

CURRICULUM VITAE

PERSONAL INFORMATION

Full Name	<u>Daniele Merico</u>
Home addresses	355 Grace St, M6G 3A8 Toronto – ON, Canada Via Bellini 41, 20039 Varedo (MI) – Italy
Work addresses	Terrence Donnelly Center for Biomolecular and Cellular Research, 160 College St, M5S 3E1 Toronto – ON, Canada
Citizenship	Italian
Date of birth	29 th July 1981
Place of birth	Saronno (VA), Italy
Sex	Male
Email	daniele.merico@gmail.com
Office Phone	+1 416-978-8579 (CCBR, Canada)
Mobile Phone	+1 647-891-3791 (Canada) +39 331-207-8928 (Italy)

WORK EXPERIENCE – RESEARCH

Jan 2009 –

Position	Post-doctoral Fellow
Institution	Terrence Donnelly CCBR / Banting & Best Dept. of Medical Research, University of Toronto (ON, Canada)
Supervisors	Prof. Gary Bader, Prof. Andrew Emili
Projects	<ul style="list-style-type: none"> • Integrative analysis of transcriptomics, proteomics, and miRNA expression for different mouse models of heart disease. • Development of enhanced analysis and visualization methods for gene expression data (Enrichment Maps Cytoscape plug-in)

Nov 2007 – Nov 2008

Position	Visiting PhD student
Institution	Terrence Donnelly CCBR / Banting & Best Dept. of Medical Research, University of Toronto (ON, Canada)
Supervisors	Prof. Gary Bader, Prof. Andrew Emili
Projects	<ul style="list-style-type: none"> • Analysis of transcriptomics for a transgenic mouse model of dilated cardiomyopathy.

Nov 2005 – June 2008

Position	PhD student
Institution	Department of Computer Science (DISCo), University of Milano-Bicocca (Italy)
Supervisors	Prof. Giancarlo Mauri, Prof. Marco Antoniotti
Projects	<ul style="list-style-type: none"> • <i>NeuroWeb Project</i> (EU Sixth Framework Program – IT, support to association studies for neurovascular disorders): contribution to the design of the clinical phenotype ontology.

Nov 2005 – ongoing

Position	PhD student
Institution	Department of Biomolecular Sciences and Biotechnologies (DSBB),

University of Milano (Italy)
 Supervisor Prof. Roberto Mantovani
 Projects

- p63 targets (ChIP-chip microarray technology): functional enrichment analysis, integrative analysis with targets from other sources.
- NF-Y targets (ChIP-chip microarray technology): integrative analysis of NF-Y binding sites, histone modification and transcriptomics.

Sep 2004 – July 2005

Position undergraduate MSc student (Bioinformatics)
 Institution Department of Biotechnologies and Biosciences, University of Milano-Bicocca (Italy)
 Supervisor Prof. Paola Castagnoli
 Projects

- transcriptomics microarray analysis of immature Dendritic Cells from different murine lymphoid tissues;
- design and development of a novel method for the selection of differentially expressed genes (based on Correspondence Analysis).

Nov 2002 – July 2003

Position undergraduate BSc student (Molecular Biotechnologies)
 Institution Department of Biotechnologies and Biosciences, University of Milano-Bicocca (Italy)
 Supervisor Prof. Enzo Martegani
 Projects

- transcriptomics microarray analysis of human germinal cell differentiation; pathway profiling with GenMAPP.

WORK EXPERIENCE – TEACHING

Mar 2010 – Apr 2010

Role Instructor
 Course Microarray Data Analysis Course – Pathway Analysis Module
 Topics gene set enrichment analysis, interaction data, network visualization
 Institution Ontario Biomedical Institute (OBI)

May 2008

Role Teaching Assistant
 Course Canadian Bioinformatics Workshops: interpreting genes from omics
 Topics gene list ID conversion, set enrichment analysis, motif search
 Institution University of Toronto

Mar 2006 – Sept 2007

Role Adjunct Professor
 Course Medical Informatics
 Topics principles of computer science, principles of data analysis
 Institution Faculty of Medicine, University of Milano-Bicocca

Oct 2006 – Feb 2007

Role Teaching Assistant
 Taught course Laboratory of Computer Science
 Topics principles of C programming
 Institution Biotechnology Unit, Faculty of Sciences, University of Milano-Bicocca

FELLOWSHIPS AND AWARDS

Nov 2005 – Nov 2008

Type	PhD scholarship
Institution	MIUR (Italian Department for University and Research)

COMMITTEE MEMBERSHIP/EVENT ORGANIZATION

2009 SSFW

Event	Signs Symptoms and Findings: Towards an Ontology for Clinical Phenotypes.
Role	Member of the local organizing committee
Location	Milano (Italy), September 2009

ISMB/ECCB 2009

Event	ISMB/ECCB 2009 Student Symposium
Role	Member of the program committee
Location	Stockholm (Sweden), June 2009

2008 Cytoscape Retreat

Event	Cytoscape Retreat (Cytoscape Community Workshop)
Role	Member of the local organizing committee
Location	Toronto (ON, Canada), July 2008

EDUCATION

Nov 2005 – Nov 2008

Course of study	PhD Molecular and Cell Biology
Institution	Department of Biomolecular Sciences and Biotechnologies, University of Milano (Italy)

Nov 2003 – July 2005

Course of study	M.Sc. Bioinformatics
Institution	Faculty of Sciences, University of Milano-Bicocca
Thesis title	<i>Gene expression analysis in Dendritic Cells derived from different secondary lymphoid organs: evaluation of a novel method for identifying differentially expressed genes</i>
Final mark	110/110 cum laude

Oct 2000 – July 2003

Course of study	B.Sc. Molecular Biotechnologies
Institution	Faculty of Sciences, University of Milano-Bicocca
Thesis title	<i>Comparing transcriptomes of murine spermatogones and spermatocytes</i>
Final mark	110/110 cum laude

ADDITIONAL TRAINING**Oct 2002 – May 2003**

Course	C++ programming (100 hrs) Visual Basic programming (110 hrs)
Institution	EMIT professional school – Milan, Italy

PERSONAL SKILLS

- LANGUAGES**
- mother-tongue: Italian
 - fluent: English
 - basic: French, Latin
- PROGRAMMING**
- advanced: R
 - basic: C/C++, Pascal, matlab
- SOCIAL SKILLS**
- good communication and teaching skills
 - enjoy team-work
 - ease in establishing social relations
 - enjoy getting in touch with different cultures and backgrounds

OTHER ACTIVITIES

INTERNATIONAL VOLUNTEERING

- | | |
|----------|--|
| Role | international volunteer |
| Projects | <ul style="list-style-type: none"> • August 2007 – Lugansk region, Ukraine (SCI - Service Civil International) Environmental activities • August 2005 – Pikine, Senegal (PI@netnoprofit association) social, artistic, cultural and recreational activities with young men • August 2004 – Targoviste, Romania (PI@netnoprofit association) recreational activities with boys from a country school • August 2003 – Sarajevo, BIH (PI@netnoprofit association) recreational activities with hospitalized children and boys |

POLITICS AND REPRESENTATION

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|-------------|---|
| Role | student's representative |
| Institution | Faculty of Sciences, University of Milano-Bicocca |
| Duration | 2003-2005 |

ARTS & CRAFTS

- | | |
|-------------|--|
| Role | amateur drama actor |
| Duration | 2001-2005 |
| Institution | Local drama group – Varedo (MI), Italy |

SCIENTIFIC INTERESTS

- Systems Biology / Networks / Pathways
- Microarray Data Analysis / Multivariate Statistics / Dimensionality Reduction Techniques
- Biomedical Ontologies / Knowledge Engineering / Epistemological Issues in Medicine and Biology / Philosophy of Science / Cognitive Sciences / Artificial Intelligence
- Regulation of Transcription / Epigenetics
- Immunology
- Neurobiology

PUBLICATIONS

PAPERS IN JOURNALS

1. Merico D, Isserlin R, Stueker O, Emili AE, Bader GD.
Enrichment Map: a network-based method for gene-set enrichment visualization and interpretation.
Submitted to PlosOne
2. Isserlin R, Merico D, Alikhani-Koupaei R, Gramolini A, Bader GD, Emili A.
Pathway analysis of dilated cardiomyopathy using global proteomic profiling and enrichment maps.
Proteomics. **2010** Feb 1
3. Colombo G*, Merico D*, Frisoni G, Vassanyi I, Antoniotti M, De Paoli F, Mauri G. (*equal contrib)
An ontological modeling approach to neurovascular disease study: the NEUROWEB case.
(in press, Journal of Biomedical Informatics)
4. Merico D*, Gfeller D*, Bader GD. (*equal contrib)
How to visually interpret biological data using networks.
Nat Biotechnol. **2009** Oct;27(10):921-4.
5. Antoniotti M, Carreras M, Farinaccio A, Mauri G, Merico D, Zoppis I. (alphab. order)
An Application of Kernel Methods to Gene Cluster Temporal Meta-Analysis.
Computers & Operations Research; available online **2009** Mar
6. Pozzi S, Zambelli F, Merico D, Pavesi G, Robert A, Maltere P, Gidrol X, Mantovani R, Vigano MA.
Transcriptional network of p63 in human keratinocytes.
PLoS One. **2009**; 4(3): e5008.
7. Colombo G, Merico D, Nagy Z, De Paoli F, Antoniotti M, Mauri G.
Ontological modeling at a domain interface: bridging clinical and biomolecular knowledge.
The Knowledge Engineering Review; **2009** Sep; 24(3): 201–203.
8. Ceribelli M, Dolfini D, Merico D, Gatta R, Pavesi G, Vigano A, Mantovani R.
The histone like NF-Y is a bifunctional transcription factor.
Molecular Cell Biology (MCB); **2008** Mar; 28(6): 2047-58.
9. Benatti P, Basile V, Merico D, Fantoni LI, Tagliafico E, Imbriano C.
A balance between NF-Y and p53 governs the pro- and anti-apoptotic transcriptional response.
Nucleic Acids Research (NAR); **2008** Mar; 36(5): 1415-28
10. Vigano MA, Lamartine J, Testoni B, Merico D, Alotto D, Castagnoli C, Robert A, Candi E, Melino G, Gidrol X, Mantovani R.
New p63 targets in keratinocytes identified by a genome-wide approach.
EMBO Journal; **2006** Nov 1; 25(21): 5105-16.
11. Rossi P, Dolci S, Sette C, Capolunghi F, Pellegrini M, Loiarro M, Di Agostino S, Paronetto MP, Grimaldi P, Merico D, Martegani E, Geremia R.
Analysis of the gene expression profile of mouse male meiotic germ cells.
Gene Expression Patterns; **2004** May; 4 (3): 267-81.

PAPERS IN PUBLISHED CONFERENCE PROCEEDINGS

1. Bonomi A, Colombo G, Merico D, Palmonari M, Vizzari G.
Sharing the NEUROWEB Ontology through the web: the NavEditOW Approach.
(MultiAgent Systems & Bioinformatics 2008; 13 September **2008**; Cagliari, Italy; to appear on LNCS)

2. Colombo G, Merico D, Mauri G.
Reference Ontology Design for a Neurovascular Knowledge Network.
(MISR 2007; 11-12 October **2007**; Corfu, Greece; published as a book chapter on Metadata and Semantics Research (Springer) 2009)
3. Merico D, Zoppis I, Antoniotti M, Mauri G.
Evaluating Graph Kernel Methods for Relation Discovery in GO-annotated Clusters.
(KES/WIRN 2007; 12-14 September **2007**; Vietri sul Mare, Italy; published on LNCS 4694 (Springer) 2007)
4. Colombo G, Antoniotti M, Merico D, De Paoli F, Mauri G.
Ontological modelling for neurovascular disease study: issues in the adoption of Description Logic.
(International Workshop on DL; June **2007**; Brixen, Italy; published on CEUR-WS vol. 250)
5. Zoppis I, Merico D, Antoniotti M, Mishra B, Mauri G.
Discovering Simple Relations among GO Clusters via Graph Kernel.
(ISBRA 2007; 7-10 May **2007**; Atlanta, GA, USA; published on LNCS 4463 (Springer) 2007)

BOOK CHAPTERS

1. Colombo G, Merico D, Gündel M.
Metadata and Ontologies for Health.
(to appear in Handbook of Metadata, Semantics and Ontologies, Sicilia MA (Ed.), World Scientific Publishing Co., Hackensack, NJ, USA)

ORAL PRESENTATIONS IN WORKSHOPS

1. Colombo G, Merico D.
Representing Cerebrovascular Phenotypes in NEUROWEB.
(SSFW09; 4-5 September; Milano, Italy)
2. Merico D, Mauri G, Emili A, Bader G.
A novel approach to gene-set enrichment for two-class time-course expression data.
(NETTAB 2008; 19-21 May **2008**; Varenna, Italy)
3. Colombo G, Merico D, Frisoni G, Antoniotti M, De Paoli F, Mauri G.
An ontological modeling approach to neurovascular disease study: the NEUROWEB case.
(NETTAB 2007; 12-15 June **2007**; Pisa, Italy)
4. Merico D.
Heart Disease: Sets, Pathways, Networks and Gene Expression.
(ICT in Healthcare and Biomedicine; 6 October **2008**; Ottawa, Canada)

INVITED SEMINARS

1. *Graph Kernel Methods for the analysis of Spellman yeast cell cycle data.*
New York University – Courant Institute; New York, USA; 21 May 2007
(hosted by Prof. Bud Mishra)

REFERENCE PERSONS

Prof. Gary Bader

Position Assistant Professor (Program in Proteomics and Bioinformatics)
 Institution Terrence Donnelly Center for Biomolecular and Cellular Research
 University of Toronto
 160 College St, M5S 3E1 Toronto – ON, Canada
 Phone +1 416-978-3935
 Email gary.bader@utoronto.ca
 Role PDF Supervisor

Prof. Andrew Emili

Position Associate Professor (Program in Proteomics and Bioinformatics)
 Institution Terrence Donnelly Center for Biomolecular and Cellular Research
 University of Toronto
 160 College St, M5S 3E1 Toronto – ON, Canada
 Phone +1 416-946-7282
 Email andrew.emili@utoronto.ca
 Role PDF Supervisor

Prof. Giancarlo Mauri

Position Full Professor of Computer Science
 Institution Dipartimento di Informatica Sistemistica Comunicazione
 Università degli Studi di Milano-Bicocca
 Viale Sarca 336, Ed. U14, 20126 Milano, Italy
 Phone +39 02.6448.7828
 Email mauri@disco.unimib.it
 Role PhD Supervisor, PhD Committee Member

Prof. Roberto Mantovani

Position Full Professor of Genetics
 Institution Dipartimento di Scienze Biomolecolari e Biotecnologie
 Università degli Studi di Milano
 Via Celoria 26, 20133 Milano, Italy
 Phone +39 02.5031.5005
 Email mantor@unimi.it
 Role PhD Supervisor, PhD Committee Member

Prof. Marco Antoniotti

Position Associate Professor of Computer Science
 Institution Dipartimento di Informatica Sistemistica Comunicazione
 Università degli Studi di Milano-Bicocca
 Viale Sarca 336, Ed. U14, 20126 Milano, Italy
 Phone +39 02.6448.7901
 Email antoniotti.marco@disco.unimib.it
 Role PhD Supervisor