

Professional Management Consultancy

“STEM-plus” Research and Application Expertise
Special And Extraordinary Investigation and Analysis
Time-Critical Management and Technical Solutions
Project Initiation, Interim Management and Review

Martin Joseph Dudziak, PhD

Martin is a co-founder and consulting scientist for MIRNOVA Foundation and Academy, an international scientific education and research organization. As part of his work over the past decade, serving within academic, corporate and public institutions, he has conducted research investigations, product design and development, entrepreneurial business development and management, other assignments. Martin has worked in his native United States and also in European, Latin American and Far East countries. His special forte in corporate consultancy services is in the identification, assessment and analysis of challenges facing companies and organizations that operate in emerging and mass-market technical domains, engage in multi-national and multi-cultural production and marketing, and face critical and timely decisions in today's climate of environmental, socioeconomic and political change and flux.

The topics and themes listed below identify areas of Martin's unique abilities and skills which can be brought to serve well the interests of clients and employers as they have for over the past three decades. This list provides an introduction for what can be discussed in detail personally and directly.

Martin is available by retainer and under appropriate and customary contract terms. Long-term and virtual/temporary full-time assignments will be considered. Engagements will necessarily accommodate family needs and prior/ongoing commitments. Martin is particularly adept in the self-management and balance of parallel tasks. Moreover, the benefits of integrating the MIRNOVA Program to serve any client engaging Martin in their employment cannot be overstated.

Martin's full curriculum vitae and supportive resume materials (including lists of publications, grants and contracts, instrumentation and software competencies, references) as well as selected papers and presentations are available upon request. A concise biography is available online at <http://mirnova.org/martinjosephdudziak-basic-prof-bio-jan2018.pdf>.

Note that Martin's value to a client or employer is both in “deep tech” and in management including critical task-areas:

- ◆ evaluating new and changing markets and impacts from “attractor/disruptor” forces
- ◆ assessing disruptive breakthrough competition and “futures threat” factors
- ◆ negotiating joint ventures and consortium projects, particularly multi-national
- ◆ initiating and planning new R&D and product development including multi-site teams
- ◆ interfacing between diverse corporate sectors and staff and internal/public relations
- ◆ solving problems that benefit from interdisciplinary approaches and “outside of the box” thinking

Key Positions

§ Co-Founder / Consultant Scientist	MIRNOVA Academy (2016 – present)
§ Co-Founder / Fellow	Institute for Innovative Study (2005 – 2017)
§ Chief Scientist / Managing Director	TETRADYN (2003 - 2017)
§ Visiting/Adjunct Professorships	UCR (2001-02); MSU (2002-06); also at U-Pitt, U-Va, U-Tx, Vanderbilt, VaTech, Michigan (2005 – 2016)
§ Research Scientist & Group Manager	Intel Corporation (2000 – 2003 +cons.)
§ Director of Research & Development	Silicon Dominion Corporation (1996 - 2001)
§ Professor (dual departmental appts.)	Virginia Commonwealth University (+ Medical Center of VA) (1993 – 98 +cons.)
§ Senior Scientist	SGS-Thomson Microelectronics (ST Microelectronics) (1988 – 93 +consulting)
§ Senior Engineer / Project Manager	Martin-Marietta Aerospace (Lockheed-Martin) (1985 - 88)
§ Research Scientist	Battelle Institute and Laboratories (1982 - 85)

Formal Higher Education

- § Science Honors Program, Canisius High School, Buffalo, NY
- § BA (high honors), dual-major (Philosophy+Physics), Colgate University, Hamilton, NY
- § Postgrad program in computer science at UCSB and UCLA, Los Angeles, CA

§ MA, Philosophy of Physics (concentration: quantum logics) Johns Hopkins University, Baltimore, MD

§ PhD, Theoretical and Computational Physics, Union Institute and University, Cincinnati, OH (1993)

“Quantum Processes and Dynamic Networks in Physical and Biological Systems”

(doctoral advisors: D. Finkelstein, D. Bohm, B. Hiley, R. Penrose, K. Sharpe, J. Crain)

<p><u>Computational Sciences and Information Technologies</u> Synthetic (artificial) intelligence and machine learning Image processing and pattern recognition Functional programming languages and systems Parallel distributed processing and network computing Cybersecurity and cryptography Optimization and control in extreme complex environments Quantum computing (algorithms)</p>	<p><u>Physical and Biological Sciences</u> Theoretical and computation physics (classical/quantum) Organic chemistry including chem-bio-rad technologies Spectroscopy and nanoscalar sensing and monitoring Microbiological sensor and analysis instrumentation “CBRNE” applications to public health and safety (esp. epidemiology)</p>
<p><u>Electronics and Engineering Technologies</u> Robotics (including UAV, ULV, AUV systems) Microelectronic machine systems (MEMS) Internet-of-Things (IoT) and wearable-fashion tech Asymmetric, stochastic, randomized networks Smart farming and robotics/IoT in agriculture Quantum computing (machines and systems)</p>	<p><u>Enterprise and Venture Business Development</u> Assessment, development, review of business/financial plans Interim C-level management functions Analysis and review of employee and team dynamics Business plan training, development and mentorship Evaluation of emerging markets for new-venture products Effective brokering and negotiation regarding new tech, products, and market regions</p>
<p><u>Expert Witness Consultation</u> Civil and criminal case representation involving STEM topics with special emphasis on physical/biomedical technologies Behavior analysis and topics concerning forensic evidence, tracking and analysis procedures Analysis and counterarguments to competing expertise</p>	<p><u>Applied Mathematics and Statistics</u> Classical mathematics and non-linear systems Topology and process algebras Set and group theory Probability and game theory Statistics, predictive analysis and forecast modeling</p>

Special Attributes

Extensive (25-year-plus) experience (including residential periods) in Russia and other former Soviet Union countries
 Strong foundation in business, culture, history, social structures of European and Asia nations, especially the developing Eurasia trade corridor and BRICS nations, with an extensive and reliable network of colleagues
 Skilled in multiple aspects of business/technical proposal development, review, evaluation, negotiation
 Active in emerging and highly dynamic industry and commerce sectors including cryptocurrency, autonomous robotics, intelligent agriculture, space-based engineering and commercialization.

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