

CHRIS DWAN

Technology leader and scientific computing expert building IT architectures for the life sciences. Cross cutting understanding of scientific, business, and organizational drivers. Skilled communicator and experienced leader who builds teams to last, breaks down technology barriers, and drives scientific progress.

PROFESSIONAL EXPERIENCE

INDEPENDENT CONSULTANT

2017 – Present

<https://dwan.org>

- Independent consultancy dedicated to accelerating the tempo of biomedical research and personalized medicine.
- Data strategies and information architectures for biotech and pharmaceutical companies.
- Technology leadership, including information security, blockchain, and cloud strategies.
- Mentor to emerging technology leaders.

BROAD INSTITUTE OF MIT AND HARVARD, Cambridge, MA

2014 – 2017

<http://broadinstitute.org>

Director, IT Architecture and Strategy (2016 – 2017)

Acting Director, IT (2015 – 2016)

Director, Research Computing and Data Services (2014 – 2016)

- Directed Research Computing: 35 person team, \$7M budget, supporting a community of 3,500 researchers.
- Acting Director for all of Broad IT during the yearlong search for a new CIO: 65 person team, \$17M budget.
- Partnered with institutional leadership to define, create, and implement a cloud based data sciences platform.
- Consolidated and re-architected the scientific computing environment, 16,000 core HPC system and 30PB of data.
- Implemented solutions across multiple public and private clouds (AWS, Google, OpenStack, VMWare).
- Supported security and compliance processes including HIPAA, CLIA, and FISMA.
- Implemented federated systems for authentication and data access using Oauth and SAML
- Participated in regional and national conversations around blockchain and smart contract systems for electronic health.
- Built partnerships and led vendor negotiations to ensure cost effective access to cutting edge technology.
- Cultivated a network of collaborators and technology leaders across partner institutions, including Harvard Medical School, Dana Farber Cancer Institute, and Partners health care system.
- Mentored and developed teammates and emerging leaders within IT.
- Supported diversity, inclusion, and transparency initiatives.

NEW YORK GENOME CENTER, New York, NY

2011 – 2014

<http://nygenome.org>

Acting SVP, Acting Deputy Scientific Director: Research Computing and IT

- First information technology professional at the New York Genome Center, from inception through full operation.
- Architected, designed, and implemented the computing, data storage, and network infrastructure for the center, including supporting site selection and substantial renovations to the downtown Manhattan headquarters.
- Developed federated systems for identity management across participating research institutes
- Reported to the Executive Director. Presented regularly to the Board of Directors.
- Built the IT department to support both enterprise and scientific computing needs.
- Developed lasting collaborative relationships with technology peers at the center's partner institutions.

THE BIOTEAM, INC., Boston, MA
<http://bioteam.net>

2004 – 2012

Principal Investigator, Director

- First full-time employee.
- Provided technology solutions and strategic advice to hundreds of customers in genomics and life science, including biotech, pharma, government, and the military.
- Supported the Navy Medical Research Lab in implementing secure high performance computing and data storage systems.
- Specified, architected, and managed the purchase and implementation of large scale computing and data storage systems – including AWS cloud based computing as early as 2006 and petabyte scale data storage in 2007.
- Director of the consulting team, including responsibility for operational delivery and business performance.
- Member of the Board of Directors.

UNIVERSITY OF MINNESOTA, Minneapolis, MN

2000 – 2004

Bioinformatics Programmer, Center for Computational Genomics and Bioinformatics

- Implemented analytic pipelines for bioinformatics.
- Partnered with scientists to deliver relevant, accurate results in human and crop genomics.
- Developed a wide area (multi-cluster) HPC environment to accelerate BLAST.

ERIM / VERIDIAN SYSTEMS, Ann Arbor, MI

1996 – 2000

Research Engineer

- Developed algorithms for automatic detection and identification of military targets using neural networks, support vector machines, and Bayesian machine learning techniques.
- Developed sensor fusion algorithms to combine information from various sensor modalities (Forward Looking IR, Synthetic Aperture Radar, and others) for unexploded ordinance detection.
- Represented the company in multiple onsite rotations at the Army Research Lab in Adelphi, MD.

THE UNIVERSITY OF MICHIGAN, Ann Arbor, MI

1995 – 1996

Systems Administrator, Computer Aided Engineering Network**E D U C A T I O N**

Master of Science and Bachelor of Science, Computer Science, THE UNIVERSITY OF MICHIGAN, Ann Arbor, MI

P U B L I C A T I O N S

1. Cannon, S. et al. "Databases and Information Integration for the Medicago Truncatula Genome and Transcriptome." *Plant Physiology*. May, 2005.
2. Herron, L. et al. "Genome Sequence Survey Identifies Unique Sequences and Key Virulence Genes with Unusual Rates of Amino Acid Substitution in Bovine Staphylococcus Aureus." *Infection and Immunity*. July, 2002.
3. Karo, M. et al. "Applying Grid Technologies to Bioinformatics." Proceedings of the IEEE on High Performance Distributed Computing. August, 2001.
4. Marble, J. et al. "Sensor Fusion Performance Gain for Buried Mine / UXO Detection using GPS, EMI, and MAG Sensors." Proceedings of the SPIE, Detection and Remediation Technologies for Mines and Minelike Targets. August, 2000.
5. Dwan, C. and Der, S. "Neural Network Based Target Detection System for FLIR Imagery." Proceedings of the SPIE, Applications of Artificial Neural Networks in Image Processing. April, 1998.