WILSON SONSINI

Danya J. Martell Smart

PATENT AGENT

Patents and Innovations

Boston

dsmart@wsgr.com
617-598-7856

FOCUS AREAS

Biotech

Intellectual Property

Life Sciences

Patents and Innovations

EXPERIENCE

Dr. Danya J. Martell Smart is a patent agent in the Boston office of Wilson Sonsini Goodrich & Rosati, where her work focuses on patents and innovations primarily in the life sciences, biotechnology, and related industries. Danya has experience in molecular biology, genomics, gene editing, next-generation sequencing, bioinformatics, protein engineering, protein biochemistry, and fluorescence microscopy.

Prior to joining the firm, Danya was a postdoctoral fellow in the Department of Genetics at Harvard Medical School, and in the Department of Hematology at Boston's Children's Hospital in the labs of Dr. L. Stirling Churchman and Dr. Vijay G. Sankaran, respectively. During her postdoctoral studies, she applied CRISPR/cas9 genome editing to primary human hematopoietic stem cells to study blood disease, utilized genome-wide association studies to probe pathogenic mutations in essential transcription factors, analyzed nascent transcript behavior during cellular differentiation, quantified the effects of drug treatments on stem cells, and helped improve a high-throughput sequencing methodology for investigating transcription elongation. Danya earned her Ph.D. at Cornell University in Chemistry and Chemical Biology in the lab of Dr. Peng Chen where she quantified transcription factor and DNA conformational dynamics using single-molecule fluorescent microscopy.

CREDENTIALS

Education

- Postdoctoral Fellow, Department of Genetics at Harvard University and Department of Hematology at Boston Children's Hospital, 2023
  Recipient, Ruth L. Kirschstein National Research Service Award Postdoctoral Fellowship
- Ph.D., Chemistry and Chemical Biology, Cornell University, 2016
  Recipient, Bauer Scholarship Award; Recipient, Howard Neal Wachter Memorial Prize
- M.S., Chemistry and Chemical Biology, Cornell University, 2012
  Recipient, Chemistry-Biology Interface Training Grant, National Institute of Health
- B.S., Biochemistry, California State University, Northridge, 2010
  Cum Laude; Recipient, Presidential and University Scholar; Recipient, Hypercube Scholar Award; Recipient, Hugo and Irma Oppenheimer Award

Associations and Memberships

- Event organizer, Association for Women in Science
- Mentor, Harvard Graduate Women in Science and Engineering
- Mentor, Encouraging Young Engineers and Scientists

Admissions

- U.S. Patent and Trademark Office

INSIGHTS

Select Publications

- Co-author with D.R. Higgs, V.G. Sankaran, L.S. Churchman, et al., "RNA Polymerase II pausing temporally coordinates cell cycle progression and erythroid differentiation," *Developmental Cell*, 2023
- Co-author with L.S. Churchman, et al., "Profiling metazoan transcription genome-wide with nucleotide resolution using native elongating transcript sequencing," *Protocols.io*, 2021
- Co-author with P. Chen, et al., "Metalloregulator CueR biases RNA polymerase's kinetic sampling of dead-end or open complex to repress or activate transcription," 112 *Proceedings of the National Academy of Sciences USA* 13467-13472, 2015
- Co-author with P. Chen, et al., "Concentration- and chromosome-organization-dependent regulator unbinding from DNA for transcription regulation in living cells," 6 *Nature Communications* 7445, 2015
- Co-author with P. Chen, et al., "Single-Molecule Dynamics and Mechanisms of Metalloregulators and Metallochaperones," 52 *Biochemistry* 7170-7183, 2013
- Co-author with J.D. Helmann, P. Chen, et al., "Direct substitution and assisted dissociation pathways for turning off transcription by a MerR-family metalloregulator," 109 *Proceedings of the National Academy of Sciences USA* 15121-15126, 2012

Select Speaking Engagements

- Speaker, "RNA Polymerase II pausing coordinates stage-selective cell cycle progression and erythroid differentiation," Globin Switching Conference in Crete, Greece, May 06, 2022
- Speaker, "Regulation of transcription elongation during red blood cell differentiation," Harvard Medical School Department of Genetics in Boston, Massachusetts, April 26, 2019
- Speaker, "Insight into the Mechanisms of Transcription by a MerR-family Metalloregulator through Single-Molecule Analysis," Bauer Scholarship Award presentation at California State University in Northridge, California, March 25, 2015
- Speaker, "Single-Molecule Analysis Suggests Novel Pathways for Turning off Transcription by a MerR-family Metalloregulator," Cornell University Graduate Student Award Symposium in Ithaca, New York, April 23, 2013

TECHNICAL FLUENCY

Biological Sciences and Biotechnology

- Biophysics
- Cell biology
- Cell therapy
- Cellular biology
- Genetics
- Molecular biology
- Molecular genetics
- Stem cell biology

Therapeutics and Drug Discovery

- Antimicrobial agents
- CRISPR
- Gene editing
- Gene therapy

Diagnostics and Medical Devices

- Bioinformatic

Chemistry and Material Science

- Protein engineering

Genomics and Data Analysis

- Next-generation sequencing
- Sequencing
- Single-cell sequencing

Miscellaneous

- Fluorescence microscopy