knowledge," to assist VA Privacy Officers with federal requirements.
- Consulted with technology-based businesses to develop new research and technology development business concepts, to commercialize technology, or to assist in building infrastructure. Example

projects: Developed total asset visibility concept for a small technology business to plan and support emergency operations after national catastrophe (e.g., hurricane). Wrote concept paper, proposal, and established necessary partnerships to develop system for the government client.

- Under National Science Foundation (NSF) Small Business Innovative Research (SBIR) funding, developed first integrated device that enabled quadriplegic users to use a simulated mouse along with keyboard entry, *StickMouse.*   Developed with quadriplegic software developer who tested and used the device.

Director, New Business Development, 21ˢᵗ Century Technologies, Inc., Austin, Texas, October 2003 – November 2005

- Organized business development processes including proposal writing process. Introduced network of retired flag officers as consultants to help gain both access for new business development and specific domain expertise. Established working relationships with University of Texas/San Antonio and Texas A&M University. Managed proposal submissions. Won 40% of proposals submitted (compared to national average of 10%).
- **Principal Investigator/Project Manager:**
  - Conceptualized new technology [Advanced Vulnerability Infrastructure Assessment Tool or *AVIAT*] under SBIR funding for determining likelihood of attack against infrastructure targets to assist in planning force protection. Won both Phase I and Phase II funding from Department of Homeland Security.
  - Conceptualized new technology [*TEGO,* Latin for *"to conceal"*] to automate functionality of Foreign Disclosure Officer (FDO) under SBIR funding. TEGO analyzes text messages between US and foreign coalition personnel to detect disclosure—perhaps unintentional—of sensitive information to generate an alert for a FDO decision maker.
  - Conceptualized natural language processing technology under SBIR funding [ExPERT] for selecting solutions contained in white papers with requirements for cyber security and won funding from United States Air Force (AFRL/Rome Labs). Problem is analogous to several other potential applications such as matching C&A (Certification and Accreditation) cyber security requirements against written enterprise policies, procedures, and processes. Won both Air Force Phase I and Phase II funding.
  - Conceptualized data mining and natural language processing technology under SBIR funding to improve maintenance of F-16 fleets and won funding from United States Air Force Research Laboratory (AFRL/WPAFB). Project analyzed discrepancies (or symptoms) to select best corrective actions. Analyzed with non-textual (codes) data (e.g., Action Taken, How Malfunction Occurred). Won Air Force Phase I funding.

President, North American Operations, Clockwork Solutions, Inc. (CSI), Austin, Texas, March 2000 – August 2003

- Clockwork Solutions, Inc.'s core technology was a Monte Carlo-based simulation toolkit for modeling the reliability, availability, and maintainability of complex, expensive assets (e.g., military aircraft fleet, GE utility power engines, chemical processing plants equipment).
- Doubled sales in first year. Sales growth from 2001 to 2002 was 48%. [Exact revenue and profitability numbers are confidential.] U.S. operations generated between 88% and 95% of world-wide revenue during tenure. Met or exceeded profitability targets.
- Built new major customer accounts with General Electric Power Systems (energy market), petrochemical/processing companies including Bechtel, PetroCanada, and Chevron Texaco, and US military (Air Force, Army, and Navy) and defense supplier chain (defense market).

- Member of executive team manage geographically dispersed team with R&D in Israel. Managed day-to-day North American operations as President. Took leadership in developing new business.

Co-Owner, Co-Founder, and Executive Vice-President, Knowledge Based Systems, Inc. (KBSI), College Station, Texas, April 1988 – January 1999.
- Managed research and technology development projects primarily for federal customers. Led and participated in research teams. Areas of research included 1) systems analysis, modeling, costing, and system development methods; 2) systems engineering, 3) engineering planning; 4) knowledge based software assistants for simulation environments; and 5) knowledge based CAD/CAM.
- Program Manager on research initiative funded by the Air Force over four years at $6.3M that researched theoretical foundations, methods, and experimental tools to successfully implement an information integration methodology in concurrent engineering environments. Produced new engineering methodologies that are now FIPS standards.
- Principal Investigator on several research contracts from the Air Force, Navy, National Science Foundation, NASA, and DARPA. Managed efforts, supervised research development, interfaced with customer, made presentations, and wrote reports and papers on research results.
- Built and managed strategic marketing partnerships, both nationally and internationally (i.e., Lanner in the U.K., Yamatake-Honeywell in Japan, BasarSoft in Turkey).
- Attended international conferences and made presentations on business process engineering techniques including Japan, Korea, England, France and Turkey.
- Defined product specifications for systems analysis/modeling tools including IDEF$\varnothing$ (AI$\varnothing$ WIN) Activity Modeling, IDEF1X (SMARTER) Data Modeling, IDEF3 (PROSIM) Process Modeling. [IDEF refers to standard government and commercial system analysis methods.]
- Commercialized research results to create marketable high-technology products.
- Briefed congressional staff on formulating policy to enable partnerships involving businesses, academic institutions, and federal laboratories, 1996.

EDUCATION

Juris Doctorate, St. Mary's School of Law, San Antonio, Texas, December 2008.
- Co-authored "*Loose Lips Sink Attorney-Client Ships: Unintended Technological Disclosure of Confidential Communications,*" with Bill Piatt. St. Mary's Law Journal, Vol. 39, No. 4, 781-818.
- Participant, Summer Law Institute in St. Petersburg, Russia, University of Arkansas, 2008.
  - Authored article on summer abroad experiences for national student magazine. One of five selected for publication in ABA Student Lawyer, January 2009, Vol. 37, No. 5.
- Received Alma Lopez Women in Law Leadership Award, March 2008. Award was named for Alma Lopez, retired Chief Justice, Fourth Court of Appeals, San Antonio. Justice Lopez was the first female Hispanic state appellate judge in the United States.
- Additional Law School Publications:
  - *Privacy and Emerging Technologies in the Age of Terrorism Or Why Do We Allow Google to Scan Our E-mails but Not the Government.*
- Graduation speaker, December 11, 2008.
- **Ph.D., Department of Computer Science,** Texas A&M University, College Station, Texas, August 1989. Dissertation: *A Computational Approach for Processing Locative and Temporal Information in Clinical Medical Records.*
- **Masters of Science, Education,** Purdue University, West Lafayette, Indiana, December 1975.
- **Bachelors of Science, Mathematics,** Purdue University, West Lafayette, Indiana, May 1974.

- Registered Texas Professional Engineer, P.E. License Number: 95276.
  - One of less than 60 Registered Professional Engineers in Software Engineering (SWE) in Texas.
- Attorney, Licensed in the State of Texas, Texas Bar Number: 24067577.
- Patent Attorney, United States Patent and Trademark Office, Registration No. 75,555.

OTHER TEACHING AND RESEARCH

Aug. 1989 to Aug 1992: Adjunct Faculty, Computer Science and Industrial Engineering Departments, Texas A&M University, College Station, Texas.

- On-campus coordination and teaching of graduate courses in Software Engineering and Database Systems for the School of Engineering and Logistics (SEL), U.S. Army, within Industrial Engineering. Co-chaired thirteen Masters Committees and reviewed theses for Army civilians in the SEL Program.
- Taught Environments for Artificial Intelligence and Natural Language Processing in Computer Science.

May 1984 to December 1989: Research Associate, Knowledge Based Systems Laboratory, Industrial Engineering Department, Texas A&M University, College Station, Texas. Conducted research in information engineering technologies for Air Force, NASA, and Sematech. Co-Principal Investigator for major research efforts: 1) "Knowledge Based Integrated Information System Development Methodology" for Sloan School of Management at MIT (Developed initial concepts for IDEF3 Process Modeling Methodology for United States Air Force), and 2) "An Intelligent Data Collection System" for Scott & White Clinic, Temple, Texas which became Ph.D. dissertation work.

July 1978 to May 1984: Research Analyst, Service Life Management Division, University of Dayton Research Institute, Dayton, Ohio. Worked with research team of fracture mechanics, stress engineers, and statisticians to develop predictive models for scheduling maintenance for structures, specifically the C5-A. Also, compiled Air Force Damage Tolerant Handbook and supported various research projects on an as needed basis.

May 1977 – July 1978, Analyst/Programmer, Mound Nuclear Facility, Miamisburg, OH. Maintained and further developed first inventory system for nuclear materials on-site. Used as prototype for Sandia National Labs.

REPRESENTATIVE PRESENTATIONS

- "*Developing an Operational Framework for Integrated System Security*," Center for Education and Research in Information Assurance and Security (CERIAS) Seminar, Purdue University, November 1, 2006. CERIAS is a National Science Foundation center of excellence in cybersecurity research.
- "*There's a Stranger in the House: How to Protect Your Privacy in This Age of Cyberterrorism,*" Integrative Center for Homeland Security, Texas A&M University, April 4, 2006.

REPRESENTATIVE TECHNICAL PUBLICATIONS

- **"Prepare to be Boarded: The New Practical Paradigm for Security Assets" (**paper) and "**Maritime Cybersecurity" (**presentation) at Southeastern Admiralty Law Institute, June 26 – 27, 2015, Point Clear, AL organized by the Institute of Continuing Legal Education in Georgia.
- *Delivering Results: Evolving BPR from Art to Engineering*. **Published in <u>Business Process Engineering: Advancing the State of the Art</u>,** Kluwer Publishers, 1999, co-authored with Richard J. Mayer.