OMB No. 0925-0001 and 0925-0002 (Rev. 10/2021 Approved Through 09/30/2024)

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.

Follow this format for each person. DO NOT EXCEED FIVE PAGES.

|  |
| --- |
| NAME: Desmarais, John |
| eRA COMMONS USER NAME (credential, e.g., agency login): jdesmarais |
| POSITION TITLE: TODO |

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| INSTITUTION AND LOCATION | DEGREE (if applicable) | START DATE MM/YYYY | COMPLETION DATE MM/YYYY | FIELD OF STUDY |
| Middlebury College, Molecular Biology and Biochemistry, Middlebury, VT | B.A. | 09/2012 | 05/2016 | Molecular Biology and Biochemistry |
| University of California Berkeley, Molecular and Cell Biology, Berkeley, CA | PHD | 08/2016 | 08/2022 | Molecular and Cell Biology |

### **A. Personal Statement**

1. Liu Tina Y, Knott Gavin J, Smock Dylan C J, Desmarais John J, Son Sungmin, Bhuiya Abdul, Jakhanwal Shrutee, Prywes Noam, Agrawal Shreeya, D\'\iaz de Le\'on Derby Mar\'\ia, Switz Neil A, Armstrong Maxim, Harris Andrew R, Charles Emeric J, Thornton Brittney W, Fozouni Parinaz, Shu Jeffrey, Stephens Stephanie I, Kumar G Renuka, Zhao Chunyu, Mok Amanda, Iavarone Anthony T, Escajeda Arturo M, McIntosh Roger, Kim Shineui, Dugan Eli J, Pollard Katherine S, Tan Ming X, Ott Melanie, Fletcher Daniel A, Lareau Liana F, Hsu Patrick D, Savage David F, Doudna Jennifer A. Accelerated RNA detection using tandem CRISPR nucleases. Nat. Chem. Biol.. 2021 August; :1--7.
2. Liu J, Orlova N, Oakes B, Ma E, Spinner H, Baney K, Chuck J, Tan D, Knott G, Harrington L, Al-Shayeb B, Wagner A, Brötzmann J, Staahl B, Taylor K, Desmarais J, Nogales E, Doudna J. CasX enzymes comprise a distinct family of RNA-guided genome editors. Nature. 2019; 566(7743):218-223. Available from: http://www.nature.com/articles/s41586-019-0908-x DOI: 10.1038/s41586-019-0908-x
3. Desmarais John J, Flamholz Avi I, Blikstad Cecilia, Dugan Eli J, Laughlin Thomas G, Oltrogge Luke M, Chen Allen W, Wetmore Kelly, Diamond Spencer, Wang Joy Y, Savage David F. DABs are inorganic carbon pumps found throughout prokaryotic phyla. Nat Microbiol. 2019 August.
4. Chubukov Victor, Desmarais John James, Wang George, Chan Leanne Jade G, Baidoo Edward EK, Petzold Christopher J, Keasling Jay D, Mukhopadhyay Aindrila. Engineering glucose metabolism of Escherichia coli under nitrogen starvation. npj Systems Biology and Applications. 2017; 3:16035.

### **B. Positions and Honors**

**Positions and Scientific Appointments**

|  |  |
| --- | --- |
| - | TODO, TODO |

### **C. Contribution to Science**

### **D. Scholastic Performance**

**Scholastic Performance**

|  |  |  |
| --- | --- | --- |
| YEAR | COURSE TITLE | GRADE |
| Middlebury College | | |
| University of California Berkeley | | |
| 2016 | MCELLBI 200A - Fundamentals of Molecular and Cell Biology | A |
| 2016 | MCELLBI 200B - Fundamentals of Molecular and Cell Biology | A |
| 2016 | MCELLBI 280A - Selected Topics in Molecular and Cell Biology | S |
| 2016 | MCELLBI 291A - Introduction to Research | A |
| 2016 | MCELLBI 293A - Research Seminar | S |
| 2017 | MCELLBI 206 - Physical Biochemistry | A |
| 2017 | MCELLBI C212A - Chemical Biology I - Structure, Synthesis and Function of Biomolecules | A+ |
| 2017 | MCELLBI C212B - Chemical Biology II - Enzyme Reaction Mechanisms | A |
| 2017 | MCELLBI C212C - Chemical Biology III - Contemporary Topics in Chemical Biology | A- |
| 2017 | MCELLBI 291B - Introduction to Research | A |
| 2017 | MCELLBI 293C - Responsible Conduct, Rigor and Reproducibility in Research | S |
| 2017 | MCELLBI 295 - Careers for Life Sciences Ph.D's | S |
| 2017 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2017 | MCELLBI 292 - Research | A |
| 2017 | MCELLBI 380 - Teaching of Molecular and Cell Biology | S |
| 2018 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2018 | MCELLBI 292 - Research | A |
| 2018 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2018 | MCELLBI 292 - Research | S |
| 2018 | MCELLBI 294 - Current Topics in Biomedical Sciences | S |
| 2019 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2019 | MCELLBI 292 - Research | A |
| 2019 | MCELLBI 380 - Teaching of Molecular and Cell Biology | S |
| 2019 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2019 | MCELLBI 290 SEM A02 - Graduate Seminar | A+ |
| 2019 | MCELLBI 290 SEM D01 - Graduate Seminar | A+ |
| 2019 | MCELLBI 292 - Research | A |
| 2019 | MCELLBI 294 - Current Topics in Biomedical Sciences | S |
| 2020 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2020 | MCELLBI 290 - Graduate Seminar | A |
| 2020 | MCELLBI 292 - Research | A |
| 2020 | MCELLBI 293R - Responsible Conduct of Research Refresher | S |
| 2020 | MCELLBI 295 - Careers for Life Sciences Ph.D's | S |
| 2020 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2020 | MCELLBI 292 - Research | A |
| 2021 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2021 | MCELLBI 292 - Research | A |
| 2021 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2021 | MCELLBI 290 - Graduate Seminar | A+ |
| 2021 | MCELLBI 292 - Research | A |
| 2022 | MCELLBI 218X - Research Review in Biochemistry and Molecular Biology: Chemical Reactions of Metabolism | S |
| 2022 | MCELLBI 292 - Research | A |
| 2022 | MCELLBI 294 - Current Topics in Biomedical Sciences | S |

For all University of California Berkeley graduate level courses, S indicates a passing grade in a course graded on a Satisfactory/Not Satisfactory grading scheme.