Michael Pablo

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590 Minnesota Street, Apt 429. San Francisco, CA, 94107

EDUCATION

The J. David Gladstone Institutes 2020 –
Postdoctoral Fellow | Center for Cell Circuitry, Institute for Virology
Advisor: Dr. Leor Weinberger

The University of North Carolina at Chapel Hill 2015 – 2020
PhD Chemistry, Certification in Biophysics
Dissertation: Spatiotemporal coordination of signaling at single molecule resolution
Advisors: Dr. Timothy Elston, Dr. Klaus Hahn

Northeastern University Boston, MA
BS Chemistry, Minor in Mathematics, *summa cum laude* 2011 – 2015

RESEARCH EXPERIENCE

The J. David Gladstone Institutes, *Postdoctoral Fellow* 2020 –
- Investigating viral fate circuits in human cytomegalovirus using experimental and computational methods.
- Modeling SARS-CoV-2 infection and transmission dynamics to aid epidemiologic analysis and therapeutic development

University of North Carolina at Chapel Hill, *Graduate Researcher* 2015 – 2020
- Simulated stochastic biochemical systems to study the role of diffusional and chemical noise in yeast self-organization during mating and proliferation.
- Developed computational tools to analyze microscopy and single-particle tracking data from new experimental techniques

Northeastern University, *Undergraduate Researcher* 2012 – 2015
- Investigated post-translational modifications using bioorganic chemistry and mass spectrometry

Amgen, *Undergraduate Co-op* 2013 – 2014
- Conducted analytical chemistry to support medicinal chemistry and process chemistry teams.
- Guided kg-scale synthesis of a specific API polymorph with Raman spectroscopy and modeling

AWARDS, HONORS, AND FELLOWSHIPS

2020 Poster Prize in Mathematical Epidemiology, *Society for Mathematical Biology*
2020 Travel Award, *Biophysical Society*
2019 Graduate Student Transportation Grant, *UNC Chapel Hill*
2016 T32 Training Grant in Molecular & Cellular Biophysics, *National Institutes of Health*
2016 Honorable Mention, *NSF Graduate Research Fellowship Program*
2015 Matthew Stuart Morrison Summer Fellowship, *UNC Chapel Hill*
2014 Provost Undergraduate Research and Creative Endeavors Award, *Northeastern University*
2011 National Merit Scholarship, *National Merit Scholarship Corporation*

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PUBLICATIONS

1. *In revision*. Elston RN*, **Pablo M***, Pimenta FM*, Hahn KM, Watanabe T. Optogenetic inhibition and activation of Rac and Rap1 using a modified iLID system.
   Preprint: https://www.biorxiv.org/content/10.1101/2020.12.11.421990v1

2. *In revision.* Liu B*, Stone OJ*, **Pablo M***, Dagliyan O, Herron JC, Grimm JB, Lavis LD, Elston TC, Hahn KM. Binder/tag: a versatile approach to probe the conformational changes of individual molecules in living cells.

3. *Resubmitted.* Ramirez SA, **Pablo M**, Burk S, Lew DJ, Elston TC. A novel stochastic simulation approach enables exploration of mechanisms to regulate polarity lateral dynamics.
   Preprint: https://www.biorxiv.org/content/10.1101/2020.11.30.404657v1

4. Clark-Cotton MR, Henderson NT, **Pablo M**, Ghose D, Elston TC, Lew DJ. Exploratory polarization facilitates mating partner selection in *Saccharomyces cerevisiae*. *Molecular Biology of the Cell.* 2021, E21-02-0068

5. Henderson N, **Pablo M**, Ghose D, Clark-Cotton MR, Zyla TR, Nolen J, Elston TC, Lew DJ. Ratiometric GPCR output enables directional sensing in yeast. *Public Library of Science Biology.* 2019, e3000484

6. **Pablo M**, Ramirez SA, Elston TC. Particle-based simulations of polarity establishment reveal stochastic promotion of Turing pattern formation. *Public Library of Science Computational Biology.* 2018, e1006016

7. Qu W, Catcott KC, Zhang K, Liu S, Guo JJ, Ma J, **Pablo M**, Glick J, Xiu Y, Kenton N, Ma X, Duclos RI Jr, Zhou ZS. Capturing unknown substrates via *in situ* formation of tightly bound bisubstrate adducts: *S*-adenosyl-vinthionine as a functional probe for AdoMet-dependent methyltransferases. *Journal of the American Chemical Society.* 2016, 138, 2877-2880

*Denotes equal contribution

SERVICE AND PROFESSIONAL MEMBERSHIPS

Guest Speaker	*Curioscity* science podcast (Episode 55: Yeast)	2020
Member	Society for Mathematical Biology	2020 –
Member	Biophysical Society	2019 –
Executive Board	STEM Pride of the Triangle	2019 – 2020
Writer & Editor	NC DNA Day Blog	2016 – 2020
Science Ambassador	NC DNA Day	2016 – 2017
Member	American Chemical Society	2013 – 2016
Member	Northeastern University Civic Engagement Program	2011 – 2015

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TEACHING AND MENTORING

The University of North Carolina		Chapel Hill, NC
Graduate Mentor	Kaiyun Guan (Undergraduate with Honors Thesis)	2019 – 2020
	John Cody Herron (PhD rotation)	2017
Teaching Assistant	Summer Research Program in Biophysics	2017
Guest Lecturer	Essentials of Macromolecular Science	2016 – 2017
Teaching Assistant	Analytical Chemistry Lab	2015
Northeastern University		Boston, MA
Tutor	Organic Chemistry I & II	2012 – 2014
Lead Mentor	Proactive Recruitment in Science and Mathematics	2012

SELECT PRESENTATIONS

1. **Pablo M**, Chaturvedi S, Du K, Kumar A, Rodick R, Weinberger LS. *Multiscale modeling of a self-renewing, self-deploying antiviral for SARS-CoV-2.* Society for Mathematical Biology 2021. Online. May 2020. (Poster).

2. **Pablo M**, Lewis DD, Chen X, Rodick R, Weinberger LS. *Early phase decoupling between population mobility and death rates*. Society for Mathematical Biology 2020. Online. Aug. 2020. Awarded Best Poster Prize, Mathematical Epidemiology. (Poster)

3. **Pablo M***, Liu B*, Stone OJ*, Dagliyan O, Elston TC, Hahn KM. *Binder/tag: A versatile approach to probe and control the conformational changes of individual molecules in living cells.* The 64th Annual Meeting of the Biophysical Society. San Diego, CA. Feb. 2020. (Oral)

4. **Pablo M***, Liu B*, Stone OJ*, Hahn KM, Elston TC. *Uncovering single-molecule kinetics and nanoscale architecture of Src activation.* The 7th Annual Winter Q-Bio Conference. Oahu, HI. Feb. 2019. (Oral)

5. **Pablo M***, Liu B*, Stone OJ*, Hahn KM, Elston TC. *Uncovering single-molecule kinetics and nanoscale architecture of Src activation.* The Biennial Carolina Biophysics Symposium. Chapel Hill, NC. Nov. 2018. (Poster)

6. **Pablo M**, Ramirez SA, Liu B, Watanabe T, Hahn KM, Elston TC. *Computational modeling of stochasticity in cell signaling and its effect on polarity establishment.* The Biennial Carolina Biophysics Symposium. Chapel Hill, NC. Nov. 2016. (Poster)

7. Cohen D, **Pablo M**. *Process Raman in early phase API process development at Amgen.* The North Eastern Raman Symposium. Cambridge, MA. May 2015. (Oral)

8. **Pablo M**, Zhou ZS. *Towards understanding aging: a new method to detect isoaspartic acid in biological samples.* Northeastern University Research, Innovation and Scholarship Expo **(RISE)**. Boston, MA. Apr. 2015. (Poster)

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