JESSICA M. RATH

1527 N. Commonwealth Ave, LA, CA 90027 | 213-880-0110 | jmrath@uci.edu | www.jessicarath.com

education

University of California, Irvine (UCI) Jun 2022
Masters in Conservation and Restoration Science (MCRS)
Relevant coursework: Conservation Biology, Restoration Ecology, Quantitative Methods, Technical Writing, GIS

California Institute of the Arts, Valencia, CA
Master of Arts in Fine Art 1996
University of Missouri, Columbia, MO
Bachelor of Arts in Sociology 1990

references

Dr. Sarah Kimball, Associate Adjunct Professor, UC Irvine MCRS, skimball@uci.edu
Dr. Jennifer Long, Director, UC Irvine MCRS, jjlong@uci.edu, 949-824-6104 (office), 949-280-7080 (mobile)

MCRS conservation and restoration projects

Project researcher, Post fire resiliency in Bee Flat Canyon Restoration, Irvine Ranch Conservancy Oct 2021 – May 2022
- develop vegetation survey protocols for coastal sage scrub (CSS) shrub species with 4-person team
- analyze post fire resiliency of CSS using crown sprout and species composition data
- analyze post fire resiliency of native grassland using long term survey data and functional trait data

Project researcher, MCRS Summer Internship, UCI Ecology and Evolutionary Biology Jun 2021 – Sept 2021
- conducted seed collection, cleaning, storing and propagation
- repaired and maintained global climate change experimental field structures

Project researcher, Arthropod surveys in UCI Relandscaping, UCI Center for Environmental Biology Jul 2021 – Jan 2022
- collaborating with two-person team to ID arthropods across native and drought tolerant landscaping treatments
- train volunteers in ID protocols

Project researcher, Sentenac Cienega Ecosystem Restoration, UCI Center for Environmental Biology Mar 2021 – Jun 2021
- collaborated with 12 members to conduct vegetation surveys in Anza-Borrego Desert State Park
- analyzed hydrology, soil, and percent cover data using R Studio

Lead Researcher, Fire Intensity Study at Loma Ridge, UCI Center for Environmental Biology Dec 2020 – Jun 2021
- developed a local scale fire intensity protocol and data metrics
- managed data collection and analyzed data from 12 experimental plots

Project researcher, Western Spadefoot Habitat Restoration Plan, MCRS class project Feb 2021 – Mar 2021
- created ArcGIS mapping of vernal and artificial pond sites at Crystal Cove State Park
- prepared species habitat report with literature source review of life cycle needs and gaps in knowledge

Project researcher, Fuel Modification Research at Eco Preserve, UCI Center for Environmental Biology Sep 2020 – Dec 2020
- conducted vegetation surveys on two native cacti in a fire fuel modification zone
- generated data analysis, tables and figures using R Studio

skills

- Vegetation sampling (transects and quadrats)
- Arthropod sampling (beat sheeting, malaise traps, pitfall traps)
- Seed collection, cleaning, storing and propagation
- Experimental study design
- Knowledge of SoCal plant and bird types and habitats
- Project supervision, management and stakeholder engagement
- Curriculum development
- Scientific writing and grant writing
- Public speaking and presentation experience
- CEQA Process (CA Environmental Quality Act)
- Microsoft and Adobe Suites, ArcGIS Online
- R Studio

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selected professional experience

Associate Professor, Art Center College of Design, Pasadena, CA 2013-present

- taught social science research methodologies and critique seminars to 500 + undergraduates
- evaluated performance and provided feedback for up to 50 students per term
- coached students individually resulting in increased competency and comprehension

Artist Owner, Rath Studios, Los Angeles, CA 2000-present

- planned and executed yearly multimedia projects translating scientific research
- managed project interns, contracts, technical aspects and budgets up to $100,000

art + ecology projects

Bee Projects 2018-2020

- illustrated native bee specimens for large window vinyls as public education tool (daily audience of 1500)
- conducted pilot study of wood nesting solitary bees at five sites
- conducted 12 visual arts-based educational workshops about native bee nesting for three area colleges

a better nectar 2014-2019

- created 30 x 30 foot human-scale bumblebee nest sculpture with NOAA feed effected MAX programming score
- translated diurnal patterns of foraging bees into 6 part choral composition
- budgeted and managed traveling exhibition to 5 college museums

Take me to the apple breeder 2012-2015

- created photo series of significant genotypic architectural variance in apple trees at Cornell University
- publicized and lectured about Dr. Susan K. Brown's research on apple breeding

Foothill Boulevard 2015-2016

- studied spider communities across native and suburban habitats with Dr. Wallace Meyer, Pomona College
- illustrated native and non-native spiders from the survey research as public educational tool

selected awards

Voth Family Fellowship, University of California, Irvine 2019-21
Teaching Advancement Award (for *MIT Being Material*), Art Center College of Design 2017
California Community Foundation Mid-Career Fellowship, Los Angeles 2014
City of Los Angeles (C.O.L.A.) Fellowship, Dept. of Cultural Affairs, Los Angeles 2013

selected grants

Malus sieversii USDA policy research to Almaty, Kazakhstan. $5,000. 2019. Research with USDA plant geneticist Gayle Volk, USDA National Laboratory of Genetic Resources Preservation. Art Center College of Design, Pasadena, CA.

Fruiting Bodies: agricultural production and native bees. $15,000. 2019. Site based workshops for college students. LA County Arts Commission Organizational Programming. Descanso Gardens, La Canada Flintridge, CA.

A Better Nectar. $40,000. 2014. Design and fabrication of human-scaled bumblebee nest. Annenberg Foundation, Los Angeles

Malus domestica research with apple breeder Dr. Susan Brown. $10,000. 2011. Research and photographing at Cornell University-NYS Agricultural Experiment Station Center. Cultural Innovation (CCI) Artistic Innovation.

selected presentations

- *Rainfall Manipulations Influence Wildfire Severity*, 2020. Poster Presentation. UCI's Center for Environmental Biology.
- *Cultivars and Consumer Desire.* 2018. Developed and presented for CalTech, Pasadena, CA
- *At the Plant's Pleasure*. 2017. A Plenary Speaker presentation. Developed for the Libertine Botany Symposium at the Department of Comparative Literature, University of Southern California, Los Angeles, CA.

Professional Affiliations

California Native Plant Society
California Invasive Plant Council
Natural Areas Association