TANIA KURBESSOIAN

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A motivated Microbiology Ph.D., seeking a career in Microbiology, Mycology and Bioinformatics.

EDUCATION

University of California, Riverside — **Riverside, CA**
PhD. In Microbiology — 2017 – 2022

California State University, Northridge — **Northridge, CA**
Master of Science in Microbiology — 2014 – 2016

California State University, Northridge — **Northridge, CA**
Bachelor of Science in Microbiology — 2010 – 2013

PUBLICATIONS

1. **Kurbessoian, Tania,** Ahmed, Sarah A., Quan, Yu, de Hoog, Sybren, Stajich, Jason E. "Description of new micro-colonial fungi species *Neophaeococcomyces mojaviensis, Coniosporium tulheliwenetii, Taxawa tesnikishii* cultured from biological soil crusts". (2023) *Mycologia.* In Preparation.
2. Coleine, Claudia, **Kurbessoian, Tania**, Calia, Guilia, Delgado-Baquerizo, Manuel, Cestaro, Alessandro, Pindo, Massimo, Armanini, Federica, Asnicar, Francesco, Segata, Nicola, Donati, Claudio, Stajich, Jason E., de Hood, Sybren G., Selbmann, Laura. "A class-wide genomic tendency throughout specific extremes in Black Fungi", *Fungal Diversity.* Accepted with minor revisions.
3. **Kurbessoian, Tania**, Heimlich-Villalta, Gretchen, Ginnan, Nichole, Vieira, Flavia Campos, Rolshausen, Philippe E., Roper M. Caroline, and Stajich, Jason E. "Genome Sequence and Assembly of 18 Fusarium Isolates from Florida Citrus under High Huanglongbing Disease Pressure and California Citrus under Low Huanglongbing Disease Pressure." *Microbiology Resource Announcements* (2023): e00101-23.
4. Shea, Terrance, Mohabir, Jason, **Kurbessoian, Tania,** Berby, Britany, Fontaine, James, Gnirke, Andreas, Livny, Jonathan, Stajich, Jason. E., Cuomo, Christina. "Genome Sequence for *Lichtheimia ornata*, an emerging opportunistic Mucorales pathogen". *Microbiology Resource Announcements* (2023). Accepted.
5. Murante, Daniel, Demers, Elora, **Kurbessoian, Tania,** Ruzic, Marina, Ashare, Alix, Stajich, Jason E. and Hogan Deborah A. "Mrs4 loss of function in fungi during adaptation to the cystic fibrosis lung." *bioRxiv* (2023): 2023-04.
6. Ettinger, Cassandra L., Wu-Woods, Jessica, **Kurbessoian, Tania,** Brown, Dylan J., Pacheco, Inaiara de Souza, Vindiola, Beatriz G., Walling, Linda L. "Geographical Survey of the Mycobiome and Microbiome of Southern California Glassy-winged Sharpshooters." *bioRxiv* (2023): 2023-04.
7. Stajich, Jason. E., Lovett, Brian, Ettinger, Cassandra. L., Carter-House, Derreck. A., **Kurbessoian, Tania**., & Kasson, Matt. T. (2022). An improved 1.5-gigabase draft assembly of Massospora cicadina (Zoopagomycota), an obligate fungal parasite of 13-and 17-year cicadas. *Microbiology Resource Announcements*, *11*(10), e00367-22.
8. **Kurbessoian, Tania**., Murante, Daniel., Crocker, Alex., Hogan, Deborah. A., & Stajich, Jason. E. (2022). In host evolution of *Exophiala dermatitidis* in cystic fibrosis lung micro-environment. *bioRxiv*, 2022-09.- Submitted to *G3*, Accepted with minor revisions.
9. Selbmann, Laura.; Benkő, Z.; Coleine, C.; de Hoog, S.; Donati, C.; Druzhinina, I.; Emri, T.; Ettinger, C.L.; Gladfelter, A.S.; Gorbushina, A.A.; Grigoriev, I.V.; Grube, M.; Gunde-Cimerman, N.; Karányi, Z.Á.; Kocsis, B.; **Kurbessoian, T.**; Miklós, I.; Miskei, M.; Muggia, L.; Northen, T.; Novak-Babič, M.; Pennacchio, C.; Pfliegler, W.P.; Pòcsi, I.; Prigione, V.; Riquelme, M.; Segata, N.; Schumacher, J.; Shelest, E.; Sterflinger, K.; Tesei, D.; U'Ren, J.M.; Varese, G.C.; Vázquez-Campos, X.; Vicente, V.A.; Souza, E.M.; Zalar, P.; Walker, A.K.; Stajich, J.E. Shed Light in the DaRk LineagES of the Fungal Tree of Life—STRES. *Life* 2020, 10, 362.
10. Pombubpa, Nuttapon, **Kurbessoian, Tania**, Stajich Jason E., Pietrasiak, Nicole, La Doux, Tasha. "Exploring the Microbial Diversity in Biological Soil Crusts at Joshua Tree National Park (U.S. National Park Service)." National Parks Service, U.S. Department of the Interior, 28 July 2020, www.nps.gov/articles/exploring-the-microbial-diversity-in-biological-soil-crusts-at-joshua-tree-national-park.htm.
11. Warren, Steven D., St. Clair, Larry L., Stark, Lloyd R., Lewis, Louise A., Pombubpa, Nuttapon, **Kurbessoian, Tania**, Stajich, Jason E., and Aanderud, Zachary T. "Reproduction and dispersal of biological soil crust organisms." Frontiers In Ecology Evolution. 7: 344. 7 (2019): 344.
12. **Kurbessoian, Tania**. Comparative analysis of 16S ribosomal RNA typing and physiological traits within *Sporosarcina ureae.* Diss. California State University, Northridge, 2016.

PROTOCOLS & RESOURCES

1. **Kurbessoian, Tania**, Jason E. Stajich, and Sonia L. Ghose. "Low Biomass, high contamination Illumina DNA prep using DNeasy PowerSoil (Pro) Kit." (2022).

2. Carter-House, Derreck, Jason E. Stajich, Sarah Unruh, and **Tania Kurbessoian**. "Fungal CTAB DNA Extraction." *Protocols. io* (2020).

RELEVANT SKILLS

- **Bioinformatics:** Genome assembly and annotation, population genomics, comparative genomics, genome browser development, metagenomics binning, and annotation, working with Genomics Data, R amplicon analysis, Multi-Omic analysis, Github and Git, language proficiency in Python, Bash, R, and MySQL.
- **Microbiology and Mycology:** Aseptic technique, fluorescent, bright field and contrast microscopy, staining bacteria, culturing bacteria and fungi from the environment, DNA Sequencing, numeration and identification, media, buffer, and chemical preparation, using selective media, virus plaque assay, enzyme assay, and MALDI-TOF MS.
- **Biochemistry and Cell & Molecular Biology:** DNA extraction, enzymatic assay preparation, protein extraction, plasmid DNA preparation, restriction enzyme digests, PCR, agarose gel electrophoresis, amplicon library preparation.

WORK EXPERIENCE

International Congress of Armenian Mycologists (ICAM) -*Nonprofit* **USA**

Co-Founder, Vice-President November 2020-

- After the ending of the Artsakh 2020 war, diaspora Armenian Mycologists decided to create the ICAM non-profit organization.
- As an organization we strive to conduct critical scientific research on the understudied fungal kingdom in the both ancient yet contemporary civilization of Armenia.
- We seek to build science capacity in Armenia by: collaborating with the nation's already successful scientists through shared grants, co-authorship, and resource allocation; by providing financed scientific mentorship to Armenian youth; and by gathering biological data that can be used in the protection of land and life.

University of California, Riverside **Riverside, CA**

Graduate Researcher July 2017- Dec 2022

- Engaged with P.I. Dr. Jason E. Stajich on observing evolutionary trends in Fungi, while also focusing on melanized fungi isolated from a variety of extreme environments including biological soil crusts, cryptoendolithic communities from Antarctica, the soil from tar pits, etc.
- Developed Bioinformatics skills to assemble and annotate genomes from a variety of different Phyla of Fungi.
- Collaborated with multiple international teams on numerous different projects involving melanized fungi.
- Analyzed data to determine evolutionary trends among fungal genomes and generated visual representations of the data for publications.
- Constructed phylogenetic trees to analyze gene content and sequence homology among multiple fungal genomes.
- Streamlined data analysis by automating data collection processes and created scripts for rapid annotation pipelines.
- Generated comprehensive reports of data analysis findings using presentation software.
- Participated in JGI CSP projects contributing high molecular weight (HMW) genomic DNA and RNA for sequencing projects for the 1000 fungal genome project and STReSS project.
- Submitted and published multiple academic papers highlighting significant findings, including exploring population genomics, assembly of multiple strains of Fusarium species collected from citrus, phylogeny of melanized fungi.

Teaching Associate

- Winter 2019, 2021 MCBL 127 - Microbial Evolution 25% TA-ship
- Spring 2020 BIOL 119 - Introduction to Genomics and Bioinformatics 50% TA-ship
    - Facilitated teachings through preparing asynchronous lectures, graded homework, quizzes and exams and provided the final grade to the professors.

California State University, Northridge **Northridge, CA**

Graduate Research Assistant Jan 2014 – Dec 2016

- Worked with P.I. Dr. Larry Baresi to extract DNA, built primers specific to *Sporosarcina ureae* 16S, and built a phylogenetic tree with 57 strains describing geographical inferences in lineages collected worldwide.
- Appropriated BIOLOG and MALDI-TOF technology and used protein profiles to observe physiological results of 57 *S. ureae* strains.

Teaching Associate Jan 2015 – Dec 2015

- Principles of Microbiology two semesters
    - Facilitated teachings through preparing lectures, graded exams, and provided final grades to the students.
    - Promoted a dynamic learning environment, while simultaneously enhancing communication skills through student interaction.

Graduate Teaching Assistant Jan 2014 – Dec 2016

- Assisted undergraduate students in laboratory classes including Principles of Microbiology, Medical Microbiology, Microbial Physiology, Biology of the Fungi and Food Microbiology.
- Fostered CSU's success through preparing media and cultures that were used in the microbiology teaching classrooms.

California State University, Northridge **Northridge, CA**

Undergraduate Research Student Jan – Dec 2013

- Isolated and transferred archaea *Methanobrevibacter smithii strain G* through anaerobic techniques while infecting with bacteriophage for virus isolation.

INTERNSHIP EXPERIENCE

Jet Propulsion Laboratory, JPL - NASA **Pasadena, CA**
Summer Intern Program (SIP) Intern July – Sept. 2016

- Collaborated with P.I. Wayne Schubert and Planetary Protection Officers to apply microbiology techniques and assessment of microbial contamination.
- Designed, initiated, and completed Embedded bio-burden experiments on extreme heat and desiccation-resistant strains of Bacillus sp. (ATCC 29669), utilized a cryogen grinder, and mastered serial dilutions and plating techniques.
- Produced a total of 48 bio-burden tests with 0% contamination, reducing time spent on quality assurance checks by 50%.
- Created and maintained MALDI-TOF MS protein profiles of multiple microbial populations.
- Prepared embedded spore masses using a variety of epoxies.
- Managed the day-to-day laboratory operations and assisted with on-going concurrent research projects.

PROFESSIONAL ORGANIZATIONS

International Congress of Armenian Mycologists (ICAM) *Non-profit* **USA**
Co-Founder, Vice-President *November 2020-*
Association for Women in Science- Riverside Chapter (AWIS) **Riverside, CA**
President, Vice President Publicity Chair June 2018-2022
Mycological Society of America, Student and PostDoc Section (MSA-SPS) **USA**
Past-Chair, Chair, Vice-Chair, Outreach Chair August 2019-2023
Graduate Student Association- Microbiology Chapter (Micro-GSA) **Riverside, CA**
President, Vice President, Outreach June 2017-2020
Microbiology Students Association at California State University (MSA) **Northridge, CA**
Secretary, Treasurer and President Jan 2013-Aug 2016
Women in Science at California State University (WiS) **Northridge, CA**
Member Jan 2015-Dec 2016
Graduate Leadership Association at California State University (GLA) **Northridge, CA**
Social Media Coordinator Jan 2015-Dec 2016
Los Angeles Mycological Society (LAMS) **Los Angeles, CA**
Member Nov 2014 - Present
American Society for Microbiology (ASM) **USA**
Member Aug 2013 – Present
Mycological Society of America (MSA) **USA**
Student Member Jan 2016 -- Present

AWARDS & PRESENTATIONS

- Poster Presentation at American Society of Microbiology General Meeting. May 30 - June 2, 2015, New Orleans, Louisiana "Comparative Analysis of 16s Ribosomal RNA Typing and Physiological Traits within *Sporosarcina ureae*". ***Kurbessoian, Tania**, Baresi, Larry.
- Poster Presentation at CSUN Research Symposium at California State University, Northridge April 2014, 2015, 2016 "Comparative Analysis of 16s Ribosomal RNA Typing and Physiological Traits within *Sporosarcina ureae*" ***Kurbessoian, Tania**, Baresi, Larry.
- Oral presentation at Southern California Chapter for the American Society of Microbiology General Meeting October 28-29 2016, San Diego California "Heat Inactivation of Embedded Bacterial Spores", ***Kurbessoian, Tania**, Alexander, Aaron, Schubert, Wayne.
- Oral Presentation at Black Yeast Workshop part of International Society for Human and Animal Mycology in Amsterdam, Netherlands 2018, ***Kurbessoian, Tania**, Pombubpa, Nuttapon, Stajich, Jason.
- Oral Presentation at 4th International Workshop on Biological Soil Crusts. 25-30 August 2019 North Stradbroke Island, Queensland, Australia. "Exploring the Role of Melanized Fungi in Cooperative Biological Soil Crust Systems". ***Kurbessoian, Tania**, Pombubpa, Nuttapon, Pietrasiak, Nicole, Stajich, Jason.
- Poster Presentation at Mycological Society of America Annual Meeting August 10 - 14, 2019, Minneapolis Minnesota. "Just Deserts: Exploring the Diversity of Melanized Fungi in Rocks and Biological Soil Crusts", ***Kurbessoian, Tania**, Pompbubpa, Nuttapon, Pietrasiak, Nicole, Coleine, Claudia, Selbmann, Laura, Stajich, Jason.
- CANCELLED-Oral Presentation at Cellular and Molecular Fungal Biology Gordon Research Conference, June 21 - 26, 2020, Holderness School in Holderness, NH. "Black Yeasts as Desert Sunscreen: Assessing the Genetic Composition of Black Yeasts Found within Biological Soil Crusts", ***Kurbessoian, Tania**, Pompbubpa, Nuttapon, Pietrasiak, Nicole, Coleine, Claudia, Selbmann, Laura, Stajich, Jason.

- Teaching Presentation at Mycological Society of America Annual Meeting, “Mycology in the Clouds”, July 22, 2020. “Teaching Mycology and Bioinformatics Virtually”, ***Kurbessoian, Tania**.
- Poster Presentation at 2020 Virtual Tri-Science Societies (ASA - American Society of Agronomy, CSSA - Crop Science Society of America, SSSA - Soil Science Society of America) Meeting, Virtual World, November 9 - 13, 2020, “Black Yeasts as Desert Sunscreen: Assessing the Genetic Composition of Black Yeasts Found within Biological Soil Crusts”, ***Kurbessoian, Tania**, Pompbubpa, Nuttapon, Pietrasiak, Nicole, Coleine, Claudia, Selbmann, Laura, Stajich, Jason.
- Oral Presentation at 2021 MSA/Botany Virtual Meeting, July 19-23, 2021 “Black Yeast as Desert Sunscreen: Assessing the Genetic Composition of Black Yeasts found in Desert Biological Soil Crusts”, ***Kurbessoian, Tania**, Pompbubpa, Nuttapon, Pietrasiak, Nicole, Coleine, Claudia, Selbmann, Laura, Stajich, Jason.
- Oral Presentation at 31st Fungal Genetics Conference in Asilomar, Pacific Grove March 14-20, 2022. “In host evolution of *Exophiala dermatitidis* in Cystic Fibrosis lung micro-environment”, ***Kurbessoian, Tania**; Murante, Daniel; Crocker, Alex; Hogan, Deborah A.; Stajich Jason E.
- Poster Presentation at 31st Fungal Genetics Conference in Asilomar, Pacific Grove March 14-20, 2022. “In host evolution of *Exophiala dermatitidis* in Cystic Fibrosis lung micro-environment”, ***Kurbessoian, Tania**; Murante, Daniel; Crocker, Alex; Hogan, Deborah A.; Stajich Jason E.
- Poster at Gordon Research Conference/Seminar at Holderness NH, June 25-July 1, 2022. “In host evolution of *Exophiala dermatitidis* in Cystic Fibrosis lung micro-environment”, ***Kurbessoian, Tania**; Murante, Daniel; Crocker, A; Hogan, Deborah A.; Stajich, Jason E.
- Oral Presentation at Mycological Society of America Annual Meeting. “Mycology in the Swamp”, July 10-14, 2022. “Breaking the mold: Documenting & identifying MCF diversity in southern California desert biological soil crusts”, ***Kurbessoian, Tania**; Ahmed Sarah A.; Hoog Sybren de; Stajich Jason E.
- Eugene Robles Fellowship for UC Riverside Ph.D. Program September 2017-March 2018 - $24,000
- Emory Simmons Fellowship from Mycological Society of America April 2019 -$9,000
- UCR Edge Devirian Fellowship 2019 - $900
- UCR Graduate Student Mentorship Program (GSMP) Best Mentor Award 2019-2020
- UCR Distinguished Teaching Award 2020-2021 - $500
- UCR DEI Scholarship 2021 - $600
- UCR MEI Chancellor's Graduate Student Diversity Certificate Program 2022
- MSA Travel Award 2022 ($750)