

Deborah Plana, PhD, MD Candidate
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EDUCATION

Harvard Medical School (HMS)/MIT MD-PhD Program ▪ Boston, MA	<i>Jun. 2017-May 2024</i>
Candidate for MD in Harvard-MIT Program in Health Sciences and Technology (HST)	
Harvard PhD in Systems Biology, with the dissertation: “Clinical Trial Data Science to Advance Precision Oncology”	
Massachusetts Institute of Technology ▪ Cambridge, MA	<i>Jun. 2013-Jun. 2017</i>
Bachelor of Science in Biological Engineering	<i>GPA 4.9/5.0</i>
Minor in Statistics and Data Science	

AWARDS

Ruth L. Kirschstein National Research Service Award, F30CA260780 ▪ NIH	<i>Jun. 2021-May 2024</i>
Harvard Graduate Prize Fellowship ▪ HMS	<i>Mar. 2019</i>
Quantitative Sciences in Drug Development Best Poster ▪ Novartis	<i>Aug. 2018</i>
Presidential Scholar ▪ HMS	<i>Aug. 2017, Aug. 2018</i>
Medical Scientist Training Program ▪ NIH	<i>Jun. 2017-May 2024</i>
Reddy Family Undergraduate Research Opportunities Fund ▪ MIT	<i>Dec. 2016</i>
Tau Beta Pi Engineering Honor Society ▪ MIT	<i>Sep. 2016</i>
James E. Cunningham (1957) Memorial Scholar ▪ MIT	<i>Dec. 2015</i>
Industrial Advisory Council for Minority Education Student Prize ▪ MIT	<i>Dec. 2015</i>
MIT Biological Engineering Department Barry M. Goldwater Scholarship Nominee ▪ MIT	<i>Nov. 2015</i>
Ilona Karmel Writing Prize ▪ MIT	<i>May 2015</i>
Exceptional Research Opportunities Program Grant ▪ Howard Hughes Medical Institute	<i>Jan. 2015</i>

RESEARCH EXPERIENCE

Sorger Laboratory ▪ HMS Laboratory of Systems Pharmacology ▪ Boston, MA	<i>Jan. 2018-Mar. 2022</i>
HMS/MIT MD-PhD Program	
<ul style="list-style-type: none">• Invented a new statistical tool to identify treatment-sensitive tumor subgroups in ‘basket trials’ of new therapies.• Discovered that a parametric form (Weibull) describes patient survival data and can estimate the therapeutic efficacy for small patient cohorts.• Established an online repository of individual participant survival data in oncology: cancertrials.io.• Identified drug-response biomarkers in ovarian cancer and T-cell lymphoma using patient-derived xenograft (PDX) data.	
Lauffenburger Laboratory ▪ MIT Department of Biological Engineering ▪ Cambridge, MA	<i>Jan. 2015-Jun. 2017</i>
Undergraduate Research Opportunities Program (UROP) and MGH Summer Research Trainee Program (SRTP)	
<ul style="list-style-type: none">• Constructed and collected cytokine data from a triculture hydrogel model of endometriosis.• Used a mixed-effects model of cytokine data to investigate the role of different cell types in endometriosis.• Developed blood-based CLIA assays for prognosticating patient resistance to targeted therapies.• Analyzed RNA-Seq and microarray data from melanoma patient tumor tissue and exosome samples to predict patients’ response to immune-checkpoint inhibitors.	
Beth Israel Deaconess Medical Center Faculty Hour ▪ Boston, MA	<i>Jan. 2014-Mar. 2014</i>
Faculty Hour Team Member	
<ul style="list-style-type: none">• Collected, analyzed, and presented data on patients’ clinical conditions and waiting times.• Assisted in writing official hospital protocols, such as guidelines on the care of post-anesthesia care unit patients.	

CLINICAL EXPERIENCE

Core clinical rotations: Internal Medicine, Neurology, Ob/Gyn, Pediatrics, Primary Care, Psychiatry, Radiology, Surgery

Advanced clinical rotations: Anesthesia, Emergency Medicine, Oncodermatology, Surgical Critical Care

WORK EXPERIENCE

Longitude Capital ■ Research Fellow ■ Boston, MA

Aug. 2020-Feb. 2021

- Sourced and evaluated early-stage companies for biotechnology investment team.
- Investigated therapeutic areas of interest and created presentation materials to summarize research findings.

LEADERSHIP

Greater Boston Pandemic Fabrication Team ■ Co-Founder, Coordinator ■ Harvard-MIT

Mar. 2020-Jan. 2022

- Coordinated team of ~100 scientists, clinicians, and engineers in responding to medical supply shortages during the COVID-19 pandemic, with resulting products used in Boston-area hospitals.
- Guided preparation and publication of multiple open-source research articles on the creation, reuse, and clinical testing of personal protective equipment during a crisis, available at panfab.org.

Medical School Admissions Committee for Harvard-MIT HST ■ Member ■ HMS

Jul. 2019-Mar. 2021

- Reviewed applications, conducted interviews, contributed to discussions at subcommittee meetings, and submitted interview reports for medical school applicants.

HST MD Student Diversity Ambassadors Group ■ Founding Member ■ HMS

Mar. 2018-Dec. 2020

- Collaborated with diversity initiatives at HMS and MIT for prospective student outreach and recruitment.

Crimson Care Collaborative ■ Co-Director ■ HMS

Mar. 2018-Mar. 2019

- Directed quality improvement efforts across seven clinical sites in the Greater Boston Area.
- Implemented projects to register patients to vote and reduce clinic no-show rates.
- Managed about 300 volunteers consisting of medical, dental, and undergraduate students.

Latino Cultural Center (LCC) ■ President ■ MIT

May 2016-May 2017

- Official representative of about 150 students to the MIT administration and outside organizations.

Rune Literary Magazine ■ Editor-In-Chief ■ MIT

May 2015-May 2016

- Organized membership of over 30 students. Ensured magazine printing, publicity, funding, and distribution.

TEACHING

Principles and Practices of Drug Development ■ Teaching Assistant ■ HMS and MIT

Aug. 2020-Dec. 2020

- Created and presented course materials on pharmacology fundamentals, preclinical drug discovery, clinical trials, drug manufacturing, FDA regulation, and financing of new therapeutics.

Fields, Forces and Flows (2.793/6.023/20.330) ■ Teaching Assistant ■ MIT

Jan. 2017-May 2017

- Taught weekly recitations and office hours. Organized review sessions, graded exams, and moderated Piazza forum.
- Course topics taught included electric fields, fluid flows, transport phenomena and applications to biological systems.
- Received 7.0/7.0 instructor rating.

PEER-REVIEWED PUBLICATIONS

1. **Plana, D.**, Fell, G., Alexander, B. M., Palmer, A. C., & Sorger, P. K. (2022). *Cancer patient survival can be parametrized to improve trial precision and reveal time-dependent therapeutic effects*. *Nature Communications*, 13(1), 873.
2. **Plana, D.**, Palmer, A. C., & Sorger, P. K. (2022). *Independent Drug Action in Combination Therapy: Implications for Precision Oncology*. *Cancer Discovery*, 12(3), 606–624.
3. **Plana, D.**, Shung, D. L., Grimshaw, A. A., Saraf, A., Sung, J. J. Y., & Kann, B. H. (2022). *Randomized Clinical Trials of Machine Learning Interventions in Health Care: A Systematic Review*. *JAMA Network Open*, 5(9), e2233946.

4. Peterson, J. S., **Plana, D.**, Bitterman, D. S., Johnson, S. B., Aerts, H. J. W. L., & Kann, B. H. (2022). *Growth in eligibility criteria content and failure to accrue among National Cancer Institute (NCI)-affiliated clinical trials*. *Cancer Medicine*, 12(4), 4715–4724.
5. Ye, Z., Qian, J. M., Hosny, A., Zeleznik, R., **Plana, D.**, Likitlersuang, J., Zhang, Z., Mak, R. H., Aerts, H. J. W. L., & Kann, B. H. (2022). *Deep Learning–based Detection of Intravenous Contrast Enhancement on CT Scans*. *Radiology: Artificial Intelligence*, 4(3), e210285.
6. **Plana, D.***, Tian, E.*, Cramer, A. K.*, Yang, H.*, Carmack, M. M., Sinha, M. S., Bourgeois, F. T., Yu, S. H., Masse, P., Boyer, J., Kim, M., Mo, J., LeBoeuf, N. R., Li, J., & Sorger, P. K. (2021). *Assessing the quality of nontraditional N95 filtering face-piece respirators available during the COVID-19 pandemic*. *BMC Infectious Diseases*, 21(1), 712. *These authors contributed equally.
7. Cramer, A. K.*, **Plana, D.***, Yang, H.*, Carmack, M. M., Tian, E., Sinha, M. S., Krikorian, D., Turner, D., Mo, J., Li, J., Gupta, R., Manning, H., Bourgeois, F. T., Yu, S. H., Sorger, P. K., & LeBoeuf, N. R. (2021). *Analysis of SteraMist ionized hydrogen peroxide technology in the sterilization of N95 respirators and other PPE*. *Scientific Reports*, 11(1), 2051. *These authors contributed equally.
8. Antonini, M.-J.*, **Plana, D.***, Srinivasan, S.*, Atta, L., Achanta, A., Yang, H., Cramer, A. K., Freake, J., Sinha, M. S., Yu, S. H., LeBoeuf, N. R., Linville-Engler, B., & Sorger, P. K. (2021). *A Crisis-Responsive Framework for Medical Device Development Applied to the COVID-19 Pandemic*. *Frontiers in Digital Health*, 3, 617106. *These authors contributed equally.
9. Kothakonda, A.*, Atta, L.*, **Plana, D.***, Ward, F. *, Davis, C., Cramer, A., Moran, R., Freake, J., Tian, E., Mazor, O., Gorelik, P., Van, C., Hansen, C., Yang, H., Li, Y., Sinha, M. S., Li, J., Yu, S. H., LeBoeuf, N. R., & Sorger, P. K. (2021). *De Novo Powered Air-Purifying Respirator Design and Fabrication for Pandemic Response*. *Frontiers in Bioengineering and Biotechnology*, 9, 725. *These authors contributed equally.
10. McAvoy, M.*, Bui, A.-T. N.*, Hansen, C.*, **Plana, D.***, Said, J. T., Yu, Z., Yang, H., Freake, J., Van, C., Krikorian, D., Cramer, A., Smith, L., Jiang, L., Lee, K. J., Li, S. J., Beller, B., Huggins, K., Short, M. P., Yu, S. H., ... LeBoeuf, N. R. (2021). *3D Printed frames to enable reuse and improve the fit of N95 and KN95 respirators*. *BMC Biomedical Engineering*, 3(1), 10. *These authors contributed equally.
11. Kassamali, B., Yu, Z., Davis, C., Carmack, M., Bui, A.-T. N., Said, J. T., **Plana, D.**, Yang, H., Sorger, P., LeBoeuf, N. R., & LaChance, A. H. (2021). *Conversion of Existing UVB Phototherapy Units to UVC Germicidal Chambers for N95 Decontamination: Lessons Learned*. *Photobiomodulation, Photomedicine, and Laser Surgery*, 39(2), 83–85.
12. Palmer, A. C.*, **Plana, D.***, Gao, H.*, Korn, J. M., Yang, G., Green, J., Zhang, X., Velazquez, R., McLaughlin, M. E., Ruddy, D. A., Kowal, C., Muszynski, J., Bullock, C., Rivera, S., Rakiec, D. P., Elliott, G., Fordjour, P., Meyer, R., Loo, A., ... Sorger, P. K. (2020). *A Proof of Concept for Biomarker-Guided Targeted Therapy against Ovarian Cancer Based on Patient-Derived Tumor Xenografts*. *Cancer Research*, 80(19), 4278–4287. *These authors contributed equally
13. Palmer, A. C.*, **Plana, D.***, & Sorger, P. K. (2020). *Comparing the Efficacy of Cancer Therapies between Subgroups in Basket Trials*. *Cell Systems*, 11(5), 449–460.e2. *These authors contributed equally.
14. Mostaghimi, A.*, Antonini, M.-J.*, **Plana, D.***, Anderson, P. D., Beller, B., Boyer, E. W., Fannin, A., Freake, J., Oakley, R., Sinha, M. S., Smith, L., Van, C., Yang, H., Sorger, P. K., LeBoeuf, N. R., & Yu, S. H. (2020). *Regulatory and Safety Considerations in Deploying a Locally Fabricated, Reusable Face Shield in a Hospital Responding to the COVID-19 Pandemic*. *Med*, 1(1), 139–151.e4. *These authors contributed equally.
15. Tyan, K., Levin, A., Avalos-Pacheco, A., **Plana, D.**, Rand, E. A., Yang, H., Maliszewski, L. E., Chylek, L. A., Atta, L., Tye, M. A., Carmack, M. M., Oglesby, N. S., Burgin, S., Yu, S. H., LeBoeuf, N. R., & Kemp, J. M. (2020). *Considerations for the Selection and Use of Disinfectants Against SARS-CoV-2 in a Health Care Setting*. *Open Forum Infectious Diseases*, 7(ofaa396).
16. Shi, A., Kasumova, G. G., Michaud, W. A., Cintolo-Gonzalez, J., Díaz-Martínez, M., Ohmura, J., Mehta, A., Chien, I., Frederick, D. T., Cohen, S., **Plana, D.**, Johnson, D., Flaherty, K. T., Sullivan, R. J., Kellis, M., & Boland, G. M. (2020). *Plasma-derived extracellular vesicle analysis and deconvolution enable prediction and tracking of melanoma checkpoint blockade outcome*. *Science Advances*, 6(46), eabb3461.
17. Koch, R., Christie, A. L., Crombie, J. L., Palmer, A. C., **Plana, D.**, Shigemori, K., Morrow, S. N., Van Scoyk, A., Wu, W., Brem, E. A., Secrist, J. P., Drew, L., Schuller, A. G., Cidado, J., Letai, A., & Weinstock, D. M. (2019). *Biomarker-driven strategy for MCL1 inhibition in T-cell lymphomas*. *Blood*, 133(6), 566–575.
18. Schrier, S. B., Hill, A. S., **Plana, D.**, & Lauffenburger, D. A. (2016). *Synergistic Communication between CD4+ T Cells and Monocytes Impacts the Cytokine Environment*. *Scientific Reports*, 6(1), 34942.

PREPRINTS AND ABSTRACTS

1. Zhou, I. *, **Plana, D. ***, & Palmer, A. C. (2023). *Tumor-specific activity of precision medicines in the NCI-MATCH trial* [Preprint]. *These authors contributed equally.
2. Hwangbo, H., Patterson, S., Dai, A., **Plana, D.**, & Palmer, A. C. (2023). *Abstract 5718: Additivity predicts the clinical efficacy of most approved combination therapies for advanced cancer*. *Cancer Research*, 83(7_Supplement), 5718–5718.
3. Ye, Z., Likitlersuang, J., Zeng, J., **Plana, D.**, Mak, R. H., Aerts, H., Haibe-Kains, B., Margalit, D. N., Schoenfeld, J. D., Tishler, R. B., & Kann, B. H. (2022). *Deep Learning for Automated Outcome Prediction in Oropharyngeal Cancer from Tumor and Lymph Node Imaging Data*. *International Journal of Radiation Oncology • Biology • Physics*, 114(3), e325.
4. Hwangbo, H., Patterson, S., Dai, A., **Plana, D.**, & Palmer, A. C. (2022). *Additivity predicts the efficacy of most approved combination therapies for advanced cancer* [Preprint].
5. Ojo, A., Johnson, S., Erfani, P., Guo, R., Garmilla, A., Saini, A., Benitez, B., Salinas, K. E., **Plana, D.**, Pena Perez, A., Guzman, J., So-Armah, C., & Gottlieb, B. (2022). *A high-touch outreach model to re-engage patients in mammogram screening*. *Journal of Clinical Oncology*, 40(16_suppl), e18555–e18555.
6. Johnson, S., Ojo, A., Erfani, P., Guo, R., Garmilla, A., Saini, A., Benitez, B., Salinas, K. E., **Plana, D.**, Perez, A. P., Guzman, J., So-Armah, C., & Gottlieb, B. (2022). *Re-engaging patients in breast cancer screening through a scalable, high-touch care model*. *Journal of General Internal Medicine*, S553–S553.
7. Peterson, J. S., **Plana, D.**, Bitterman, D. S., Johnson, S. B., & Kann, B. H. (2021). *Growth in eligibility criteria content and failure to accrue among National Cancer Institute (NCI)-affiliated clinical trials*. *Journal of Clinical Oncology*, 39(15_suppl), 1515–1515.
8. Shi, A., Cintolo-Gonzalez, J. A., Chien, I., Frederick, D. T., Alpatov, R., Michaud, W., **Plana, D.**, Panka, D., Corcoran, R., Flaherty, K., Sullivan, R., Kellis, M., & Boland, G. (2018). *Abstract B25: Exosomal transcriptomic signatures tracks and predicts response to checkpoint blockade immunotherapy*. *Systems Immuno-Oncology*.
9. Kasumova, G. G., Kim, M. S., Shi, A., Chein, I., Frederick, D. T., Alpatov, R., Michaud, W. A., **Plana, D.**, Panka, D. J., Corcoran, R. B., Flaherty, K. T., & Sullivan, R. J. (2018). *Society of Surgical Oncology 71st Annual Cancer Symposium: Exosomal PD-L1 Protein Expression Correlates with Targeted Therapy Resistance in Melanoma*. *Annals of Surgical Oncology*, 25(S1), 1–230.
10. Shi, A., Kasumova, G., Chien, I., Cintolo-Gonzalez, J., Frederick, D. T., Alpatov, R., Michaud, W. A., **Plana, D.**, Corcoran, R., Flaherty, K., Sullivan, R., Kellis, M., & Boland, G. (2018). *Abstract 4282: Deconvolution of plasma-derived exosomes for tracking and prediction of immunotherapy across multiple tissues*. *Bioinformatics and Systems Biology*, 4282–4282.
11. Kasumova, G. G., Shi, A., Cintolo-Gonzalez, J. A., Chein, I., Frederick, D. T., Alpatov, R., Michaud, W. A., **Plana, D.**, Panka, D. J., Corcoran, R. B., Flaherty, K. T., Sullivan, R. J., Kellis, M., & Boland, G. M. (2018). *Abstract A35: BRAF inhibition increases exosomal PD-L1 protein expression in melanoma*. *Checkpoints and Immunomodulation*.
12. Cohen, S., Cintolo-Gonzalez, J. A., **Plana, D.**, Sullivan, R., & Boland, G. (2017). *Society of Surgical Oncology 70th Annual Cancer Symposium: Mixed Responder Cohort of Metastatic Melanoma Patients Treated with Anti Programmed Cell Death-1*. *Annals of Surgical Oncology*, 24(S1), 1–202.
13. Cintolo-Gonzalez, J. A., Cohen, S., Michaud, W. A., **Plana, D.**, Panka, D. J., Sullivan, R., & Boland, G. (2017). *Society of Surgical Oncology 70th Annual Cancer Symposium: Use of Circulating Microvesicles, Exosomes, as a Biomarker to Track Response to Immunotherapy*. *Annals of Surgical Oncology*, 24(S1), 1–202.

FEDERAL COMMENTS AND DIGITAL PUBLICATIONS

1. **Plana, D.** (2022). *Data science can help us run better cancer clinical trials*. *Mathematical Oncology Blog*.
2. **Plana, D.**, Arfe, A., & Sinha, M. S. (2020). *FDA-2020-D-1106-0139, Re: FDA Guidance on Conduct of Clinical Trials of Medical Products during COVID-19 Pandemic; Guidance for Industry, Investigators, and Institutional Review Boards*. *Regulations.gov*.
3. **Plana, D.**, Arfè, A., & Sinha, M. S. (2020). *Re-Envisioning Clinical Trials During The COVID-19 Pandemic*. *Health Affairs Blog*.
4. Gupta, A., **Plana, D.**, Antonini, M.J., Cramer, A., McAvoy, M., Atta, L. *HST students share their reflections on responding to Covid-19*. (2020). *Harvard-MIT Health Sciences and Technology News*.
5. Desai, V., Duggan, J., Glowala, J., Gupta, M., Kim, K., Liu, G., McDaniel, K., Nabel, K., Nagireddy, H., **Plana, D.**, Rencsok, E.; Verheyen, C., Zhong, L. *Module 2: Epidemiology Principles*. (2020). *HMS Medical Student COVID-19 Curriculum*.

ORAL PRESENTATIONS

1. **Plana, D.** *Highlights from the Bigelow: Residency Intake*. MGH Department of Medicine Noon Conference. Boston, MA. April 2023.
2. **Plana, D.** *Biological Engineering as a Foundation for a Career in Medical Research*. 20.001: MIT Introduction to Professional Success and Leadership in Biological Engineering. Cambridge, MA. November 2022.
3. **Plana, D.**, Palmer, A.C., Sorger, P.K. *Advancing the design and interpretation of cancer clinical trials through systematic data mining and analysis*. HMS Ludwig Cancer Center. Virtual. June 2021.
4. **Plana, D.** *Making Precise Estimates of Drug Efficacy from Small Amounts of Patient Data*. Tumor Therapeutics and Resistance Session; Junior Investigator Meeting for the NCI Cancer Systems Biology Consortium, Physical Sciences-Oncology Network, and the Big Data Scientist Training Enhancement Program. Virtual. August 2020.
5. **Plana, D.** *Introduction to PanFab: Mobilizing a volunteer response to COVID-19 (Speaker); Resiliency and Trust: Local, regional, and national response to PPE shortages (Panelist)*. Harvard-MIT Center for Regulatory Science Pandemic Response: Resilience and Recovery in the Era of COVID-19. Virtual. June 2020.
6. **Plana, D.** *Parametric fitting of over 100,000 individual patient events from clinical trials in oncology*. Harvard-MIT Center for Regulatory Science Doctoral Student Symposium. Boston, MA. February 2020.
7. **Plana, D.** *Of mice and (small numbers of) men: Improving estimates of drug efficacy in oncology*. Harvard Systems Biology Department Pizza Talk. Boston, MA. October 2019.
8. **Plana, D.** *Parametric fitting of clinical trial data in oncology*. Harvard Institute for Therapeutic Sciences Symposium. Boston, MA. October 2019.
9. **Plana, D.** *Using blood-based assays and RNA data to predict melanoma patient response to therapy*. Summer Research Trainee Program at the Massachusetts General Hospital. Boston, MA. June 2016.

POSTER PRESENTATIONS

1. **Plana, D.**, Fell, G., Alexander, B. M., Palmer, A. C., & Sorger, P. K. *Cancer patient survival can be accurately parameterized, improving trial precision and revealing time-dependent therapeutic effects*. Pacific Symposium on Biocomputing (PSB). Big Island, HI. January 2022.
2. **Plana, D.**, Guntaka, P. K., Qian, J. M., Zhou, P., Hosny, A., Margalit, D. N., Schoenfeld, J. D., Tishler, R. B., Haddad, R. I., Uppaluri, R., Haibe-kains, B., Aerts, H., Kann, B. H. *Deep Learning and Harmonization of Multi-Institutional Data for Automated Gross Tumor and Nodal Segmentation for Oropharyngeal Cancer*. American Society for Radiation Oncology Annual Meeting. Virtual. October 2021.
3. **Plana, D.**, Fell, G., Alexander, B. M., Palmer, A. C., & Sorger, P. K. *Re-analysis and sharing of clinical trial data to advance precision oncology*. 2021 Cancer Systems Biology Consortium Annual Investigator Meeting. Virtual. September 2021.
4. **Plana, D.**, Fell, G., Alexander, B. M., Palmer, A. C., & Sorger, P. K. *Cancer patient survival can be accurately parameterized, revealing time-dependent therapeutic effects and doubling the precision of small trials*. Keystone Symposia, Precision Oncology: Translating Discovery to the Clinic. Virtual. June 2021.
5. **Plana, D.**, Palmer, A. C., Sorger, P.K. *Making Precise Estimates of Drug Efficacy from Small Amounts of Patient Data*. NCI Center for Cancer Systems Pharmacology Annual Investigators Meeting. Virtual. September 2020.
6. **Plana, D.**, Palmer, A. C., Sorger, P.K. *Predicting patient response to cancer combination therapies from clinical trial data*. Novartis-Academia Conference on Quantitative Sciences in Drug Development. Cambridge, MA. August 2018.
7. **Plana, D.**, Hill, A., Cook, C., Griffith, L., Lauffenburger, D. *Characterizing a 3-D hydrogel model of the human endometrium and its interactions with immunological factors using mixed effects modeling*. Biomedical Engineering Society Conference. Minneapolis, MN. October 2016.
8. Cintolo-Gonzalez, J., Michaud, W., Cohen, S., **Plana, D.**, Panka, D., Sullivan, R., Boland, G. *Use of Circulating Microvesicles, Exosomes, as a Biomarker to Track Disease Burden in Melanoma*. Massachusetts General Hospital Clinical Research Day. Boston, MA. October 2016.
9. **Plana, D.**, Wang, S., Cepko, C. *Characterization of retinal cell subpopulations expressing distinct Otx2 enhancers*. Howard Hughes Medical Institute Exceptional Research Opportunities Program Meeting. Chevy Chase, MD. May 2016.
10. **Plana, D.**, Hill, A., Cook, C., Griffith, L., Lauffenburger, D. *Creating a 3-D hydrogel model of the human endometrium and its interactions with immunological factors*. New England Science Symposium. Cambridge, MA. April 2016.
11. **Plana, D.**, Cocchi, M., Sundar, E., Pleumann, A., Grzybinski, M., Shaeff, S., Brogna, M.J., Sisti, L., Butler, K.L. Small, A., Cain, C., Muret-Wagstaff, S., Foley, J., Talmor, D., Ma, H., Whyte, R., Kleinman, G., Simon, B. *Early Identification and Care of the Critically Ill Post-Operative Patient*. Beth Israel Deaconess Medical Center Silverman Symposium. Boston, MA. April 2015.

PROFESSIONAL ACTIVITIES

Ad hoc referee: BMJ Open, Frontiers in Medicine

Member: Harvard Center for Cancer Systems Pharmacology Executive Committee, Harvard-MIT Center for Regulatory Science, HMS Medical Student COVID-19 Curriculum Committee

Poster judge: 22nd Annual New England Science Symposium

Research supervisor: Ivonne Zhou (undergraduate, UNC Chapel Hill), David Huang (undergraduate, Harvard College), William Sorger (undergraduate, Brandeis University), and Harris Davis (undergraduate, UNC Chapel Hill)

TECHNICAL SKILLS

Programming and data analysis: Mathematica, MATLAB, Python, R

Image editing: Adobe Creative Suite (including Illustrator, Photoshop, InDesign)

LANGUAGE SKILLS

English: Native/Bilingual proficiency.

Spanish: Native/Bilingual proficiency. Certified to provide clinical care in Spanish by ALTA language services.