

# Jonathan Goya

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## Current position

- 7/2011- PhD Candidate, Princeton University  
Quantitative and Computational Biology  
Olga Troyanskaya, Research Advisor  
Joshua Rabinowitz and John Storey, Thesis Committee  
Dissertation to be defended May 2016, "Post-transcriptional regulation of protein abundance and function"

## Education

- 2014 MA Quantitative and Computational Biology, Princeton University  
2008 BS (Magna cum laude) Biochemistry, University of Arizona  
BS Thesis: "Elucidation of the dynamic structure of the p53 tumor suppressor protein by H/D exchange mass spectrometry"  
Advisor: Dr. Vicki Wysocki  
2008 BMus (Magna cum laude) Viola Performance, University of Arizona  
2005 BS (Summa cum laude) Chemistry, Northern Arizona University

## Publications and presentations

### Journal articles

- 2015 **Goya J**, Wong AK, Yao V, Krishnan A, Homilius M, Troyanskaya OG. "FNTM: a server for predicting functional networks of tissues in mouse.", *Nucleic Acids Research* 43 (W1): W182-W187.
- 2014 Bansal M, . . . , **NCI-DREAM Community**. "A Community computational challenge to predict the activity of pairs of compounds.", *Nature Biotechnology* 32, 1213-1222.
- 2014 Molden R, **Goya J**, Khan Z, Garcia B. "Stable isotope labeling of phosphoproteins for large-scale phosphorylation rate determination.", *Molecular and Cellular Proteomics* 13, 1106-18.
- 2013 Gorshkova IA, Wang H, Orbelyan GA, **Goya J**, Natarajan V, Beiser DG, Vanden Hoek TL, Berdyshev EV. "Inhibition of sphingosine-1-phosphate lyase rescues sphingosine kinase-1-knockout phenotype following murine cardiac arrest.", *Life Sciences* 93, 359-66
- 2012 Véret J, Coant N, Gorshkova IA, Giussani P, Fradet M, Riccitelli E, Skobeleva A, **Goya J**, Kassis N, Natarajan V, Portha B, Berdyshev EV, Le Stunff H. "Role of palmitate-induced sphingoid base-1-phosphate biosynthesis in INS-1  $\beta$ -cell survival." *Biochimica et Biophysica Acta*, 1831, 251-262.
- 2011 Li W, Ji L, **Goya J**, Tan G, Wysocki VH. "SQID: An intensity-incorporated protein identification algorithm for tandem mass spectrometry." *Journal of Proteome Research*, 10, 1593-1602.
- 2010 Berdyshev EV, **Goya J**, Gorshkova I, Prestwich GD, Byun HS, Bittman R, Natarajan V. "Characterization of sphingosine-1-phosphate lyase activity by electrospray ionization-liquid chromatography/tandem mass spectrometry quantitation of (2E)-hexadecenal." *Analytical Biochemistry*, 408, 12-8.
- 2010 Qin J, Berdyshev EV, **Goya J**, Natarajan V, Dawson G. "Neurons and oligodendrocytes recycle sphingosine 1-phosphate to ceramide: significance for apoptosis and multiple sclerosis." *Journal of Biological Chemistry*, 285, 14134-43.

## Invited talks

- 2016 **Goya J.** “Post-transcriptional regulation of protein abundance and function: the life of a gene once it leaves home.”, Department of Biology, James Madison University, Jan 19, 2016.
- 2014 **Goya J.** “A flower in shade: How did the earliest angiosperms find their niche?”, Department of Geology and Geophysics, SOEST, University of Hawai’i at Manoa, Oct 31, 2014.

## Conference posters - presenting author

- 2012 **Goya J**, Perlman DH, Volchenboun S, Kron S, Troyanskaya O. “Quantitator-Infiltrator: Flexible, iterative peptide quantification and retention time alignment by maximum likelihood”, American Society for Mass Spectrometry, May 20-24, 2012.

## Conference presentations - contributing author

- 2012 Molden R, **Goya J**, Khan Z, Garcia B. “Monitoring phospho-site specific dynamics using an in vivo metabolic stable isotope labeling of amino acids by phosphate (SILAP) approach”, American Society for Mass Spectrometry, May 20-24, 2012.
- 2010 Berdyshev EV, Gorshkova IA, **Goya J**, Beiser DG, Wang H, Orbelyan G, Natarajan V, Vanden Hoek TL. “Sphingosine Kinase-1 Knockout Mice Have Increased Cardiac Arrest Mortality That is Rescued by Sphingosine-1-Phosphate Lyase Inhibition”, Resuscitation Science Symposium, Nov 13-14, 2010.
- 2010 Li W, **Goya J**, Wysocki V. “SQID: An intensity-incorporated peptide identification algorithm for tandem mass spectrometry”, American Society of Mass Spectrometry, May 23-27, 2010.
- 2010 Petrache I, **Goya J**, Rush NI, van DeMark M, Kamocki K, Petrusca DN, Twigg HL, Garcia JGN, Ma SF, Natarajan V, Shen C, Berdyshev EV. “Ceramide and Sphingosine-1-Phosphate (S1P) levels in Patients With COPD”, American Thoracic Society International Conference, May 14-19, 2010.
- 2010 Zhao Y, He D, Pendyala S, Berdyshev E, **Goya J**, Chun J Natarajan V. “Deletion of Lysophosphatidic acid Receptors 1 and 2 Protects Against Lipopolysaccharide-Induced Acute Lung Injury in Mice”, Experimental Biology, April 24-28, 2010.
- 2009 Li W, **Goya J**, Wysocki V. “Using Intensity in Peptide Identification Algorithms”, Lake Arrowhead Conference on Ion Chemistry and Mass Spectrometry, Jan 18-16, 2009.

## Teaching

- 3/2015 2 lectures (Mass Spectrometry), Integrated Science Curriculum  
Princeton University
- 2/2015-7/2015 Instructor (Statistics I, Statistics II), Prison Teaching Initiative  
NJ Scholarship and Transformative Education in Prisons
- 1/2013-6/2013 Assistant in Instruction (Genetics), Integrated Science Curriculum  
Princeton University
- 9/2002-6/2003 Teaching Assistant, General Chemistry II lab  
Northern Arizona University

## Previous research positions

- 2/2010-6/2011 *Research technologist*, University of Chicago  
Dr. Stephen Kron and Dr. Samuel Volchenboun, Research Advisors  
Development of high-throughput data analysis algorithms for differential proteomics by stable isotope labeling. Real-time instrument control methods for next-generation data-dependent mass spectrometry. Proteomic-informatic analysis of bacterial genomes toward high-throughput antigen detection.

- 7/2009-2/2010 *Research technologist*, University of Chicago  
Dr. Evgeny Berdyshev, Research Advisor  
Lipidomics method development, selected reaction monitoring. Sample processing and data analysis for ceramides and sphingosine.
- 1/2007-8/2008 *Undergraduate researcher*, University of Arizona  
Dr. Vicki Wysocki, Research Advisor  
Development of Bayesian peptide identification algorithm for tandem mass spectrometry.  
Dynamic protein structure studies by hydrogen-deuterium exchange mass spectrometry.
- 5/2003-8/2003 *Undergraduate researcher*, Northern Arizona University  
Dr. Timothy Vail, Research Advisor  
Functionalized paramagnetic nanoparticles for immunoassay and antigen detection.

## Honors and awards

- 2011-2012 William G. Bowen Merit Fellowship, Princeton University  
2001-2005 Yavapai Apache Nation Ambassador Scholar  
2001-2003 Wettaw Chemistry Scholar

## Research funding

- 2013 Agilent Thought Leader Award Extension to Joshua Rabinowitz  
Awarded **\$100,000** for analysis of protein turnover rates during steady state growth in yeast using a novel exponential shift stable isotope labeling strategy.

## Service

- 2013 Peer review, *Pacific Symposium on Biocomputing* (1 paper)  
2013-2014 Peer review, *Bioinformatics* (2 papers)

## Professional memberships

- 2012- American Society for Mass Spectrometry  
2014- National Organization of Gay and Lesbian Scientists and Technical Professionals