

## **EDUCATION**

- Oct 2012 – Jun 2013**    **MPhil, Bioscience Enterprise, University of Cambridge**  
Graduated with 1<sup>st</sup> Class degree and Distinction
- Jan 2008 – Jul 2012**    **PhD, Molecular and Cellular Biology, Rockefeller University**
- Oct 2006 – Jun 2007**    **MSci, Natural Sciences (Biochemistry), University of Cambridge**  
Graduated with 1<sup>st</sup> Class degree
- Oct 2003 – Jun 2006**    **BA (Hons), Natural Sciences (Biochemistry), University of Cambridge**  
Graduated with 1<sup>st</sup> Class degree

## **RESEARCH EXPERIENCE**

### **Post-doctoral Research**

**Advisor: James Letts, PhD**  
**Laboratory of Structural Bioenergetics, University of California, Davis**  
November 2018 — Present

- Researching the structural and functional basis of plant respiration:
  - Established protocols for the extraction, purification and functional characterization of respiration complexes from mung bean and other emerging model organisms.
  - Solved the first atomic structures of mitochondrial complexes and supercomplexes in the plant kingdom by single-particle cryo-electron microscopy (cryoEM).

**2013-2018:** Pursued work in life-sciences consulting and financial industries; see “Other Experience”.

### **Doctoral Research**

**Advisor: Tarun Kapoor, PhD**  
**Laboratory of Chemistry and Cell Biology, Rockefeller University, New York**  
July 2008 — July 2012

- Developed a novel system to uncouple spindle assembly signalling from chromosome attachment.
- Determined the roles of checkpoint kinases in the regulation of chromosome segregation.
- Validated first-in-class dynein inhibitor (ciliobrevin) in human and murine cells.

## **PRIZES AND AWARDS**

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|------|---|
| 2021 | Leading Edge Fellow   |
| 2021 | Corteva Developing Emerging Leaders and Talent in Agriculture (DELTA) Awardee       |
| 2021 | American Society of Plant Biologists Early Career Plant Scientists Attendance Award |
| 2021 | American Society of Plant Biologists Recognition Travel Award (partially accepted)  |
| 2021 | UC Davis Postdoctoral Association Travel Award (declined)                           |
| 2013 | Distinction Award for MPhil Bioscience Enterprise degree, University of Cambridge   |

2012-2013	Cambridge Overseas Trust / Santander Scholarship, University of Cambridge
2012-2013	Carpe Diem Trust Scholarship, University of Cambridge
2007	Dorothy Needham Moyle Biochemistry Prize, Gonville and Caius College
2006	Summer Research Undergraduate Fellowship (SURF), Rockefeller University
2006	Gonville and Caius College Senior Scholar
2005	Medical Research Council (MRC) Summer Undergraduate Scholarship
2005	Gonville and Caius College Junior Scholar
2004	Gonville and Caius College Junior Scholar
2003-2007	UCLES/Gonville and Caius College Scholarship for Argentina, University of Cambridge
2003-2007	Cambridge Overseas Trust Fellowship, University of Cambridge

### **TEACHING AND MENTORING**

- Apr 2018 – Present: Trained and mentored five undergraduate students, seven rotation and two full-time graduate students in biochemistry, molecular biology and other laboratory techniques (UC Davis).
- Jun 2020 – Dec 2020: Co-led for-credit undergraduate course covering the physicochemical basis of cellular bioenergetics (MCB199, Summer 1-2 2020, Fall 2021, UC Davis).
- Mar 2020 – Jun 2020: Developed and led for-credit undergraduate course covering scientific communication, advanced biochemistry methods and introduction to cryoEM (MCB199, Spring 2020).
- 2011: Mentored one graduate student with a chemistry background on his transition into cell-biology-based research (Rockefeller University).
- Jun 2009 – Sept 2009: Mentored three summer undergraduate students on reading, analyzing and presenting scientific papers (Rockefeller University).

### **DIVERSITY, EQUITY AND INCLUSION**

- May 2021 – Present: **Científico Latino Non-Academic Liaison**, building infrastructure (resources, sponsorships, relationships) to help under-represented STEM PhD students obtain jobs in industry.
- Jul 2021 – Present: Mentoring summer students from under-represented backgrounds and two DACA PhD students with their applications to **biomedical PhD programs** and **Pre-Doctoral Fellowships**.
- 2021: Reviewer for Society for Advancement of Chicanos/Hispanics and Native Americans in Science (**SACNAS**) Conference 2021 poster presentations and travel awards.
- 2021: Reviewer for Graduate Women in Science's (**GWIS**) 2021 National Fellowship Program.
- Nov 2020 – Apr 2021: Co-Advisor for UC Davis AISES team on **First Nations Launch**, a NASA / Wisconsin Space Grant Consortium's (WSGC) program to promote engineering skills through high-power rocketry among Native American/Indigenous students.
  - Mentored six students (first UC Davis team to participate in this competition) on technical writing, report making, project-management and budgeting (\$4,000 grant from WSGC).
  - Student outcomes: Team obtained 1<sup>st</sup> Overall Award, 2<sup>nd</sup> place for oral presentations, 2<sup>nd</sup> place for written reports, Outreach Award and Next Step Award (\$15,000 grant).
- Aug 2020 – Jan 2021: Mentored two students on graduate-school applications and interviews through **Científico Latino's** the Graduate School Mentoring Initiative (GSMI), a program to increase access to graduate school and fellowship opportunities among under-represented groups.

- Student outcomes: Carrying out PhDs in bioengineering/biophysics at University of Washington / University of California, Berkeley.
- July 2020: Led structural-biology journal club as part of the “Future of Biology” series of **UCD PREP** (post-baccalaureate course for under-represented students).
- April 2020: Training, UC Davis **UndocuAlly Program for Educators**.
- Feb 2019 – Present: Trained and mentored several undergraduate and graduate students from under-represented backgrounds in the **Letts lab** on laboratory techniques, scientific presentations and writing, career paths, preparation for graduate school, preparation for industry job applications.
  - Student outcomes: three selected posters for UC Davis Undergraduate Conference 2020, selected poster and travel award for SACNAS 2021, UC Davis Provost Undergraduate Fellowship 2021, American Society for Biochemistry and Molecular Biology Summer Fellowship 2021.

## **PUBLICATIONS**

1. Maldonado, M, Guo, F, Letts, JA (2021). Atomic structures of respiratory complex III<sub>2</sub>, complex IV, and supercomplex III<sub>2</sub>-IV from vascular plants. *eLife* 2021;10:e62047.
  - Highlighted in companion Insight article: Braun, HP (2021). Enzymes: The two roles of complex III in plants. *eLife* 2021;10:e65239.
2. Maldonado, M, Padavannil, A, Zhou, L, Guo, F, Letts, JA (2020). Atomic structure of a mitochondrial complex I intermediate from vascular plants. *eLife* 2020;9:e56664.
3. Firestone, AJ, Weinger, JS, Maldonado, M, Barlan, K, Langston LD, O’Donell, M, Gelfand, VI, Kapoor, TM, Chen, J (2012). Small-molecule inhibitors of the AAA+ ATPase motor cytoplasmic dynein *Nature* **484**: 125-12.
4. Maldonado, M & Kapoor, TM (2011). Moving right along: how PP1 helps clear the checkpoint. *Developmental Cell* **20**: 733-734.
5. Maldonado, M & Kapoor, TM (2011). Constitutive Mad1 targeting to kinetochores uncouples checkpoint signalling from chromosome biorientation. *Nature Cell Biology* **13**: 475-482.
6. Foley, EA, Maldonado, M & Kapoor, TM (2011). Formation of stable attachments between kinetochores and microtubules depends on the B56-PP2A phosphatase. *Nature Cell Biology* **13**: 1265-1271.
7. Marnef, A, Maldonado, M, Bugaut, A, Balasubramanian, S, Kress, M, Weil D, Standart, N (2010). Distinct functions of maternal and somatic Pat1 protein paralogs. *RNA* **16**: 2094-2107.

## **SELECTED AND INVITED PRESENTATIONS**

### **Oral presentations**

- Oct 2021, Stanford.Berkeley.UCSF Next Generation Faculty Symposium, invited talk (pending).
- Sep 2021, University of Pennsylvania Perelman School of Medicine, Future Leaders in Biochemistry and Biophysics Symposium, invited talk.
- Jul 2021, Corteva Developing Emerging Leaders and Talent in Agriculture (DELTA) Symposium, selected talk.
- Jul 2021, American Society of Plant Biologists (ASPB) Worldwide Summit, selected full talk.
- Jun 2021, Leading Edge Symposium, selected talk.
- May 2021, UC Davis Molecular and Cellular Biology Departmental Seminar, invited seminar.
- Jan 2021, Webinar Series on Chloroplasts and Mitochondria (WebCaM), selected talk.
- Jun 2020, UC Davis Biophysics Seminar, June 2020, invited seminar.
- Feb 2020, Bay Area CryoEM Consortium (BACEM) Meeting, selected talk.

## **Posters**

- Jul 2021, American Society of Plant Biologists (ASPB) Worldwide Summit – 2 virtual posters.
- Jul 2021, Partnership for Structural Biology Symposium: Frontiers in Bioimaging – virtual booth.
- Jul 2011, EMBO Conference: Exploring the Logic of the Cell Cycle, Montpellier, France.

## **UNIVERSITY SERVICE**

2021	UC Davis Postdoctoral Association Travel Award, Reviewer
2019	UC Davis Big Bang! Business Plan Competition, Mentor and Judge
2018-2019	UC Davis Venture Catalyst Pitch-Deck Mentor for biomedical PIs
2012-2013	Cambridge University Entrepreneurs, Operations Vice-President
2011-2012	Tri-Institutional (Rockefeller/Cornell/Sloan Kettering) Biotech Club, Co-Director
2011-2012	Rockefeller University Student and Post-doc Seminar Series, Co-Director
2010-2012	Rockefeller University Elected Student Council Representative
2009	Rockefeller University Student Retreat Co-Organizer
2009	Rockefeller University Summer Undergraduate Student Fellowship Mentor

## **COURSES**

- Apr 2021: Cryo-Tomography Short Course (1 day), National Center for CryoEM Access and Training.
- Nov 2019: Cryo-EM Image Processing Workshop (3 days), Stanford-SLAC National Accelerator Laboratory Cryo-EM Center (S<sup>2</sup>C<sup>2</sup>).
- Sep 2019: Cryo-EM Training for Beginners, 3-day course, S<sup>2</sup>C<sup>2</sup>.

## **GRANT-WRITING EXPERIENCE**

- Led writing of Department of Energy Early Career grant (PI: J. Letts), awarded \$750,000, 2021-2026.
- Contributed to and edited grant proposals from the Letts lab (PI: J. Letts) for variety of private and international agencies (2020-2025 NIMGS R35 Early Career MIRA grant awarded \$1.25M; 2018-present, UC MEXUS-CONACYT Collaborative grant awarded).

## **PROFESSIONAL MEMBERSHIPS**

2021	American Society of Plant Biologists
2017	European Society of Cardiology
2014	European Society for Medical Oncology
2010-2012	New York Academy of Sciences

## **OTHER EXPERIENCE**

### **Navigant Life Sciences Consulting, New York (US)/ London (UK)**

Summer Consultant, June 2013 to August 2013 | Consultant, September 2013 to August 2014  
Senior Consultant, September 2014 to April 2015

- Life sciences consulting for pharma, biotech and medical device companies based on in-depth primary and secondary research in diverse diseases, with a focus in oncology and rare diseases.
- Promoted to Senior Consultant within one promotion cycle (fast track).

**Maria Maldonado Life Sciences Consulting, Vienna (Austria)**

Owner and Director, July 2015 to December 2016

- Life sciences consulting for pharma, biotech and medical device companies based on in-depth primary and secondary research in renal, respiratory, rare and infectious diseases.

**Vontobel, Pharma and Biotech Analyst, Zurich (Switzerland)**

Authorized Officer, January 2017 to March 2018 | Associate Director, April 2018 to September 2018

- Scientific specialist role undertaking detailed primary and secondary research on state-of-the-art basic and clinical science in several therapeutic areas to forecast the revenue potential of phase-III drugs nearing regulatory filing and approval.
- Promoted to Associate Director within one promotion cycle (fast track).

**Non-Profit Organization Development**

- Director for LifesciNYC (January 2012 to September 2012), a grassroots non-profit organization to foster biotech/healthcare entrepreneurship in NYC.
- Co-determined and wrote vision and mission statements and growth strategy; established standard practices documents; re-designed website, created content and managed external communications (including newsletter, social media); established relationships with city government (TechConnect NYC) and university groups.

**REFERENCES**

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