Curriculum Vitae
MARY E. DOLAN, Ph.D.

Department of Bioinformatics and Computational Biology
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EDUCATION

The University of Chicago, Chicago, Illinois   1972-79
    Ph.D., Physical Chemistry/Chemical Physics
        Dissertation Title: Penning Ionization in He*Li: A Theoretical Investigation
        Dissertation Advisor: Prof. R. Stephen Berry
    M.S., Physical Chemistry

The University of Maine, Orono, Maine   1997-2002
    M.S., Computer Science, Software Engineering
    Research Project: Software Engineering in the Automation of a Scientific System

Fordham University, Bronx, New York   1966-70
    B.S. (Magna cum Laude), Chemistry/Mathematics

PROFESSIONAL EXPERIENCE

The Jackson Laboratory, Bar Harbor, Maine   2001-present
Department of Bioinformatics and Computational Biology
Research Scientist   2009-present
Bioinformatics Analyst   2001-2009
    Research interests: Biomedical ontologies; Cancer; Comparative genomics; Data integration;
    Computational methods; Data visualization

Department of Spatial Information Science and Engineering   2001-2012
University of Maine, Orono, Maine
Research Faculty, National Center for Geographic Information and Analysis
    GenoSIS (Genome Spatial Information System) Project, research collaboration of The Jackson
    Laboratory and NCGIA: application of the concepts, methodologies, and tools of geographic and
    spatial information science to the modeling and interpretation of genome data

The University of Maine, Orono, Maine   1998-2000
Computer Science Department, Software Engineering Lab
Graduate Research Assistant
Graduate Teaching Assistant/Primary Instructor: Introduction to Personal Computers

University College, The University of Maine System, Bangor, Maine   1994-97
Liberal Studies Program, Developmental Studies Program
Instructor in Mathematics

The University of Maine, Orono, Maine   1992-1994
Department of Biochemistry, Microbiology, and Molecular Biology
Postdoctoral Research Associate: Theoretical/computer modeling study of DNA denaturation

The University of Maine, Orono, Maine   1991-92
College of Sciences
Program Director, Support for Science Students Program

Byways School, Old Town, Maine   1988-90
Co-founder, Director, Cooperating Parent-Teacher

Husson College, Bangor, Maine   1988-89
Academic Development Program
Math Specialist

The University of Maine, Orono, Maine   1983-88
Department of Chemistry
Assistant Professor, Adjunct Assistant Professor: Teach physical chemistry, general chemistry.

Columbia University, New York, New York   1980-82
Department of Chemistry
Postdoctoral Research Associate: Computer modeling of vibrational predissociation of van der Waals molecules

Université de Paris-Sud, Orsay, France   1979-80
Laboratoire des Collisions Atomiques et Moléculaires
Postdoctoral Research Associate: Theoretical study of collisional population transfer among highly excited states of atoms

The University of Chicago Laboratory School, Chicago, Illinois   1975-77
Substitute Teacher in Science and Mathematics, Grades 6-12

The University of Chicago, Chicago, Illinois   1972-74
Department of Chemistry
Teaching Assistant: General Chemistry Sequence, Physical Science Sequence

Bell Laboratories, Murray Hill, New Jersey   1970-72
Chemical Physics Research Department
Senior Technical Aide: Computer calculations in chemical physics; Applications of computer graphics

Fordham University Computing Center, Bronx, New York   1967-70
Programmer: Various scientific and business programming problems

PUBLICATIONS

Dolan ME, Baldarelli RM, Bello SM, Ni L, McAndrews MS, Bult CJ, Kadin JA, Richardson JE, Ringwald M, Eppig JT, Blake JA. Orthology for comparative genomics in the mouse genome database. *Mamm Genome.* 2015 Aug;26(7-8):305-13.

Drabkin HJ, Christie KR, **Dolan ME**, Hill DP, Ni L, Sitnikov D, Blake JA. Application of comparative biology in GO functional annotation: the mouse model. *Mamm Genome.* 2015 Oct;26(9-10):574-83.

The Gene Ontology Consortium. Gene Ontology Consortium: going forward. *Nucl. Acids Res.* 2015;43 (D1): D1049-D1056.

Blake JA, Bult CJ, Eppig JT, Kadin JA, Richardson JE; **Mouse Genome Database Group**. The Mouse Genome Database: integration of and access to knowledge about the laboratory mouse. *Nucleic Acids Res.* 2014 Jan;42(Database issue):D810-7.

Dolan, ME. Capturing cancer initiating events in OncoCL, a cancer cell ontology. *AMIA Summits on Translational Science Proceedings*, *2014*, 41.

Ascensao JA, **Dolan ME**, Hill DP, Blake JA. Methodology for the inference of gene function from phenotype data. BMC Bioinformatics. 2014 Dec 12;15:405. PMID:25495798

Gene Ontology Consortium. Gene Ontology annotations and resources. Nucleic Acids Res. 2013 Jan;41(Database issue):D530-5. PMCID:PMC3531070

Rasmussen KE and **Dolan ME**. OncoCL: A Cancer Cell Ontology. Proceedings of the 4th International Conference on Biomedical Ontology 2013[http://ceur-ws.org/Vol-1060/icbo2013_submission_75.pdf]

Eppig JT, Blake JA, Bult CJ, Kadin JA, Richardson JE; **Mouse Genome Database Group**. The Mouse Genome Database (MGD): comprehensive resource for genetics and genomics of the laboratory mouse. Nucleic Acids Res. 2012 Jan;40(Database issue):D881-6. PMCID:PMC3245042

Bello SM, Richardson JE, Davis AP, Wiegers TC, Mattingly CJ, **Dolan ME**, Smith CL, Blake JA, Eppig JT. 2012. Disease model curation improvements at Mouse Genome Informatics. Database (Oxford) 20-Mar(bar063).

Dolan ME, Mungall CJ, Dietze H, Blake JA. A simplified method for creating a cell cycle ontology for the laboratory mouse. Refereed poster presented at *Conference on Semantics in Healthcare and Life Sciences (CSHALS) 2011*, 23 - 25 Feb 2011, 10. Available http://f1000.com/posters/browse/summary/1089988

Alterovitz G, Xiang M, Hill D, Lomax J, Liu J, Cherkassky M, Dreyfuss J, Mungall C, Harris MA, **Dolan ME**, Blake JA, Ramoni MF. 2010. Ontology Engineering. Nature Biotech, 28(2):128-130.

Carbon S, Ireland A, Mungall CJ, Shu S, Marshall B, Lomax J, Hitz B, Balakrishnan R, **Dolan M**, Wood V, Hong E, Gaudet P, Lewis S; AmiGO Hub; Web Presence Working Group. AmiGO: online access to ontology and annotation data. *Bioinformatics*. 2009 Jan 15;25(2):288-9.

Dolan ME, Blake JA. 2009. Using ontology visualization to facilitate access to knowledge about human disease genes. Applied Ontology 4(1):35-49.

Reference Genome Group of the Gene Ontology Consortium. 2009. The Gene Ontology's Reference Genome Project: a unified framework for functional annotation across species. PLoS Comput Biol 5(7):e1000431.

Evsikov AV, **Dolan ME**, Genrich MP, Patek E, Bult CJ. 2009. MouseCyc: a curated biochemical pathways database for the laboratory mouse. **Genome Biol** 10(8):R84.

Joslyn C, Baddeley B, Blake J, Bult C, **Dolan M**, Riensche R, Rodland K, Sanfilippo A, White A. 2009. Automated Annotation-Based Bio-Ontology Alignment with Structural Validation. **Nature Proceedings** <http://dx.doi.org/10.1038/npre.2009.3518.1>

Dolan ME, Blake JA. Using ontology visualization to understand annotations and reason about them. KR-MED 2006 *Proceedings of Biomedical Ontology in Action* :21-29.

Dolan ME, Holden CC, Beard MK, Bult CJ. 2006. Genomes as geography: using GIS technology to build interactive genome feature maps. **BMC Bioinformatics** 7:416. PMCID: PMC1599760

Dolan ME, Ni L, Camon E, Blake JA. 2005. A procedure for assessing GO annotation consistency. Bioinformatics 21(Suppl 1):136-143. PMID:15961450

Harris MA, Clark J, Ireland A, Lomax J, Ashburner M, Foulger R, Eilbeck K, Lewis S, Marshall B, Mungall C, Richter J, Rubin GM, Blake JA, Bult C, **Dolan M**, Drabkin H, Eppig JT, Hill DP, Ni L, Ringwald M, Balakrishnan R, Cherry JM, Christie KR, Costanzo MC, Dwight SS, Engel S, Fisk DG, Hirschman JE, Hong EL, Nash RS, Sethuraman A, Theesfeld CL, Botstein D, Dolinski K, Feierbach B, Berardini T, Mundodi S, Rhee SY, Apweiler R, Barrell D, Camon E, Dimmer E, Lee V, Chisholm R, Gaudet P, Kibbe W, Kishore R, Schwarz EM, Sternberg P, Gwinn M, Hannick L, Wortman J, Berriman M, Wood V, de la Cruz N, Tonellato P, Jaiswal P, Seigfried T, White R; Gene Ontology Consortium. (2004). The Gene Ontology (GO) database and informatics resource. Nucleic Acids Res. 32:D258-61.

Valiron P, Roche AL, Masnou-Seeuws F, **Dolan ME**. Molecular Treatment of Collisions between a Rydberg Sodium Atom and a Rare-gas Perturber. *J. Phys. B*, 17, 2803 (1984).

Dolan ME, Masnou-Seeuws F. Molecular Quantum Defects for the NaNe System. *J. Phys. B*, 14, L583 (1981).

Dolan ME, Masnou-Seeuws F.Molecular Quantum Defects for the NaNe System. *XII International Conference on the Physics of Electronic and Atomic Collisions Proceedings*, July 1981.

Dolan ME, Berry RS. Penning Ionization in He*Li. Papers and Invited Lectures Presented at the European Conference on the Dynamics of Excited States: Pisa, 1980, Published 1981

Snyder LC, Basch H, with Wasserman Z, **Dolan M**. Molecular Wave Functions and Properties, (Wiley-Interscience, New York, 1972).

RESEARCH SUPPORT
Role: Principal Investigator R21 CA155825
National Institutes of Health/National Cancer Institute
OncoCL: A Cancer Cell Ontology
The goal of this project is to develop an ontology, OncoCL, to describe cancer cells that will provide a framework for consistent annotation of cancer-associated genetic and genomic data.

HONORS
Phi Beta Kappa
Award for Excellence in Chemistry, Fordham University 1967, 1968, 1969, 1970
Member of Thomas More College Honors Program 1967-70
Undergraduate Scholarship 1966-70