Curriculum Vitae

Andrew Emili, Ph.D.

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(July, 2017)

Andrew Emili is a Full Professor (since July 1, 2017) in the Department of Biology and the Department of Biochemistry at Boston University. Prior to joining BU, Prof. Emili was a Principal Investigator (since 2000) and founding member of the Donnelly Centre for Cellular and Biomolecular Research and a Professor in Molecular Genetics at the University of Toronto, and the Ontario Research Chair in Biomarkers (2007-2017).

Dr. Emili is an internationally recognized leader in protein interaction networks and the development of innovative technologies to systematically characterize protein complexes on a proteome-scale. He directs a multidisciplinary research laboratory with a track record in cutting-edge proteomics and systems biology. His group develops and applies innovative methods to characterize macromolecules of broad biomedical significance, publishing 'global' interaction maps of unprecedented quality, scope and resolution (e.g. Babu, Nature 2012; Havugimana, Cell, 2012, Wan, Nature 2015).

Dr. Emili received his PhD in Molecular and Medical Genetics from the University of Toronto in 1997. From 1997 to 2000, he pursued post-doctoral studies as a Damon Runyon/Walter Winchell Cancer Research Fellow with the Nobel laureate Leland Hartwell at the Fred Hutchison Cancer Research Center in Seattle, while learning protein mass spectrometry with John Yates III at the University of Washington.

Since establishing his independent research laboratory in 2000, Dr. Emili has developed and applied innovative proteomics, functional genomics and bioinformatics methods to investigate biological systems and molecular association networks in human cells and model organisms. In particular, his lab uses quantitative, high precision mass spectrometry to characterize protein complexes in a comprehensive, high-throughput manner. His group aims for breakthrough insights into the composition and mechanistic role of protein complexes in diverse cells and tissues, with the long-term goal of translating this basic knowledge into new diagnostics, prognostics and therapeutics.

Dr. Emili has published 210 peer reviewed papers with >28,000 citations (h-index 71), including genome-wide studies of soluble and membrane protein complexes in yeast (Cell 2005; Nature 2006; Mol Cell 2004; Nature 2012), *E. coli* (Nature 2005; PLoS Biol 2009; Nature Biotechnology 2018), and human (Cell 2012; Cell Reports 2014; Nature 2015), documenting hundreds of complexes linked to disease. His influence is widely recognized; he reviews regularly for prominent journals, serves on grant review panels, and his groups data is often accessed via public databases. Dr. Emili was editor of "Network Biology" and "Systems Analysis" books with >27,000 e-downloads, and he has given >150 talks at conferences, international symposia and workshops.

Academic Training:

5/1990 B.S.	McGill University, QC Canada; Summa Cum Laude, Microbiology & Immunology
5/1993 M.Sc.	University of Toronto, ON Canada - Molecular and Medical Genetics
12/1996 Ph.D.	University of Toronto, ON Canada - Molecular and Medical Genetics

Additional Training:

1/1997-4/2000	Postdoc Fellow, Lee Hartwell, Fred Hutchinson Cancer Center, Seattle WA, Human Biol.

Academic Appointments:

7/2017-present	Director, Center for Network Systems Biology, Boston University
5/2017-present	Full Professor, Departments of Biology (tenure) and Biochemistry, Boston University
7/2017-9/2018	Status-only Faculty, Donnelly Centre/Dept. Molecular Genetics, University of Toronto
7/2009-6/2017	Full Professor, Donnelly Centre for Cellular and Biomolecular Research

4/2007-6/2017	Ontario Research Chair in Biomarkers of Disease
7/2005-7/2009	Associate Professor, Banting & Best Dept. of Medical Research, University of Toronto
4/2004-6/2017	Faculty, Donnelly Centre for Cellular and Biomolecular Research, University of Toronto
8/2000-6/2017	Faculty, Dept. Molecular Genetics, University of Toronto (cross-appointed)
4/2000-6/2005	Assistant Professor, Banting & Best Dept. of Medical Research, University of Toronto

Other Employment:

7/2009-6/2010	Visiting scholar (sabbatical), Fred Hutchinson Cancer Research Center, Seattle WA

Honors:

06/2007	Subash Verma Research Award, Heart & Stroke/Lewar Centre Excellence, U. Toronto
9/1997-04/2000	Cancer Research Fellow, Damon Runyon Cancer Research Foundation, USA
9/1991-06/1997	Graduate Fellowship, Medical Research Council, Canada
5/1990	Summa Cum Laude, McGill University, QC Canada

Departmental and University Committees:

7/2015-present	Faculty Council, Faculty of Medicine, University of Toronto
9/2005-5/2015	Graduate Examination Committee, Dept. of Molecular Genetics, University of Toronto
9/2005-5/2015	Graduate Curriculum Committee, Dept. of Molecular Genetics, University of Toronto
9/2001-6/2004	Dean of Medicine Grant Review Committee, University of Toronto
1/2003-7/2017	Faculty Search Committees, Multiple Departments, University of Toronto

Major Administrative Responsibilities:

7/2017-present	Director, Center for Network Systems Biology, Boston University
05/2006-07/2017	Director, Proteomics Research Centre, Donnelly Centre, University of Toronto

Teaching Experience and Responsibilities:

8/2002-7/2017	Grad Coordinator “Functional Genomics and Proteomics” - Molecular Genetics
7/2003-7/2017	Grad Coordinator (JTB2010H) “Proteomics & Functional Genomics”- Multi Dept.
9/2005-7/2017	Lecturer (MGY428H) “Functional and Microbial Genomics” - Molecular Genetics
9/2005-7/2017	Mentor (BCB430) “4th year Research Project Course” - Human Biology
9/2013-11/2014	Lecturer (PSL1040H) “Systems Biology” - Physiology
6/2011-9/2012	Grad Coordinator (BCB330) ”Special Proj. Bioinformatics/Comp Biology” Biochemistry

Major Mentoring Activities:

6/2000-9/2003	Dr. Gerard Cagney, PDF, proteomic networks, now a Prof (University College Ireland)
5/2003-5/2004	Dr. Heinrich Heide, PDF, mass spectrometry, now in industry
6/2001-9/2004	Dr. Gareth Butland, PDF, microbial networks, now Staff Scientist (Law. Berk. Nat Labs)
7/2003-9/2004	Dr. Bernard Suter, PDF, microbial functional genomics, now in industry
5/2002-5/2006	Dr. Thomas Kislinger, PDF, biomarker proteomics, now an Assoc. Prof (Univ. Toronto)
5/2003-6/2006	Dr. Jennifer Listgarten, PhD, computational biology, faculty (Microsoft Research)
9/2002-2/2007	Dr. Ata Ghavidel, PDF, microbial genetics, now senior lab manager (academia)
9/2003-6/2008	Dr. Payman Najmabadi, PhD, bioengineering, now senior staff (industry)
9/2002-6/2009	Dr. Mandy Lam, PhD, molecular genetics, now senior lab manager (academia)
5/2008-1/2010	Dr. Lekha Sleno, PDF, analytical chemistry, now an Assoc. Prof (Univ. Quebec)
9/2005-6/2010	Dr. Gabe Musso, PhD, network conservation, now senior staff (industry start up)
9/2005-6/2010	Mr. Carl White - MSc, bioinformatics, now Data Analyst (academia)
9/2005-6/2010	Dr. Pingzhao Hu, PhD, computational biology, now Assist. Prof. (Univ. of Manitoba)
9/2005-6/2011	Dr. Clement Chung, PhD, computational biology, now senior staff (industry)
4/2006-6/2011	Dr. Mohan Babu, PDF, microbial networks, now an Assoc. Prof. (Univ. of Regina)
10/2007-6/2011	Dr. Johannes Hewel, PDF, mass spectrometry, now in industry
05/2008-6/2011	Dr. Daniele Merico, PDF, now senior analyst (industry start up)
1/2007-6/2012	Dr. Pierre Havugimana, PhD, proteomic networks, now senior PDF (academia)
5/2010-6/2012	Dr. Dajana Vuckovic, PDF, analytical chemistry, now an Assist. Prof. (Concordia)
1/2008-6/2014	Dr. Jonathan Olsen, PhD, chromatin networks, now senior PDF (industry)

5/2013-9/2014	Dr. Hui Peng, PDF, analytical chemistry, now an Assist. Prof (Univ. Toronto)
1/2013-9/2014	Dr. Javier Diaz-Mejia, PDF, computational biology, now a senior PDF (academia)
8/2006-1/2015	Dr. Cuihong Wan, PDF, protein networks, now an Assist. Prof (China)
2/2009-6/2015	Dr. Alla Gagarinova, PhD, microbial networks, now a PDF (academia)
9/2010-2/2018	Dr. Chenyi Liu, PhD, cancer signaling/epigenetics
6/2016-12/2017	Dr. Fatemeh Mousavi, PDF, analytical chemistry
9/2016-12/2017	Dr. Rasanjala Weerasekera, PDF, structural proteomics
9/2016-11/2017	Dr. Florian Goebels, PDF, computational biology
9/2009-present	Dr. Julian Kwan, PhD/PDF, molecular signaling
5/2015-present	Dr. Uros Kuzmanov, PDF, biomarker proteomics (fellowship)
6/2014-present	Mr. ZhongMing (Lucas) Hu, PhD-stream, computational proteomics
9/2014-present	Dr. Reza Pourhaghighi, PDF, network proteomics
9/2014-present	Mr. Eric Wolf, PhD-stream, molecular genetics
9/2017-present	Mr. Benjamin Blum, PhD-stream, cancer networks

Other Professional Activities:

Editorial Boards:

2010-2014	Scientific Editor, Molecular and Cellular Proteomics
2000-present	Ad hoc reviewer for Scientific Publications: Analytical Chemistry, Biochemistry and Cell Biology, Bioinformatics, Biological Procedures Online, BMC Bioinformatics, BMC Systems Biology, Cell, Cell Development, Cell Stem Cell, Expert Reviews, Future Drugs, Genome Biology, International Journal of Mass Spectrometry, Journal American Society for Mass Spectrometry, Journal Biological Chemistry, Journal Proteome Science, Journal Proteome Research, Journal Proteomics & Bioinformatics, Journal American Society of Mass Spectrometry, Molecular & Cellular Biology, Molecular & Cellular Proteomics, Molecular Systems Biology, Molecular Cell, Nature, Nature Biotechnology, Nature Genetics, Nature Medicine, Nature Methods, Nature Reviews, Nucleic Acids Research, Oncogene, PLoS-Biology, PLoS-Genetics, PLoS-One, Proceedings National Academy of Science, Proteomics, Science, Science STKE, Trends in Genetics, Trends in Pharmacological Sciences, Wiley Press, and many others not listed.

Major Committee Assignments (Peer review):

Academic Panel
Graduate Evaluation Committees, multiple departments, University of Toronto 2001-2017
Thesis Examiner, School of Graduate Studies, University of Toronto 2001-2017
External Appraiser, Tenure Committees, multiple departments/Universities, 2005-2017
Publication Committee Member, American Soc. for Biochem. & Mol. Biol. (ASBMB), 2017-present

Panel Member or Ad Hoc Reviewer for Funding Agency
Canada Research Chairs, 2007-2015
Canadian (Breast) Cancer Research Foundation, 2011-2012, 2016
Canadian Foundation for Innovation (CFI) 2003-2016
Canadian Institutes of Health Research (CIHR) 2000-2018
Fonds de la Recherche en Santé du Quebec (CQDM-FRSQ) 2009-2014
European Research Council, 2011-2016
Genome BC Strategic Opportunities Fund, 2009-2010
Heart and Stroke Foundation of Canada, 2009-2014
Multiple Sclerosis Society of Canada, 2004, 2013
Netherlands Organization for Scientific Research, 2009
Qatar National Priorities Research Program, 2010-2017

University of Calgary, CRIO Team Review Panel - 2012-2013
National Science and Engineering Research Council of Canada (NSERC) 2004-2017
National Institutes of Health Research (NIH), GCAT, 2009-2015
National Institutes of Health Research (NIH), NIGMS, 2012-2014
National Institutes of Health Research (NIH), NIDDK, 2014-2017
National Institutes of Health Research (NIH), NHLBI, 2009-2011
National Institutes of Health Research (NIH), Systems Biology, 2013-2014
National Institutes of Health Research (NIH), P41 Technology Platforms, 2012-2016

Funding Support (past 10 years):

Current (Ongoing)

09/2016 – 08/2019	NIH (R01) – MPI: Marcotte & Emili (Role: coPI) ($294,000 sub-contract) Mapping the blood cell protein complexosome The goal is to map macromolecules (complexes) present in human red blood cells.
10/2016 – 10/2018	NIH (R21) – PI: Sakanari ($75,000 sub-contract); Role: Co-Investigator Novel Therapeutics for Treatment of River Blindness and Lymphatic Filariasis The goal is to identify the protein targets of candidate anti-filarial compounds.
10/2016 – 10/2018	NIH (R21) – PI: Parkinson ($75,000 sub-contract); Role: Co-Investigator Toxoplasma 'Interactomes' Critical for Host Cell Invasion and Pathogenesis The goal is to construct protein interaction networks for Toxoplasma gondii.
06/2016-09/2018 (terminating early)	Canadian Institutes of Health Research (CIHR) – Emili (Role: PI) ($3.5M) Foundation Grant: Protein Complexes in Human Health and Disease The goal is to map physical interaction networks relevant to human health and disease.
07/2016 - 06/2018	Genome Canada (Disruptive Innovation) – Emili (Role: PI) ($250,000) Massively parallel single molecule protein sequencing in situ The goal is to develop high-throughput methods to sequence proteins in situ.
09/2016 – 08/2021	Canadian Institutes of Health Research – PI: Babu (Role Co-Investigator) ($1,25M) Essential Gene Landscape of a Bacterial Cell for Combinatorial Drug Discovery The goal is to reveal epistatic interactions in bacteria to discover new drug targets.
01/2014-08/2018	NIH (R01 GM109895-01) – PI: Uetz ($162,000 UofT sub-grant) Integrative functional mapping of the E. coli membrane interactome. This goal is to characterize the functions of bacterial membrane protein complexes.
04/2014-03/2020	National Science & Engineering Council (NSERC) PI: Bohme ($1.5M) Role: Co-PI Collaborative Research & Training Progeam (CREATE) in Mass Spectrometry The goal is to train graduate students in mass spec-based proteomics methods.
09/2013-08/2018	CIHR – PI: Greenblatt (PI) ($1.35M) Elucidation of Protein Interaction Networks for the Human Transcription Factors The goal is to map physical interactions of transcription factors in human cells.
04/2014-03/2019	Canadian Institutes of Health Research – Emili (Role:PI) ($1,250,000) Mapping High-Quality Protein Complex 'Interactomes' in C. elegans The goal is to map physical interaction networks in nematode worms.
09/2013-08/2018	CIHR - PI: Greenblatt; Role: Co-Investigator ($175,000 subgrant) Elucidation of Protein Interaction Networks for the Human Transcription Factors The goal is to map physical interactions of transcription factors in human cells. The goal is to monitor interactions of bioactive small molecules with bacterial targets.
04/2012-04/2017	NSERC (Discovery Grant) – Emili (Role: PI) ($230,000) Chemical proteomic platform for drug target discovery and validation The goal is to develop methods to identify protein targets bound by bioactive molecules.

Completed Research Support

12/2015-12/2016	Hoffmann-La Roche Ltd (Roche) Emili (Role: PI) ($152,000 USD) Proteomics-based Target Identification of Antibiotics

10/2010-09/2015	CIHR – Emili (Role: PI) E. coli cell envelope interactome: protein complexes critical for bacterial cell growth & pathogenesis. The goal of this study is to globally map physical interactions among the membrane proteins of E. coli.
10/2009-09/2014	CIHR – Emili (Role: PI) Charting Bacterial Pathways & Functional Networks using Synthetic Genetic Arrays The goal was to map functional networks among bacterial genes and pathways.
05/2010-04/2014	Ontario Research Fund – Greenblatt (PI); Role: Co-PI Protein Complexes in the Epigenetics of Human Disease and Stem Cell Fate The goal was to map physical interaction networks of chromatin proteins in human cells
07/2011-06/2014	Heart & Stroke Foundation – Emili (Role: PI) Mechanistic investigation of microRNA regulation of dil. cardiomyopathy The goal was to identify the protein targets of microRNAs associated with heart failure.
05/2010-04/2014	Ontario Research Fund – Keller (PI); Role: Co-Investigator Biomarkers for Cardiovascular Development, Disease and Treatment The goal was to discover and validate protein markers of heart failure.
10/2007-09/2012	CIHR – Wodak (PI); Role: Co-Investigator Model Organism Interactomes and Human Disease The goal was to map physical association between human chromatin proteins.

Invited Lectures and Conference Presentations (since 2012)

Invited Speaker – Ontario Research Chairs in Public Policy Symposium, Toronto, March 5-6, 2012
Invited Speaker/Chair – CNPN (Canadian National Proteomics Network), Toronto, April 23-25th, 2012
Invited speaker – CFABS Mass Spec Group Meeting, Toronto, April 25, 2013
Invited Speaker –11th Annual Global Biomarker Conference, Toronto, 26 April, 2013
Invited Speaker – Disruptive Technologies Consultation, Genome Canada, Toronto May 10, 2013
Invited speaker – Ontario Research Chairs Symposia-Advancing Health, Toronto, Sept24, 2013
Invited Speaker – Pittcon Symposium, Florida, March 11-15, 2012
Invited Speaker – American Assoc. for Adv. Science Meeting (AAAS), Vancouver, 16-20 February, 2012
Invited Speaker – China-Canada Systems Biology (CCSB) Meeting - University of Ottawa, June25-28, 2012
Invited speaker – Harvard Center for Cancer Systems Biology (CCSB), Dana Farber, Boston, May 13-14, 2013
Keynote speaker – Canadian Society Microbiol. Annual Conference, Ottawa, June 17 – 20, 2013
Keynote speaker – Ottawa Bioinformatics Day – University of Ottawa, Oct17, 2013
Invited speaker – Biology Dept Seminar Series, McMaster University, Hamilton, April 10, 2014
Session Chair – Canadian National Proteomics Network Meeting - Montreal - April14, 2014
Keynote Speaker – Saskatoon Proteomics Meeting – University of Regina, June 14, 2014
Invited speaker – Northeastern University, Boston, Oct 17-18, 2014
Invited speaker – 9th IRIC International Symposium, Montréal, May 14-15, 2015
Invited speaker – 1st Proteomics Workshop, McGill University, Montreal, August 6-7, 2015
Invited speaker/Session Chair – HUPO, Vancouver, Sept 27-28th, 2015
Invited speaker – 1st CSSB International Symposium, Hamburg, April 9-11, 2015
Invited speaker – Harvard Medical School, Wyss Institute, July, 2016
Invited speaker – Boston University, Biology, May 2016
Keynote speaker – Ottawa-Carleton Institute of Biology (OCIB) Symposium, Ottawa, April 28, 2017
Invited speaker – MIT, CSBio Retreat, October 8, 2017
Invited speaker – Dana Farber/HMS, Computational & Systems Biology Retreat, October 2017
Invited speaker – Boston University, Microbiology Workshop, November 2017
Invited speaker – Boston University, Biochemistry, October, 2017
Invited speaker – Northeastern University, Boston, Oct 4, 2017
Invited speaker – Chemistry Department, Boston University, Boston, Oct 13, 2017
Invited speaker – Boston University, Bioengineering, SCONES, Boston, Oct16, 2017

PATENTS

Emili, A – "METHOD FOR THE IDENTIFICATION OF MACROMOLECULE TARGETS OF ANALYTES" US Patent Office (USPTO) Patent # 8192999 (Issued June 5, 2012).

Emili, A – "Single Molecule Protein Sequencing Method"; US Prov. Pat. Application #61/245,875.

Roche Diagnostics Gmbh/F. Hoffmann-La Roche AG "Use of a Panel of Biomarkers in the Assessment of Heart Failure" PCT/EP2008/000576, PCT/EP2008/001842 (9 other related submissions 2008-13).

Bibliography

Original, Peer Reviewed Articles (as PI):

1. Sandhu C, Qureshi A, **Emili A**. Panomics for Precision Medicine. **Trends Molecular Medicine** 2018 Jan;24(1):85-101. PMID: 29217119
2. Babu M, Bundalovic-Torma C, Calmettes C, Phanse S, Zhang Q, Jiang Y, Minic Z, Kim S, Mehla J, Gagarinova A, Rodionova I, Kumar A, Guo H, Kagan O, Pogoutse O, Aoki H, Deineko V, Caufield JH, Holtzapple E, Zhang Z, Vastermark A, Pandya Y, Lai CC, El Bakkouri M, Hooda Y, Shah M, Burnside D, Hooshyar M, Vlasblom J, Rajagopala SV, Golshani A, Wuchty S, F Greenblatt J, Saier M, Uetz P, F Moraes T, Parkinson J, **Emili A**. Global landscape of cell envelope protein complexes in Escherichia coli. **Nature Biotechnology** 2018 Jan;36(1):103-112. PMID: 29176613
3. Yoon C, Song H, Yin T, Bausch-Fluck D, Frei AP, Kattman S, Dubois N, Witty AD, Hewel JA, Guo H, **Emili A**, Wollscheid B, Keller G, Zandstra PW. FZD4 Marks Lateral Plate Mesoderm and Signals with NORRIN to Increase Cardiomyocyte Induction from Pluripotent Stem Cell-Derived Cardiac Progenitors. **Stem Cell Reports.** 2018 Jan 9;10(1):87-100. PMID: 29249665
4. Rodionova IA, Goodacre N, Babu M**, Emili A**, Uetz P, Saier MH Jr. The Nitrogen Regulatory PII Protein (GlnB) and N-Acetylglucosamine 6-Phosphate Epimerase Allosterically Activate Glucosamine 6-Phosphate Deaminase in Escherichia coli. **J Bacteriol** (2018) 200(5). PMID: 29229699
5. Mahadevan V, Khademullah CS, Dargaei Z, Chevrier J, Uvarov P, Kwan J, Bagshaw RD, Pawson T, **Emili A**, De Koninck Y, Anggono V, Airaksinen M, Woodin MA. Native KCC2 interactome reveals PACSIN1 as a critical regulator of synaptic inhibition. Elife. 2017 Oct 13;6. PMID: 29028184
6. Guo H, Peng H, **Emili A**. Mass spectrometry methods to study protein-metabolite interactions. **Expert Opin Drug Discov**. 2017 Dec;12(12):1271-1280. PMID: 28933205
7. Havugimana PC, Hu P, **Emili A**. Protein complexes, big data, machine learning and integrative proteomics: lessons learned over a decade of systematic analysis of protein interaction networks. **Expert Rev Proteomics**. 2017 Oct;14(10):845-855. PMID: 28918672
8. Guo H, Isserlin R, **Emili A**, Burniston JG. Exercise-responsive phosphoproteins in the heart. **J Mol Cell Cardiol.** 2017 Oct;111:61-68. PMID: 28826663
9. Cosme J, Guo H, Hadipour-Lakmehsari S, **Emili A**, Gramolini AO. Hypoxia-Induced Changes in the Fibroblast Secretome, Exosome, and Whole-Cell Proteome Using Cultured, Cardiac-Derived Cells Isolated from Neonatal Mice. **J Proteome Res**. 2017 Aug 4;16(8):2836-2847. PMID: 28641008
10. Rodionova IA, Zhang Z, Mehla J, Goodacre N, Babu M, **Emili A**, Uetz P, Saier MH Jr. The phosphocarrier protein HPr of the bacterial phosphotransferase system globally regulates energy metabolism by directly interacting with multiple enzymes in Escherichia coli. **J Biol Chem**. 2017 Aug 25;292(34):14250-14257. PMID: 28634232
11. Peng H, Guo H, Pogoutse O, Wan C, Hu LZ, Ni Z, **Emili A**. An Unbiased Chemical Proteomics Method Identifies FabI as the Primary Target of 6-OH-BDE-47 **Environ Sci Tech** (2017) PMID: 27682841
12. Yao Z, Darowski K, St-Denis N, Wong V, Offensperger F, Villedieu A, Amin S, Malty R, Aoki H, Guo H, Iorio C, Kotlyar M, **Emili A**, Jurisica I, Neel BG, Babu M, Gingras AC, Stagljar I. A Global Analysis of the Receptor Tyrosine Kinase-Protein Phosphatase Interactome. **Mol Cell** (2017) 65:347-360.

13. Wells LA, Guo H, **Emili A**, Sefton MV. The profile of adsorbed plasma and serum proteins on methacrylic acid copolymer beads: Effect on complement activation. **Biomaterials** (2017) 118:74-83.
14. Kwan J, Sczaniecka A, Arash EH, Nguyen L, Chen CC, Ratkovic S, Klezovitch O, Attisano L, McNeill H, **Emili A***, Vasioukhin V*. DLG5 connects cell polarity and Hippo signaling protein networks by linking PAR-1 with MST1/2. **Genes Dev** (2016) 30(24):2696-2709.
15. Schmitges FW, Radovani E, Najafabadi HS, Barazandeh M, Campitelli LF, Yin Y, Jolma A, Zhong G, Guo H, Kanagalingam T, Dai WF, Taipale J, **Emili A**, Greenblatt JF, Hughes TR. Multiparameter functional diversity of human C2H2 zinc finger proteins. **Genome Res** (2016) 26(12):1742-1752.
16. Kuzmanov U, Guo H, Buchsbaum D, Cosme J, Abbasi C, Isserlin R, Sharma P, Gramolini A, **Emili A**. Global phosphoproteomic profiling reveals perturbed signaling in a mouse model of dilate cardiomyopathy. **Proc Natl Acad Sci U S A** (2016)113(44):12592-12597.
17. Gagarinova A, Stewart G, Samanfar B, Phanse S, White CA, Aoki H, Deineko V, Beloglazova N, Yakunin AF, Golshani A, Brown ED, Babu M, **Emili A**. Systematic Genetic Screens Reveal the Dynamic Global Functional Organization of the Bacterial Translation Machinery. **Cell Rep** (2016) 17(3):904-916.
18. Olsen JB, Wong L, Deimling S, Miles A, Guo H, Li Y, Zhang Z, Greenblatt JF, **Emili A*,** Tropepe V*. G9a and ZNF644 Physically Associate to Suppress Progenitor Gene Expression during Neurogenesis. **Stem Cell Reports** (2016) 7(3):454-70.
19. Kozlowski HN, Lai ET, Havugimana PC, White C, **Emili A**, Sakac D, Binnington B, Neschadim A, McCarthy SD, Branch DR. Extracellular histones identified in crocodile blood inhibit in-vitro HIV-1 infection. **AIDS** (2016) 30(13):2043-52.
20. Kuzmanov U, Guo H, Buchsbaum D, Cosme J, Abbasi C, Isserlin R, Sharma P, Gramolini AO, **Emili A**. Global phosphoproteomic profiling reveals perturbed signaling in a mouse model of dilated cardiomyopathy. **Proc Natl Acad Sci U S A**. 2016 Nov 1;113(44):12592-12597.
21. Phanse S, Wan C, Borgeson B, Tu F, Drew K, Clark G, Xiong X, Kagan O, Kwan J, Bezginov A, Chessman K, Pal S, Cromar G, Papoulas O, Ni Z, Boutz DR, Stoilova S, Havugimana PC, Guo X, Malty RH, Sarov M, Greenblatt J, Babu M, Derry WB, Tillier ER, Wallingford JB, Parkinson J, Marcotte EM, **Emili A**. Proteome-wide dataset supporting the study of ancient metazoan macromolecular complexes. **Data Brief** (2015) 6:715-21.
22. Kumar A, Beloglazova N, Bundalovic-Torma C, Phanse S, Deineko V, Gagarinova A, Musso G, Vlasblom J, Lemak S, Hooshyar M, Minic Z, Wagih O, Mosca R, Aloy P, Golshani A, Parkinson J, **Emili A**, Yakunin AF, Babu M. Conditional Epistatic Interaction Maps Reveal Global Functional Rewiring of Genome Integrity Pathways in Escherichia coli. Cell Rep (2016) 14(3):648-61
23. Simple and Effective Affinity Purification Procedures for Mass Spectrometry-Based Identification of Protein-Protein Interactions in Cell Signaling Pathways. Kwan JH, **Emili A. Methods Mol Biol** (2016) 1394:181-7.
24. Investigating Bacterial Protein Synthesis Using Systems Biology Approaches. Gagarinova A, **Emili A Adv Exp Med Biol** (2015) 883:21-40.
25. Hadley KC, Rakhit R, Guo H, Sun Y, Jonkman JE, McLaurin J, Hazrati LN, **Emili A**, Chakrabartty A. Determining composition of micron-scale protein deposits in neurodegenerative disease by spatially targeted optical microproteomics. **Elife** (2015) 4. pii: e09579.
26. Wan C, Borgeson B, Phanse S, Tu F, Drew K, Clark G, Xiong X, Kagan O, Kwan J, Bezginov A, Chessman K, Pal S, Cromar G, Papoulas O, Ni Z, Boutz DR, Stoilova S, Havugimana PC, Guo X, Malty RH, Sarov M, Greenblatt J, Babu M, Derry WB, Tillier ER, Wallingford JB, Parkinson J, Marcotte EM, **Emili A** Panorama of ancient metazoan macromolecular complexes. **Nature** (2015) 525(7569):339-44.
27. Cassar PA, Carpenedo RL, Samavarchi-Tehrani P, Olsen JB, Park CJ, Chang WY, Chen Z, Choey C, Delaney S, Guo H, Guo H, Tanner RM, Perkins TJ, Tenenbaum SA, **Emili A**, Wrana JL, Gibbings D, Stanford WL. Integrative genomics positions MKRN1 as a novel ribonucleoprotein within the embryonic stem cell gene regulatory network. **EMBO Rep**. 2015 Oct;16(10):1334-57.
28. Chamberlain MD, Wells LA, Lisovsky A, Guo H, Isserlin R, Talior-Volodarsky I, Mahou R, **Emili A**, Sefton MV. Unbiased phosphoproteomic method identifies the initial effects of a methacrylic acid copolymer on macrophages. **Proc Natl Acad Sci U S A.** 2015 Aug 25;112(34):10673-8.

29. Phosphoproteomic network analysis in the sea urchin Strongylocentrotus purpuratus reveals new candidates in egg activation. Guo H, Garcia-Vedrenne AE, Isserlin R, Lugowski A, Morada A, Sun A, Miao Y, Kuzmanov U, Wan C, Ma H, Foltz K, **Emili A**. **Proteomics.** 2015 Dec;15(23-24):4080-95.
30. Extracting high confidence protein interactions from affinity purification data. Pu S, Vlasblom J, Turinsky A, Marcon E, Phanse S, Trimble S, Olsen J, Greenblatt J, **Emili A**, Wodak S. J Prot. (2015) 118:63-80.
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