

Michael Switkes



Ph.D. scientist and manager with an extensive portfolio of research, technology development, analysis, and project management in defense science and technology, biosecurity, counter-terrorism, and semiconductor technology; proven leadership in the development and implementation of multinational scientific and technical projects; bilingual with executive-level communication skills in English and French.

Draper Inc.

PROGRAM MANAGER, NATIONAL SECURITY AND SPACE

2016-present
Cambridge, MA

- Develop and execute new programs in science, technology, and engineering, primarily for national security customers.
- Currently managing a portfolio of programs for multiple customers including a \$15M/year 20+ FTE enzymatic DNA synthesis effort

North Atlantic Treaty Organization (NATO)

SCIENCE ADVISOR IN THE COUNTER-TERRORISM SECTION AND
THE SCIENCE FOR PEACE AND SECURITY PROGRAMME (SPS)

2012-2016
Brussels, Belgium

SCIENCE & TECHNOLOGY PROGRAM DEVELOPMENT

- Developed over a dozen multi-stakeholder international science and technology cooperation projects including several high profile "flagship" projects
- Lead communications and negotiations among scientists, end-users, project evaluators, and NATO Allies, creating collaborations and diplomatic relationships to ensure project approval and funding

PROJECT AND INTERNATIONAL EVENT MANAGEMENT

- Provided financial and technical oversight for more than 30 ongoing NATO-funded international research collaborations and 15-20 annual NATO-funded workshops and training courses.
Key outcomes include:
 - = Promotion of technical excellence and assurance of financial responsibility and compliance
 - = Optimization of internal and external communications including press and publicity
 - = Coordination of relationships among scientists, scientific board, and Allied governments
 - = Evaluation of ongoing and completed projects for NATO Allies and international auditors
- Planned and managed high profile projects and events including ambassadorial visits, high-level expert meetings, and the STANDEX project (<http://goo.gl/VE71Ri>)

REFORM OF THE SCIENCE FOR PEACE AND SECURITY PROGRAMME

- Led a major reform of SPS grant conditions that reduced administrative overhead, improved grant accountability, and made grants more attractive for recipients
- Rewrote public-facing grant applications and management handbooks used by hundreds of applicants per year, streamlining administration for applicants, grantees, evaluators, and SPS staff
- Improved and systematized project and event evaluation
- Led the reform of SPS IT to replace a 25-year-old database with modern tools

NATO SCIENCE AND TECHNOLOGY STRATEGY

- Co-wrote the Alliance-wide NATO Science and Technology Strategy as one of four members of the *Core Writing Team*, incorporating and responding to input from stakeholders across the Alliance

NATO EXECUTIVE DEVELOPMENT PROGRAMME (NEDP) 2014-2015

- Participated in a highly selective year-long multi-country management training course
- Principal author of a group report on fulfilling NATO's Duty of Care toward civilians traveling to dangerous areas; presented to senior NATO executives

Massachusetts Institute of Technology Lincoln Laboratory 1999-2012
TECHNICAL STAFF IN THE CHEMICAL, MICROSYSTEM, AND NANOSCALE TECHNOLOGIES GROUP Lexington, MA

IMMERSION LITHOGRAPHY

- ◊ Led the early development of immersion lithography, a current standard state-of-the-art semiconductor manufacturing technology
- ◊ Built strong collaborations with industrial partners from three continents to obtain billions of dollars of worldwide industry investment to discover and address pre-implementation issues

TECHNOLOGY ANALYSIS

- ◊ Participated in three major studies guiding defense technology investment through quantitative, outcome-based analysis of the potential impact of new technology on missions
- ◊ Consulted widely with academic, industrial, and government researchers
- ◊ Recommended technology investment strategies to government funding agencies

CHEMICAL DETECTION

- ◊ Led the development of novel chemical contamination detectors from concept through prototype
- ◊ Evaluated the performance of chemical detection equipment for a variety of operational scenarios
- ◊ Analyzed large datasets from deployed sensor systems; recommended system improvements

TECHNOLOGY ADVISORY GROUP

- ◊ Member of the Technology Advisory Group, the "cabinet" for Lincoln's Chief Technology Officer
- ◊ Staged the first *Lincoln Laboratory Challenge*

LEAD TECHNICAL RECRUITER FOR STANFORD UNIVERSITY

- ◊ Organized and tasked technical recruiting team for ten years of biannual campus visits
- ◊ Reviewed thousands of resumes and made first-line interview/no interview decisions
- ◊ Organized and conducted over 15 student information sessions and hundreds of on-campus interviews

Stanford University 1995-1999
PH.D. IN PHYSICS Stanford, CA

DISSERTATION: *DECOHERENCE AND ADIABATIC TRANSPORT IN SEMICONDUCTOR QUANTUM DOTS*

- ◊ Studied the quantum mechanics of many-electron systems with precision electrical measurements
- ◊ Operated, maintained, and modified cryogenic and clean-room microfabrication equipment

Haverford College 1991-1995
B.S. IN PHYSICS MAGNA CUM LAUDE, ΦBK Haverford, PA

Other

native speaker of English bilingual French (C2) functional Spanish (B1/B2)

Over 50 published scientific articles; publications list available on request

Extensive experience programming for data analysis and acquisition in Igor Pro, SQL, C, and other languages; research and administrative database design and implementation

United States citizen with an active TS//SCI clearance