

Marcus Bustamante Smolka

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Education

- 2003-2008** **PostDoc** - Ludwig Institute for Cancer Research, San Diego, USA
- 1998-2002** **Ph.D.** - Biochemistry and Molecular Biology - State University of Campinas, Brazil
- 1997-1998** **Master's** - Biochemistry - State University of Campinas, Brazil
- 1993-1996** **B. S.** - Biological Sciences - State University of Campinas, Brazil

Research and professional positions

- 2014-present** **Associate professor**
Weill Institute / Dept. of Molecular Biology and Genetics, Cornell University, USA
- 2016-present** **Director of graduate studies**
Field of Biochemistry, Molecular and Cell Biology, Cornell University, USA
- 2008-2014** **Assistant professor**
Weill Institute / Dept. of Molecular Biology and Genetics, Cornell University, USA
- 2003-2008** **Postdoctoral fellow - PI: Dr. Huilin Zhou**
Ludwig Institute for Cancer Research, San Diego, USA
- 2000-2001** **Graduate fellow - PI: Dr. Ruedi Aebersold**
Institute for Systems Biology, Seattle, USA
- 1998-2002** **Graduate research - PI: Dr. Jose Camilo Novello**
Laboratory of Protein Chemistry, State University of Campinas, Brazil

Publications

1. Lanz M, Oberly S, Sanford E, **Smolka MB**. Spatial modulation of Mec1/ATR activation reveals separable roles in DNA replication and genome maintenance. (Under review).
2. Bastos de Oliveira FM, Kim D, Lanz M, **Smolka MB**. Quantitative Analysis of DNA Damage Signaling Responses to Chemical and Genetic Perturbations. *Methods Molecular Biology* (2017; in press).
3. Liu Y, Cussiol JR, Dibitetto D, Sims J, Twayana S, Weiss RS, Freire R, Marini F, Pelliccioli A, **Smolka MB**. TOPBP1/Dpb11 Plays a Conserved Role in Homologous Recombination DNA Repair Through the Coordinated Recruitment of 53BP1/Rad9. *J. Cell Biology* (2017) Mar 6;216(3):623-639. PMID: 28228534.
4. Cabrera E, Hernández-Pérez S, Koundrioukoff S, Debatisse M, Kim D, **Smolka MB**, Freire R, Gillespie DA. PERK inhibits DNA replication during the Unfolded Protein Response via Claspin and Chk1. *Oncogene*. (2017) PMID: 27375025
5. Bai G, **Smolka MB**, Schimenti JC. Chronic DNA Replication Stress Reduces Replicative Lifespan of Cells by TRP53-Dependent, microRNA-Assisted MCM2-7 Downregulation. *PLoS Genet.* (2016) 12(1):e1005787. PMID: 26765334
6. Sullivan PM, Zhou X, Robins AM, Paushter DH, Kim D, **Smolka MB**, Hu F. The ALS/FTLD associated protein C9orf72 associates with SMCR8 and WDR41 to regulate the autophagy-lysosome pathway. *Acta Neuropathol Commun.* (2016) 18;4(1):51. PMID: 27193190
7. Dibitetto D, Ferrari M, Rawal CC, Balint A, Kim T, Zhang Z, **Smolka MB**, Brown GW, Marini F, Pelliccioli A. Slx4 and Rtt107 control checkpoint signalling and DNA resection at double-strand breaks. *Nucleic Acids Res.* (2016) 44(2):669-82. PMID: 26490958. PMCID: PMC4737138.
8. Cussiol JR, Jablonowski CM, Yimit A, Brown GW, **Smolka MB**. Dampening DNA damage checkpoint signalling via coordinated BRCT domain interactions. *EMBO J.* (2015) PMID: 25896509
9. Bastos de Oliveira FM, Kim D, Cussiol JR, Das J, Jeong MC, Doerfler L, Schmidt KH, Yu H, **Smolka MB**. Phosphoproteomics Reveals Distinct Modes of Mec1/ATR Signaling during DNA Replication. *Mol Cell.* (2015) Mar 19;57(6):1124-32. PMID: 25752575
10. Jablonowski CM, Cussiol JR, Oberly S, Yimit A, Balint A, Kim T, Zhang Z, Brown GW, **Smolka MB**. Termination of Replication Stress Signaling via Concerted Action of the Slx4 Scaffold and the PP4 Phosphatase. *Genetics*. (2015) Sep 11. PMID: 26362319.
11. Zhou X, Sun L, Bastos de Oliveira F, Qi X, Brown WJ, **Smolka MB**, Sun Y, Hu F. Prosaposin facilitates sortilin-independent lysosomal trafficking of progranulin. *J Cell Biol.* (2015) Sep 14;210(6):991-1002. PMID: 26370502.
12. Balint A, Kim T, Gallo D, Cussiol JR, Bastos de Oliveira FM, Yimit A, Ou J, Nakato R, Gurevich A, Shirahige K, **Smolka MB**, Zhang Z, Brown GW. Assembly of Slx4 signaling complexes behind DNA replication forks. *EMBO J.* (2015) Jun 25. pii: e201591190.
13. Silva JA, Pompeu DG, **Smolka MB**, Gozzo FC, Comar M Jr, Eberlin MN, Granjeiro PA, Marangoni S. Primary Structure of a Trypsin Inhibitor (Copaifera langsdorffii Trypsin Inhibitor-1) Obtained from C. langsdorffii Seeds. *J Biomol Tech.* (2015) 26(3):90-102.

14. Wei X, Das J, Fragoza R, Liang J, Bastos de Oliveira FM, Lee HR, Wang X, Mort M, Stenson PD, Cooper DN, Lipkin SM, **Smolka MB**, Yu H. A massively parallel pipeline to clone DNA variants and examine molecular phenotypes of human disease mutations. *PLoS Genet.* (2014) Dec 11;10(12):e1004819. PMID: 25502805
15. Hsu F, Luo X, Qiu J, Teng YB, Jin J, **Smolka MB**, Luo ZQ, Mao Y The Legionella effector SidC defines a unique family of ubiquitin ligases important for bacterial phagosomal remodeling. *PNAS* (2014) Jul 22;111(29):10538-43. PMID: 25006264.
16. de Oliveira FM, **Smolka MB**. Identification of DNA damage checkpoint-dependent protein interactions in *Saccharomyces cerevisiae* using quantitative mass spectrometry. *Methods Mol Biol.* (2014). 1156:251-63. PMID: 24791994.
17. Viswanatha R, Wayt J, Ohouo P, **Smolka MB** and Bretscher A. (2013) Interactome analysis reveals ezrin can adopt multiple conformational states. *J Biol Chem* 288(49):35437-51.
18. Ohouo P, Liu Y, Oliveira FM, Ma CW and **Smolka MB**. (2013) DNA Repair Scaffolds Dampen Checkpoint Signaling by Counteracting the Rad9 Adaptor. *Nature* 493(7430):120-4.
19. Scafoglio C, **Smolka M**, Zhou H, Perissi V and Rosenfeld MG. (2013) The co-repressor SMRT delays DNA damage-induced caspase activation by repressing pro apoptotic genes and modulating the dynamics of checkpoint kinase 2 activation. *PLoS One.* 8(5):e59986.
20. Viswanatha R, Ohouo PY, **Smolka MB** and Bretscher A. (2012) Local phosphocycling mediated by LOK/SLK restricts ezrin function to the apical aspect of epithelial cells. *J Cell Biol.* 199(6):969-84.
21. Bastos de Oliveira FM, Harris MR, Brazauskas P, de Bruin RA and **Smolka MB**. (2012) Linking DNA replication checkpoint to MBF cell-cycle transcription reveals a distinct class of G1/S genes. *EMBO J.* 31(7):1798-810.
22. Travesa A, Kuo D, de Bruin RA, Kalashnikova TI, Guaderrama M, Thai K, Aslanian A, **Smolka MB**, Yates JR 3rd, Ideker T and Wittenberg C. (2012) DNA replication stress differentially regulates G1/S genes via Rad53-dependent inactivation of Nrm1. *EMBO J.* 31(7):1811-22.
23. MacGurn JA, Hsu PC, **Smolka MB** and Emr SD. (2011) TORC1 regulates endocytosis via Npr1-mediated Phosphoinhibition of a ubiquitin ligase adaptor. *Cell* 147(5):1104-17.
24. Ohouo P, Oliveira FM, Almeida BS and **Smolka MB**. (2010) DNA Damage Signaling Recruits the Rtt107-Slx4 Scaffolds via Dpb11 to Mediate Replication Stress Response. *Molecular Cell* 30;39(2):300-6.
25. Wagner MV, **Smolka MB**, de Bruin RA, Zhou H, Wittenberg C and Dowdy SF. (2009) Whi5 Regulation by Site Specific CDK-Phosphorylation in *Saccharomyces cerevisiae*. *PLoS ONE* 4(1):e4300. (NOTE: work done prior to my arrival at Cornell)
26. Payne SH, Yau M, **Smolka MB**, Tanner S, Zhou H and Bafna V. (2008) Phosphorylation-Specific MS/MS Scoring for Rapid and Accurate Phosphoproteome Analysis. *J Proteome Res.* 7(8):3373-3381.
27. Pham P, **Smolka MB**, Calabrese P, Landolph A, Zhang K, Zhou H and Goodman MF. (2008) Impact of phosphorylation and phosphorylation-null mutants on the activity and deamination specificity of activation-induced cytidine deaminase. *J Biol Chem* 283(25):17428-39.

28. Albuquerque CP, **Smolka MB**, Payne SH, Bafna V, Eng J and Zhou H. (2008) A multidimensional chromatography technology for in-depth phosphoproteome analysis. *Mol Cell Proteomics* 7(7):1389-96.
29. **Smolka MB**, Albuquerque CP, Chen S and Zhou H. (2007) Proteome-wide identification of in vivo targets of DNA damage checkpoint kinases. *PNAS* 104(25):10364-9.
30. Chen S, **Smolka MB** and Zhou H. (2007) Mechanism of Dun1 activation by Rad53 phosphorylation in *Saccharomyces cerevisiae*. *J Biol Chem* 282(2):986-95.
31. Martins D, Astua-Monge G, Coletta-Filho HD, Winck FV, Baldasso PA, Oliveira BM, Marangoni S, Machado MA, Novello JC and **Smolka MB**. (2007) Absence of Classical Heat Shock Response in the Citrus Pathogen *Xylella fastidiosa*. *Curr Microbiol* 54(2):119-23.
32. **Smolka MB**, Chen S, Maddox PS, Enserink JM, Albuquerque CP, Wei XX, Schmidt KH, Desai A, Kolodner RD and Zhou H. (2006) An FHA Domain-Mediated Protein Interaction Network of Rad53 Reveals its Role in Polarized Cell Growth. *J Cell Biol.* 175(5):743-53.
33. Enserink JM, **Smolka MB**, Zhou H and Kolodner RD (2006) Checkpoint proteins control morphogenetic events during DNA replication stress in *Saccharomyces cerevisiae*. *J Cell Biol.* 175(5):729-41.
34. **Smolka MB**, Albuquerque CP, Chen SH, Schmidt KH, Wei XX, Kolodner RD and Zhou H (2005). Dynamic Changes in Protein-Protein Interaction and Protein Phosphorylation Probed with Amine-reactive Isotope Tag. *Mol Cell Proteomics* 4(9):1358-69.
35. Macedo ML, Freire Md, Martins LT, Martinez DS, Gomes VM, **Smolka MB**, Toyama MH, Marangoni S and Coelho LC. (2004) Novel protein from *Labramia bojeri* A. DC. seeds homologue to Kunitz-type trypsin inhibitor with lectin-like properties. *J Agric Food Chem* 52(25):7548-54.
36. **Smolka MB**, Martins-de-Souza D, Winck FV, Santoro CE, Castellari RR, Ferrari F, Brum IJ, Galembeck E, Della Coletta Filho H, Machado MA, Marangoni S and Novello JC. (2003) Proteome Analysis of the Plant Pathogen *Xylella fastidiosa* Reveals Major Cellular and Extracellular Proteins and a Peculiar Codon Bias Distribution. *Proteomics* 3:224-37.
37. **Smolka M**, Zhou H and Aebersold R. (2002) Quantitative Protein Profiling Using Two-dimensional Gel Electrophoresis, Isotope-coded Affinity Tag Labeling, and Mass Spectrometry. *Mol Cell Proteomics* 1:19-29.
38. **Smolka MB**, Zhou H, Purkayastha S and Aebersold R. (2001) Optimization of the isotope-coded affinity tag-labeling procedure for quantitative proteome analysis. *Anal Biochem* 297:25-31.
39. Freire MG, Machado OL, **Smolka MB**, Marangoni S, Novello JC and Macedo ML. (2001) Isolation and characterization of isolectins from *Talisia esculenta* seeds. *J Protein Chem* 20:495-500.
40. **Smolka MB**, Zoppi CC, Alves AA, Silveira LR, Marangoni S, Pereira-Da-Silva L, Novello JC and Macedo DV. (2000) HSP72 as a complementary protection against oxidative stress induced by exercise in the soleus muscle of rats. *Am J Physiol Regul Integr Comp Physiol* 279(5):R1539-45.
41. **Smolka MB**, Marangoni S, Oliveira B and Novello JC. (1998) Purification and partial characterization of a thrombin-like enzyme, balterobin, from the venom of *Bothrops alternatus*. *Toxicon* 36(7):1059-63.

Invited reviews and commentaries:

42. Cussiol JR, Dibitetto D, Pelliccioli A, **Smolka MB**. Slx4 scaffolding in homologous recombination and checkpoint control: lessons from yeast. *Chromosoma*. (2017). PMID: 27165041. NIHMS ID: NIHMS792796.
43. Liu Y, **Smolka MB**. TOPBP1 takes RADical command in recombinational DNA repair. *J Cell Biol*. (2016) Feb 1;212(3):263-6. PMID: 26811424. PMCID:PMC4748579
44. Ohouo PY and **Smolka MB**. The many roads to checkpoint activation. (2012) *Cell Cycle* 11(24).
45. **Smolka MB**, Bastos de Oliveira FM, Harris MR and de Bruin RA. (2012) The Checkpoint Transcriptional Response: Make Sure to Turn it Off Once You are Satisfied. *Cell Cycle* 11(17):3166-74.
46. Ohouo PY and **Smolka MB**. (2011) A touching moment for Smc5/6: From ssDNA binding to repair. *Cell Cycle* 10(8).
47. **Smolka MB**. (2010) Fine-tuning the DNA damage response: protein phosphatase 2A checks on CHK2. *Cell Cycle* 9(5):862-3.

Seminars (last 4 years)

1. Duke University School of Medicine - Department of Pharmacology and Cancer Biology: "Deconstructing the DNA Damage Signaling Network" – Durham, NC. November, 2017.
2. NYU School of Medicine - Biochemistry and Molecular Pharmacology Seminar Series: "Deconstructing the DNA Damage Signaling Network" – New York, NY. October, 2017.
3. Cold Spring Harbor Eukaryotic DNA Replication & Genome Maintenance meeting: "Positive and Negative Control of Homologous Recombination via TOPBP1 Shapes Genome Stability in S-phase". Cold spring Harbor, NY. September, 2017.
4. FASEB Genetic Recombination & Genome Rearrangements: "Positive and Negative Control of Homologous Recombination via TOPBP1 Shapes Genome Stability in S-phase". Steamboat Springs, Colorado. July, 2017.
5. University of Pennsylvania - UPENN, Department of Cancer Biology - Perelman School of Medicine: "Deconstructing the DNA Damage Signaling Network" – Philadelphia, USA. January, 2017.
6. Memorial Sloan Kettering Cancer Center: Department of Molecular Biology: "Deconstructing the DNA Damage Signaling Network" – New York, USA. October, 2016.
7. Keynote speaker: 6th Conference of the Brazilian Mass Spectrometry Society / 1st Ibero American Conference on Mass Spectrometry: "Proteomics of Signaling Networks". Rio de Janeiro, Brazil. December, 2016.
8. University of Toronto: "Probing kinase action in Genome Maintenance pathways" – Toronto, Canada. September, 2016.
9. Cold Spring Harbor Laboratory Proteomics Course: "Investigating Signaling Networks with Quantitative Proteomics" – Cold Spring Harbor, NY. June, 2016.

10. Wright State University: "Probing kinase action in DNA repair and cancer pathways" – Dayton, OH, USA. March, 2016.
11. New Horizons in Medicinal Chemistry of Protein Kinases Workshop: "Probing kinase action and inhibition in vivo" – Sao Paulo, Brazil. March, 2016.
12. State University of Sao Paulo: "Probing kinase action in DNA repair and cancer pathways" – Sao Paulo, Brazil. March, 2016.
13. UNICAMP: "Probing kinase action in DNA repair and cancer pathways" – Campinas, Brazil. March, 2016.
14. Pennsylvania State University College of Medicine: "Phosphorylation Networks and Genome Maintenance" – Hershey, PA. October, 2015.
15. Centro de Biologia Molecular Severo Ochoa: "Genome Integrity: Rethinking Checkpoints" – Spain. July, 2015.
16. Hospital Universitario de Canarias: "Genome Integrity: Rethinking Checkpoints" – Spain. July, 2015.
17. University of South Florida - Department of Cell Biology, Microbiology and Molecular Biology: "Genome Integrity: Rethinking Checkpoints" – Tampa, FL. November, 2014.
18. Gordon Research Conference on Genomic Instability: "Non-canonical Modes of Mec1/ATR Action during DNA replication" - Hong Kong. July, 2014.
19. Stanford University - "Uncovering the DNA Damage Signaling Network: Proteomics Points the Way" – Palo Alto, CA. June, 2014.
20. NYU School of Medicine - Biochemistry and Molecular Pharmacology Seminar Series: "The DNA Damage Signaling Network: From Proteomics to Mechanisms of Tolerance to Replication Stress" – New York, NY. December, 2013.
21. McMaster University: "The DNA Damage Signaling Network: From Proteomics to Mechanisms of Tolerance to Replication Stress" – New York, NY. December, 2013.
22. Gordon Research Conference on Posttranslational Modification Networks: "The DNA Damage Signaling Network" - Hong Kong. July, 2013.
23. Cold Spring Harbor Laboratory Proteomics Course: "Investigating Signaling Networks with Quantitative Proteomics" - Cold Spring Harbor, NY. July, 2013.
24. Distinguished Scientist Lecture Series - IRIC - Université de Montréal: "Coordination of Replication Stress Responses via Checkpoint Kinases" - Canada. May, 2013.
25. McGill University: "The DNA Damage Signaling Network: From Proteomics to Mechanisms of Tolerance to Replication Stress" - Canada. May, 2013.
26. Workshop: Advanced Topics in Genomics and Cell Biology: "The DNA Damage Signaling Network: From Phosphoproteomics to Cancer" - Unicamp, Brazil. May, 2013.

Conference talks by laboratory members (last 4 years)

1. Talk by Dongsung Kim: "GRC Genomic Instability meeting". Hong Kong, 2016
2. Talk by Yi Liu: "Cell cycle meeting" Cold Spring Harbor, NY. March, 2016.
3. Talk by Dongsung Kim: "Buffalo Replication and Repair meeting". NY, USA. March, 2016.
4. Talk by Yi Liu: "Buffalo Replication and Repair meeting". NY, USA. March, 2016.
5. Talk by José Cussioli: "MutaGen Conference". Sao Paulo, Brazil. January, 2016.
6. Talk by Carolyn Jablonowsky: "ASBMB annual meeting" April, 2015.

Honors and professional service

- | | |
|-----------|--|
| 1995-1997 | Scholarship Scientific Initiation: CNPq, Brazil |
| 1997-1999 | Fellowship Master's: CNPq, Brazil |
| 1999-2002 | Fellowship PhD: FAPESP, Brazil |
| 2008- | Member, American Society for Biochemistry and Molecular Biology |
| 2010- | Member, American Society of Mass Spectrometry |
| 2010- | Associate Editor, Scientific Reports – Nature NPG |
| 2010- | Associate Editor, G3 – Genes, Genomes and Genetics |
| 2011-2015 | Research Scholar Award - American Cancer Society - USA |
| 2013- | Peer Review Committee on DNA Mechanisms in Cancer - American Cancer Society |
| 2015- | Member, Center for Reproductive Genomics - Cornell |
| 2015- | Guest Editor, Plos Genetics |
| 2016- | Director of Graduate Studies – Field of Biochemistry, Molecular and Cell Biology |
| 2016 | Molecular Genetics A (MGA) study section, National Institutes of Health, Ad hoc |
| 2017- | Guest editor, eLife |

Research support

Active:

1. RO1 GM RGM097272A (PI: Smolka)

National Institute of Health (NIGMS)

Period: 09/01/2011 – 04/30/2021

Title: "CELLULAR RESPONSES TO REPLICATION STRESS"

Role: Principal investigator

Total cost: \$ 1332,000

2. 1R01NS088448-01 (PI: Hu)

National Institute of Health (NIH)

Period: 08/1/2014 - 07/31/2019

Title: "FUNCTION OF TMEM106B IN NEURODEGENERATION"

Role: Co-investigator

Total cost: \$ 1,757,666

3. R01 GM 116964 (PI: Mao)

National Institute of Health (NIGMS)

Period: 09/01/2016 – 08/31/2020

Title: "THE MECHANISM OF A NOVEL FAMILY OF BACTERIAL UBIQUITIN E3 LIGASES IMPORTANT FOR PHAGOSOME REMODELING"

Role: Co-investigator

Total cost: \$ 1,200,154

4. R01 GM 039066-23 (PI: Bretscher)

National Institute of Health (NIGMS)

Period: 09/01/2015 – 08/31/2019

Title: "MICROFILAMENTS IN THE YEAST SACCHAROMYCES CEREVISIAE"

Role: Collaborator

Total cost: \$ 1,521,133

5. CVG Seed Grant Award - Cornell University (PI: Smolka/Koren)

Period: 12/01/2016 - 11/30/2017

Title: "Genomic analysis of factors required for centromere and heterochromatin replication in human cells"

Role: Principal investigator

Direct cost: \$10,000

Pending:

R01 GM 123018 (PI: Smolka)

National Institute of Health (NIGMS)

12/1/2017 – 11/30/2021

Title: "Mechanisms of Heterochromatin Replication"

Role: Principal investigator

Total cost: \$ 1,585,519

Completed:

1. Research Scholar Award - ACS (PI: Smolka)

American Cancer Society (121517-RSG-11-146-01-DMC)

Period: 07/01/2011 - 12/30/2015

Title: "Cellular Responses to Replication Stress"

Role: Principal investigator

Direct cost: \$150,000/yr

Total cost: \$ 720,000

2. CVG Seed Grant Award - Cornell University (PI: Smolka)

Period: 12/01/2010 - 11/30/2011

Title: "Regulation of Mouse SLX4 by DNA Damage and Replication Checkpoint Signaling"

Role: Principal investigator

Direct cost: \$14,967

3. NIH Predoctoral Fellowship Award to Patrice Ohouo

Type: 5F31GM09358

Period: 08/19/2011 – 07/31/2013

Title: "Understanding the mechanistic roles of Mec1-dependent phosphorylation in replication fork repair"

Role: Sponsor

Direct cost: \$126,264

4. Fleming post-doctoral fellowship to Francisco Oliveira

Period: 09/01/2010 – 08/31/2013

Title: "Regulation of replication stress-induced transcription via checkpoint signaling"

Role: Sponsor

Direct cost: \$50,000/yr

5. 1R21NS081357-01 (PI: Hu)

National Institute of Health (NIH)

Period: 09/1/2012 - 07/31/2014

Title: "A novel signaling mechanism of progranulin"

Role: Collaborator

Direct cost: \$125,000/yr

Total cost: \$ 425,992

Training grant participation (active):

1. T32 GM07273 (PI: Bretscher)

National Institutes of Health \$624,192 annual direct costs

“Predoctoral training in Cellular and Molecular Biology”

Role: Trainer

2. T32 GM07617 (PI: Barbash)

National Institutes of Health \$195,060 annual direct costs

“Predoctoral Training in Genetics and Development”

Role: Trainer

3. T32 HD 052471 (PI: Roberson)

National Institutes of Health \$206,948 annual direct costs

“Reproductive Biology and Genomics Training Program”

Role: Trainer

Training grant participation (completed):

1. T32 GM07273 (PI: Lis) 07/01/05 - 06/30/10

National Institutes of Health \$617,052 annual direct costs

“Predoctoral training in Cellular and Molecular Biology”

Role: Trainer

2. T32 GM07617 (PI: Alani) 07/01/07 - 06/30/12

National Institutes of Health \$425,592 annual direct costs

“Predoctoral Training in Genetics and Development”

Role: Trainer

3. T32 HD052471 (PI: Roberson) 4/1/08 - 3/31/13

National Institutes of Health \$264,915 annual direct costs

“Reproductive Sciences and Genomics Training Program”

Role: Co-Trainer

Outside professional activities

Grant panels

1. ACS (American Cancer Society): Member - Peer Review Committee on DNA Mechanisms in Cancer
2. NIH (National Institute of Health): MGA Study section. Ad hoc reviewer
3. NSF (National Science Foundation): Ad hoc reviewer.

Editorial service / board member

1. Scientific Reports - Nature Publishing Group - (2011-present)
2. G3: Genes, Genomes, Genetics - Genetics Society of America - (2011-present)
3. Plos Genetics: guest editor (2015 – present)
4. eLife: guest editor (2017-present)

Ad hoc manuscript reviews

1. Nature Reviews Molecular Cell Biology
2. Nature Structural and Molecular Biology
3. Molecular Cell
4. Embo Journal
5. Nature Communications
6. Plos Genetics
7. Plos Computational Biology
8. Genome Research
9. Embo Reports
10. Molecular and Cellular biology
11. Genome Biology
12. Journal of Cell Biology
13. Nucleic Acid Research

14. Molecular Oncology
15. Genetics
16. Cell Cycle
17. Journal of Separation Science
18. Proteomics
19. Biotechniques.
20. BBA Proteins and Proteomics.
21. Briefings in Functional Genomics and Proteomics.
22. The Protein Journal.
23. Cell Communication and Signaling
24. BMC reviews
25. DNA repair
26. Analytical chemistry

Ad hoc book reviews

1. Genome Stability: Chromosome Repair and Recombination, by James Haber

International grant reviews

1. FAPESP: Science foundation from the state of Sao Paulo
2. Wellcome Trust – UK
3. Serrapilheira Institute

Teaching responsibilities

1. BioMG3320: Principles of Biochemistry: Molecular Biology

Comprehensive course in molecular biology that covers the structure and properties of DNA, DNA replication and repair, synthesis and processing of RNA and proteins, the regulation of gene expression, and the principles and applications of recombinant DNA technologies, genomics, and proteomics.

2. BioMB8370: Problems in Biochemistry, Molecular and Cell Biology

I am the organizer of this 2-credit course that consists of weekly paper discussions focused on research topics in the scientific area of BMCB. Each week a different BMCB faculty member runs a 2-hour discussion of a paper assigned previously. The students are required to hand in at the beginning of each meeting written answers to a problem set made up by the faculty member leading the discussion that week.

3. BioMG8310: Advanced Biochemical Methods I

This course is a 7 week, intensive laboratory course designed to immerse our first year BMCB graduate students in laboratory techniques. It is required for all first year BMCB students. I teach the Proteomics part of this course (1/6 of the course), giving lectures about protein mass spectrometry and laboratory work where the students perform a set of experiments from protein purification to the analysis of protein complexes by quantitative mass spectrometry.

Additional teaching activities

1. Guest lecture: BioGD 4000: Genomics
2. Guest lecture: BioBM 1320: Orientation Lectures in Molecular Biology and Genetics
3. Guest lecture for Presidential Life Science Fellows

Patents

1. US & Foreign patent (United States Patent 7045296) for entitled: "Process for Analyzing Protein Samples"

Professional societies

1. ASBMB: American Society for Biochemistry and Molecular Biology
2. GSA: Genetics Society of America
3. ASMS: American Society for Mass Spectrometry

Training and advising

Post-doctoral fellow

1. Francisco Oliveira, 2008 - 2014 (*Recipient of the Fleming Fellowship; (Currently: Assistant Professor at State University of Rio de Janeiro)*)
2. Jason MacGurn (I co-mentored Jason in an NIH-K99 during Jason's post-doc at Scott Emr's lab) - 2010 - 2013 (Currently: Assistant Professor at Vanderbilt University)
3. Arina Perez - Visiting fellow 2015-2016
4. Jose Renato Rosa Cussiol, 2012 – 2016 (Currently: Research Associate at State University of Sao Paulo)
5. Miguel Enriquez, 2017 – present (I am co-mentoring Miguel in an NIH-K99 for his post-doc at Paula Cohen's lab)

Graduate students - thesis research

1. Patrice Ohouo, ohouopatrice@gmail.com, BMCB, 06/2009 - 05/2013 (*Recipient of an NIH predoctoral fellowship – earned a PhD degree; currently a Forensic Toxicology Scientist at National Toxicology Center Testing Laboratory*)
2. Carolyn Jablonowski, cmj68@cornell.edu, BMCB, 06/2011 – 12/2015 (*Earned a PhD degree, currently a post-doc with Dr. Janet Partridge at St. Jude's*)
3. Yi Liu, y1777@cornell.edu, BMCB, 06/2010 – 7/2016.
4. Laura Nemeth, lmn54@cornell.edu, BMCB, 06/2011 – 08/2013 (earned a Master's degree)
5. Dongsung Kim, dk662@cornell.edu, BMCB, 06/2013 – present
6. Michael Lanz, mcl246@cornell.edu, BMCB, 06/2014 – present
7. Jennie Simms, js2947@cornell.edu, BMCB, 06/2015 – present
8. Ethan Sanford, ejs372@cornell.edu, BMCB, 05/2017 – present
9. Fulvia di Pillo (visiting student: 9/2017 – current)
10. Giuliana Zuccoli (visiting student: 9/2017 – current)

Undergraduate research

1. Chu Jian Ma, cm483@cornell.edu, 2012, College of Arts and Sciences - 2009-2012 (currently in the MD-PhD program at Columbia University)
2. Jorge Dorantes jad225@cornell.edu 2010, College of Arts and Sciences – 2009

3. Jaclyn Munoz jmm549@cornell.edu, 2013, College of Arts and Sciences - 2010-2013
4. Odis Ponce omp4@cornell.edu 2013, College of Arts and Sciences - 2011-2013
5. Min Cheol Jeong, mj377@cornell.edu, 2015, College of Engineering - 2012-2015
6. Angel Joel Diaz Martinez, ad752@cornell.edu, 2013, REU program
7. Susannah Oberly, slo35@cornell.edu, CALS, 2014-present
8. Jenna Nam, jn436@cornell.edu, 2016-present
9. Austen Te, agt49@cornell.edu, 2016-present
10. Ankit Rana, aar97@cornell.edu, 2016-present
11. Kevin Feng, kbf47@cornell.edu, 2017-present
12. Jessica Mendes, Summer of 2016

Technician

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High school student

1. Sohini Khan - RABS program - Summer/2009

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3. Kadeine Campbell kmc339@cornell.edu, G&D (Cohen lab) - 2015
4. Pornpun Aramsangtienchai pa263@cornell.edu, BMCB (Hening Lin lab) - 2016
5. Joanna Mleczko jmm582@cornell.edu, CBS, (Weiss lab) - 2016
6. Lucy Brennan ldb74@cornell.edu, Biophysics (Wang lab) – 2017
7. Catalina Pereira cp556@cornell.edu, BMCB (Weiss lab) – present
8. Darshil Patel drp99@cornell.edu, BMCB (Weiss lab) – present
9. Seong Park sp2274@cornell.edu, Biophysics (Wang lab) – present
10. Chris Furman cmf252@cornell.edu, BMCB (Alani lab) - present
11. Jessica West jdw298@cornell.edu, BMCB (Grimson lab) – present
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