

# María Díaz de León Derby

mariaddld.github.io  
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## RESEARCH INTERESTS

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I am interested in neglected tropical diseases, mobile microscopy, and computer vision.

## EDUCATION

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| Ongoing | <b>University of California, Berkeley and University of California, San Francisco</b><br>Ph.D. in Bioengineering<br>Advised by Prof. Daniel Fletcher |
| 2013-18 | <b>Tecnológico de Monterrey, Mexico (ITESM)</b><br>Bachelor of Science in Mechatronics Engineering<br>GPA of 96/100                                  |
| 2016-17 | <b>Karlsruhe Institute of Technology, Germany (KIT)</b><br>DAAD Mexican Engineers Exchange Programme<br>Faculty of Mechanical Engineering            |
| 2014-15 | <b>University of British Columbia, Canada (UBC)</b><br>International Student Exchange Program<br>Faculty of Applied Science                          |

## PUBLICATIONS

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- [1] Jean T. Coulibaly, Kigbafori D. Silue, Maxim Armstrong, **María Díaz de León Derby**, Michael V. D'Ambrosio, Daniel A. Fletcher, Jennifer Keiser, Karla Fisher, Jason R. Andrews, and Isaac I. Bogoch. "High Sensitivity of Mobile Phone Microscopy Screening for *Schistosoma haematobium* in Azaguié, Côte d'Ivoire". In: *The American Journal of Tropical Medicine and Hygiene* 108.1 (2023), pp. 41–43.
- [2] Sita S. Chandrasekaran, Shreeya Agrawal, Alison Fanton, Aditya R. Jangid, Bérénice Charrez, Arturo M. Escajeda, Sungmin Son, Roger McIntosh, Huyen Tran, Abdul Bhuiya, **María Díaz de León Derby**, et al. "Rapid detection of SARS-CoV-2 RNA in saliva via Cas13". In: *Nature Biomedical Engineering* 6.8 (Aug. 2022), pp. 944–956.
- [3] Parinaz Fozouni\*, Sungmin Son\*, **María Díaz de León Derby\***, Gavin J. Knott, Carley N. Gray, Michael V. D'Ambrosio, Chunyu Zhao, Neil A. Switz, G. Renuka Kumar, Stephanie I. Stephens, Daniela Boehm, et al. "Amplification-free detection of SARS-CoV-2 with CRISPR-Cas13a and mobile phone microscopy". In: *Cell* 184.2 (2021), 323–333.e9.
- [4] Tina Y. Liu, Gavin J. Knott, Dylan C. J. Smock, John J. Desmarais, Sungmin Son, Abdul Bhuiya, Shrutee Jakhanwal, Noam Prywes, Shreeya Agrawal, **María Díaz de León Derby**, Neil A. Switz, et al. "Accelerated RNA detection using tandem CRISPR nucleases". In: *Nature Chemical Biology* 17.9 (Sept. 2021), pp. 982–988.
- [5] Carolina Chávez-Madero\*, **María Díaz de León Derby\***, Mohamadmahdi Samandari, Carlos Fernando Ceballos-González, Edna Johana Bolívar-Monsalve, Christian Mendoza-Buenrostro, Sunshine Holmberg, Norma Alicia Garza-Flores, Mohammad Ali Almajhadi, Ivonne González-Gamboa, Juan Felipe Yee-de León, et al. "Using chaotic advection for facile high-throughput fabrication of ordered multilayer micro- and nanostructures: continuous chaotic printing". In: *Biofabrication* 12.3 (June 2020), p. 035023.
- [6] Ehsan Samiei, **María Díaz de León Derby**, Andre Van Berg, and Mina Hoorfar. "An electrohydrodynamic technique for rapid mixing in stationary droplets on digital microfluidic platforms". In: *Lab Chip* 17 (2 2017), pp. 227–234.

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\* denotes equal contribution.

- [7] B. A. Nestor, E. Samiei, R. Samanipour, A. Gupta, A. Berg, **María Díaz de León Derby**, Z. Wang, H. Rezaei Nejad, K. Kim, and M. Hoorfar. “Digital microfluidic platform for dielectrophoretic patterning of cells encapsulated in hydrogel droplets”. In: *RSC Adv.* 6 (62 2016), pp. 57409–57416.

## AWARDS AND DISTINCTIONS

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2022	SACNAS National Diversity in STEM Conference Student Travel Award
2021	UC Berkeley/UCSF Bioengineering Service and DEIB Award
2020	Craven Award in Bioengineering (UC Berkeley Bioengineering)
2019	UC MEXUS-CONACYT Doctoral Fellowship
2016	Mitacs Globalink Fellowship
2016	DAAD Mexican Engineers Scholarship
2014	Emerging Leaders in the Americas Program Scholarship

## VOLUNTEER WORK

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2022	<b>Be A Scientist</b> Graduate Student Mentor at Longfellow Middle School in Berkeley, California
2013-14	<b>FIRST Robotics</b> Judge Assistant, Field Assembly Volunteer, and Referee

## LANGUAGES

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Spanish	Native
English	Native (iBT TOEFL 119/120)
German	Very Good Command (B2.2)
French	Basic Command