

# Shawn C. Massoni, PhD

Instructor

Oregon State University

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## A. EDUCATION and EMPLOYMENT INFORMATION

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**University of Massachusetts** (Amherst MA) 2013  
Ph.D., Microbiology

**University of Massachusetts** (Amherst MA) 2006  
B.S. *cum laude* - Microbiology

## PROFESSIONAL POSITIONS AND RANKS HELD

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**Oregon State University** 2018-present  
Senior Instructor/Advisor, Microbiology Department

**Mount Holyoke College** 2017-2018  
Visiting Assistant Professor, Biology Department

## RESEARCH EXPERIENCE

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**Mount Holyoke College, South Hadley MA** 2014-2017  
*Postdoctoral Scholar*  
Principal Investigator: Amy Camp, PhD (Biology)  
Genetics and development of sporulation and active channel dynamics  
in *Bacillus subtilis*

**University of North Carolina, Chapel Hill NC** 2013-2014  
*Postdoctoral Scholar*  
Principal Investigator: Aravind Asokan, PhD (Gene Therapy)  
CRISPR-Cas9 applications with the AAV vector for applied gene therapy

**University of Massachusetts, Amherst MA** 2012-2013  
*Postdoctoral Scholar*  
Principal Investigator: Steven Sandler, PhD (Microbiology)  
Genetics of DNA replication and repair in *Escherichia coli*

**University of Massachusetts, Amherst MA** 2006-2012  
*Graduate Student*  
Principal Investigator: Steven Sandler, PhD (Microbiology)

Thesis: RecA dynamics & the SOS response in *Escherichia coli*:  
Cellular limitations of inducing filaments

**University of Massachusetts, Amherst MA** 2005-2006  
*Independent Undergraduate Researcher*  
Principal Investigator: Steven Sandler, PhD (Microbiology)  
Construction and quantification of *E. coli* nucleoid mutations and assaying  
cell growth with a *recA-gfp* translational fusion

**University of Massachusetts, Amherst MA** 2004-2006  
*Independent Undergraduate Researcher*  
Principal Investigator: Robert Wick, PhD (Plant Pathology)  
Identification of phytopathogenic nematode populations in turfgrass to  
test viability and efficacy of nematicidal biocontrols

**University of Massachusetts, Amherst MA** 2003-2006  
*Independent Undergraduate Researcher*  
Principal Investigator: William Bemis, PhD (Biology)  
Identification of global phylogenetic relationships between *Elops* and  
*Lepisosteus* spp. Based on RAG1/2 nuclear gene analysis

## **B. TEACHING, ADVISING AND OTHER ASSIGNMENTS**

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If I can teach with genuine enthusiasm, curiosity about my subject becomes contagious and I am opening a door to a new world for my students. They are decidedly here to learn, and I want to help promote that learning through stimulating curiosity and showing respect. But I am here to learn as well, to learn from my students how to be a better teacher, to learn what works and what doesn't with each individual, to learn how to deal with unusual circumstances, to steer this ship in the interest of all the people in the room. Primarily I want my enthusiasm for the subject to come through and infect my students, too. I know how challenging it can be to get students to absorb the fundamental concepts I teach and then to apply this knowledge to new problems. I am beginning to learn what students need from their instructor that allows for their success: confidence, expertise, enthusiasm and above all, respect. Giving my students an opportunity to interact and communicate helps me adapt my teaching style to their needs, whether I'm teaching a class of 3 or 300. I believe student success in the classroom is best achieved when students feel respected by their teacher, who is then able to create genuine enthusiasm about the subject they are teaching. When students are in a positive learning environment they can overcome preconceived ideas about the rigor of the material they are studying, thereby giving them the confidence to succeed.

## 1. INSTRUCTIONAL SUMMARY

### A. Credit Courses at Oregon State University

<b>Course number</b>	<b>Term</b>	<b>Year</b>	<b># students</b>
BHS 107	Winter	2023	42
MB 310	Winter	2023	41
MB 311	Winter	2023	33
BHS 323	Fall	2022	25
BHS 316e	Fall	2022	40
BHS 110e	Fall	2022	31
BHS 490e	Fall	2022	20
MB 302	Summer	2022	16
BHS 316	Summer	2022	40
MB 435	Spring	2022	9
BHS 323	Spring	2022	24
BHS 107	Winter	2022	40
MB 311	Winter	2022	29
MB 302	Winter	2022	90
MB 230	Fall	2021	82
BHS 323e	Fall	2021	11
BHS 323	Fall	2021	20
BHS 110e	Fall	2021	6
BHS 316e	Summer	2021	25
MB 302	Summer	2021	42
MB 430	Spring	2021	22
BHS 323e	Spring	2021	12
BHS 323	Spring	2021	19
MB 311	Winter	2021	37
MB 302	Winter	2021	106
BHS 107	Winter	2021	42
BHS 320e	Fall	2020	9
BHS 323	Fall	2020	18
BHS 110	Fall	2020	101
MB 320e	Fall	2020	2
MB 110	Fall	2020	6
BHS 323e	Summer	2020	13
BHS 316e	Summer	2020	17
BHS 323e	Spring	2020	14
BHS 323	Spring	2020	9
MB 302	Winter	2020	102
BHS 323e	Winter	2020	14

BHS 107	Winter	2020	47
BHS 323	Fall	2019	19
BHS 110	Fall	2019	176
MB 230e	Summer	2019	28
MB 230 lab	Summer	2019	21
MB 230	Summer	2019	21
MB 435	Spring	2019	16
MB 302	Winter	2019	100
BHS 323	Winter	2019	12
BHS 107	Winter	2019	30
BHS 323e	Fall	2018	10
BHS 323	Fall	2018	7
BHS 110	Fall	2018	161
MB 230	Summer	2018	27

#### **B. Credit Courses at Mount Holyoke College**

BIOL 321TD*	Spring	2018	50
BIOL 321MY*	Spring	2018	21
BIOL 321GB*	Fall	2017	15
BIOL 145 (incl lab)*	Fall	2017	48
BIOL 327 (incl lab)	Winter	2016	45

*\*Developed, designed, and implemented course de novo*

#### **C. Non-Credit Courses and Workshops**

<b>Workshop</b>	<b>Year</b>
Community for the Advancement of Antiracist Instruction (Developer/Instructor)	2020-2021

#### **D. Curriculum Development**

Curriculum development began in spring and summer of 2017, when I was tasked, as a Visiting Assistant Professor at Mount Holyoke College, with the design, development and implementation of 4 original semester-long (16 week) courses (2 taught fall semester, 2 taught spring semester) for the biology curriculum. These courses are listed above in **Section 1B** (\*excluding BIOL 327), and consist of a majors entry-level general biology course (BIOL 145 and lab), and three upper-division biology courses (Molecular Genetics of Bacteria, Mycology

and Parasitology & Neglected Tropical Diseases). This was closely followed by my time at Oregon State University, where I've developed four different courses for e-campus *de novo*, listed below.

It should be noted that, besides formally developing four e-campus courses at OSU, I have substantially revised, rebuilt, and rewritten BHS/MB 110, BHS 323, BHS 107, MB 302, and MB 311. For all of these courses (besides my lab course) I have implemented hybrid “flipped” classrooms, which feature, among other things, student-led discussions, significant group work, peer evaluations, altered grading schemes (GPA scale grading, summative-only assessments with retakes, focus on metacognition (effective learning strategies and reflect, rewrite, resubmit), and focus on retention and sense of belonging. Much of the above employs *collaborative learning* techniques, which emphasize student-active peer group work to empower students to discover that they can actively discover, analyze, and use knowledge on their own, while emphasizing mutual, positive interdependence on peers for learning the subject material. I regularly employ these techniques in my MB 302, BHS 323, and lab courses. For my BHS 490 capstone course, I employ *cooperative learning pedagogy*, where we emphasize positive interdependence, individual accountability, face-to-face promotive interaction, small group social skills, and group processing. For my lab course MB 311, I have substantially revised, trimmed, and improved the flow of the lab exercises and assignments, as well as rewritten the lab manual and added a chapter/module where students observe, analyze and report on the evolution of antibiotic resistance in the lab. I have also substantially cut the budget for this class, as data storage, server usage, sequencing and materials costs routinely range into the tens of thousands of dollars for this course; the year I taught it solo (Winter 2022), besides the normal and expected costs of routine lab materials such as petri dishes and agar, this course incurred a total cost of only \$490 for sequencing, data acquisition, storage, and processing.

Courses developed:

- BHS/MB 320e Human Bacteriology – developed spring/summer 2020
- BHS 110e Orientation – developed spring/summer 2021
- BHS 110 remote orientation – developed spring/summer 2020
- BHS 490e Capstone – developed spring/summer 2022

## 2. STUDENT (eSET) AND PARTICIPANT EVALUATION

### A. On-Campus Classes

Course	Term	Responses	Instructor Rating			Course Rating		
			Ind.	Micro	Univ.	Ind.	Micro	Univ.
<b>MB 435</b>	Sp 2022	1/9 (11%)	6	5.6	5.6	6	5.7	5.7
	Sp 2019	5/16 (31%)	5.3	5.6	5.4	5.3	5.5	5.1
<b>BHS 323</b>	F 2022	4/25 (16%)	6.0	5.6	5.4	6.0	5.7	5.6
	Sp 2022	6/23 (26%)	5.9	5.6	5.6	5.9	5.7	5.7

	F 2021	3/20 (15%)	6.0	5.8	5.7	6.0	5.7	5.5
	Sp 2021	4/19 (21%)	6.0	5.7	5.5	6.0	5.5	5.3
	F 2020	6/17 (35%)	6.0	5.7	5.5	6.0	5.6	5.2
	Sp 2020*	3/9 (33%)	NA	NA	NA	NA	NA	NA
	F 2019	6/18 (33%)	5.8	5.6	5.4	5.8	5.4	5.1
	W 2019	4/12 (25%)	5.5	5.6	5.4	5.5	5.4	5.1
	F 2018	3/6 (50%)	6.0	5.6	5.4	6.0	5.4	5.1
<b>BHS 107</b>	W 2022	19/39 (48%)	5.8	5.7	5.7	5.8	5.6	5.5
	W 2021	15/42 (35%)	5.6	5.6	5.5	5.3	5.5	5.2
	W 2020	17/44 (38%)	5.7	5.6	5.4	5.8	5.4	5.1
	W 2019	14/30 (46%)	5.8	5.6	5.4	5.9	5.4	5.1
<b>MB 311</b>	W 2022	7/29 (24%)	5.8	5.7	5.7	5.8	5.6	5.5
	W 2021	14/36 (38%)	5.5	5.6	5.5	4.8	5.5	5.2
<b>MB 302</b>	Su 2022	1/16 (6%)	6.0	5.8	5.7	6.0	5.8	5.6
	W 2022	31/88 (35%)	5.7	5.7	5.7	5.5	5.6	5.5
	Su 2021	13/41 (31%)	5.8	5.6	5.6	5.8	5.6	5.4
	W 2021	31/105 (29%)	5.8	5.6	5.5	5.8	5.5	5.2
	W 2020	33/102 (32%)	5.6	5.6	5.4	5.2	5.4	5.1
	W 2019	49/98 (50%)	4.7	5.6	5.4	4.4	5.4	5.1
<b>MB 230</b>	F 2021*	11/84 (13%)	5.5	5.8	5.7	5.5	5.7	5.5
	Su 2019	4/20 (20%)	5.8	5.7	5.6	5.8	5.7	5.4
	Su 2018	14/27 (50%)	5.8	5.5	5.5	5.6	5.5	5.4
<b>MB 430</b>	Sp 2021	8/27 (29%)	5.8	5.7	5.5	5.8	5.5	5.3
<b>BHS 110</b>	F 2020	44/107 (41%)	5.8	5.7	5.5	5.7	5.6	5.2

	F 2019s1	42/94 (44%)	5.1	5.6	5.4	4.1	5.4	5.1
	F 2019s3	35/79 (44%)	5.3	5.6	5.4	4.6	5.4	5.1
	F 2018s1	36/91 (39%)	4.9	5.6	5.4	4.4	5.4	5.1
	F 2018s3	31/69 (44%)	5.5	5.6	5.4	5.2	5.4	5.1

*\*For MB 230 F2021, 60% of the course was taught for colleague on leave*

## B. Ecampus classes

Course	Term	Responses	Instructor Rating			Course Rating		
			Ind.	Micro	Univ.	Ind.	Micro	Univ.
<b>BHS 323</b>	F 2021	3/11 (27%)	5.0	5.8	5.7	5.0	5.7	5.5
	Sp 2021	3/10 (30%)	6.0	5.7	5.5	6.0	5.5	5.3
	Su 2020	2/11 (18%)	4.5	5.3	5.6	4.5	5.2	5.3
	Sp 2020*	4/14 (28%)	NA	NA	NA	NA	NA	NA
	W 2020	5/13 (38%)	5.3	5.6	5.4	5.7	5.4	5.1
	Sp 2019	5/20 (25%)	5.8	5.6	5.4	6.0	5.5	5.1
	F 2018	6/9 (66%)	5.9	5.6	5.4	5.9	5.4	5.1
<b>BHS 490</b>	F 2022	5/18 (28%)	6.0	5.6	5.4	6.0	5.7	5.6
<b>BHS 110</b>	F 2022	10/29 (34%)	5.8	5.6	5.4	5.9	5.7	5.6
	F 2021	0/6 (0%)	NA	NA	NA	NA	NA	NA
<b>BHS 316</b>	F 2022	11/36 (31%)	5.8	5.6	5.4	5.8	5.7	5.6
	Su 2022	10/36 (28%)	5.9	5.8	5.7	5.9	5.8	5.6
	Su 2021	13/24 (54%)	5.8	5.6	5.6	5.8	5.6	5.4
	Su 2020	7/16 (43%)	5.6	5.3	5.6	5.6	5.2	5.3
<b>BHS/MB 320</b>	F 2020	1/11 (9%)	4.0	5.7	5.5	4.0	5.6	5.2
<b>MB 230</b>	Su 2019	9/29 (31%)	5.8	5.7	5.6	5.8	5.7	5.4

*\* data not available for Spring term 2020 (COVID/remote teaching begins)*

### 3. ADVISING

Advising duties include but are not limited to regular meetings with all students in an alpha-split (by last name L-M in BHS major), also as overflow for students whose regular advisors are not available. Advising includes START new student orientation every summer (not delineated by alpha-split), where between 12-20 2- or 3-hour sessions are attended. These consist of meeting with individual students, going over high school transcript, degree aspirations, managing transfer credits, demonstrating the use of MyOregonState and MyDegrees, degree planning, use of the Planner, first term plan building, registration PIN issue and registration. Duties also include regular meetings with assigned students (range from 107 in current year to 150 *assigned*); also take on the role of temporary advisor to several dozen or more students every term as backup for vacations/absences/full calendars of professional advisors. Also includes substantially filling in for B-K alphabet during two different advisor transitions. Students have access to an online calendar where they can schedule advising meetings, or simply drop in to my office when they need to, and/or catch me on campus or even in class for advising purposes. Some students meet several times/term, while others meet once/term. Freshman and transfer students are required to meet at least once/term for plan development and registration PIN. Duties also include managing PIN plans for sophomore-senior students, where they develop a year-long plan and I audit these and issue a PIN for the year. Also includes specialty in Dental School advising for application, admissions and preparation; this dovetails with direction of BHS 107 - Health Professions Dental and dental school liason duties.

### 4. OTHER ASSIGNMENTS

N/A

## c. SCHOLARSHIP AND CREATIVE ACTIVITY

Summary of peer-reviewed papers

Time Frame	Refereed Papers	Book Chapters
Prior to present position	12	2

#### 1. Publications

##### i. Refereed Publications

*My role in publications is designated by the following codes:*

*C = Conceptualization – Ideas; formulation or evolution of overarching research goals and aims.  
FA = Formal analysis – Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.*



*I = Investigation – Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.*

*M = Methodology – Development or design of methodology; creation of models.*

*R = Resources – Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.*

*M = Supervision – Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.*

*G = Visualization – Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.*

*W1 = Writing – original draft – Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).*

*W2 = Writing – review & editing – Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre- or post-publication stages.*

Maddox, E. K., **Massoni, S.C.**, Hoffart, C. M., and Takata, Y. (2023). Dietary effects on pain symptoms in patients with fibromyalgia syndrome: systematic review and future directions. *Nutrients* Jan 15(3), 716; <https://doi.org/10.3390/nu15030716> FA, M, W2

Zeytuni, N., Flanagan, K.A., Worrall, L.J., **Massoni, S.C.**, Camp, A.H. and Strynadka, N.C.J. (2018). Structural and biochemical characterization of SpoIIAF, a component of a sporulation-essential channel in *Bacillus subtilis*. *J Struct Biol* Oct; **204**(1):1-8 C, FA, I, R, G, W2

Zeytuni, N., Flanagan, K.A., Worrall, L.J., **Massoni, S.C.**, Camp, A.H., Strynadka, N.C.J. (2017). Structural characterization of SpoIIAB sporulation-essential protein in *Bacillus subtilis*. *J Struct Biol* May; **202**(2):105-112 C, FA, I, R, G, W2

Zeytuni, N., Hong, C., Flanagan, K.A., Worrall, L.J., Theiltges, K.M, Vuckovic, M., Huang, R.K., **Massoni, S.C.**, Camp, A.H., Yu, Z., Strynadka, N.C.J. (2017). Near-atomic resolution cryoelectron microscopy structure of the 30-fold homooligomeric SpoIIAG channel essential to spore formation in *Bacillus subtilis*. *PNAS* **114** (34):E7073-7081 C, FA, I, R, G, W2

**Massoni, S.C.** 2013. RecA dynamics & the SOS response in *Escherichia coli*: Cellular limitation of inducing filaments. Doctoral Dissertation (Proquest AAI3556269). C, FA, I, M, R, M, G, W1, W2

**Massoni, S.C.** and Sandler, S.J. 2013. *Specificity in Suppression of SOS expression by recA4162 and uvrD303*. *DNA Repair* **12**, 12:1072-80. FA, I, M, R, M, G, W1, W2

**Massoni, S.C.**, Leeson, M., Long, J.E., Gemme, K., Mui, A. and Sandler, S.J. 2012. *Factors limiting SOS expression in log phase cells in Escherichia coli*. *J. Bact.* **194**, 19:5325-5333 FA, I, M, R, M, G, W1, W2

Wessel, S.R., Marceau, A.H., **Massoni, S.C.**, Zhou, R., Ha, T., Sandler, S.J., and Keck, J.L. 2013. *PriC-mediated DNA replication restart requires PriC complex formation with the single-stranded DNA-binding protein*. Journal of Biological Chemistry **288**, 24: 17569-78. FA, I, R, M, G, W2

Marceau, A.H., Bahng, S., **Massoni, S.C.**, George, N.P., Sandler, S.J., Marians, K.J., and Keck, J.L. 2011. *Structure of the SSB-DNA polymerase III interface and its role in DNA replication*. EMBO J. **30**, 20: 4236-4247. FA, I, R, M, G, W2

Long, J.E., **Massoni, S.C.**, and Sandler, S.J. 2010. *RecA4142 causes SOS constitutive expression by loading onto reversed replication forks in Escherichia coli K-12*. J. Bact **192**,10:2575-2582. FA, I, M, R, M, G, W1, W2

**Massoni, S.C.** and Wick, R.L. 2005. *Evaluation of fungicides for control of dollar spot*, 2004. Fungicide and Nematicide Tests (online). Report **60**:DOI:10.1094/FN60. The American Phytopathological Society. C, FA, I, R, G, W2

**Massoni, S.C.** and Wick, R.L. 2005. *Evaluation of Neo-Tec for controlling nematodes in golf greens*. Biological and Cultural Tests for Control of Plant Diseases Report **20**:C5.DOI:10.1094/BC20. The American Phytopathological Society. C, FA, I, R, G, W2

## ii. Manuscripts in Preparation

**Massoni, S.C.**, Evans, N., Hantke, I., Torpey, J.H., Collins, K.M., Krysztofinska, E.M., Thapaliya, A., Martinez-Lumbreras, S., Fenton, C., Ferrell, S., Prior, C., Turgay, K., Isaacson, R., and Camp, A.H. (2023). *A Novel ClpCP adaptor protein that functions in the developing Bacillus subtilis spore* C, FA, I, M, R, M, G, W1, W2

**Massoni, S.C.**, Nkomboni, S., Hasibuan, M., Camp, A.H. (2022). Identifying the transcriptional regulation of the AAA+ ATPase *clpC* in *Bacillus subtilis*. C, FA, I, M, R, M, G, W1, W2

**Massoni, S.C.** and Sandler, S.J. *A hybrid pathway for RecA loading at reversed replication forks*. C, FA, I, M, R, M, G, W1, W2

**S.C. Massoni**, Nwaobasi, A., and Sandler, S.J. *DinI and DinD serve as independent, negative regulators of RecA-DNA structures*. FA, I, M, R, M, G, W1, W2

## iii. Book Chapters (edited)

Slonczewski, J., Foster, J., and Zinser, E. (2016) Microbiology An Evolving Science, 4th ed.

Chapter 7 - Genomes and Chromosomes;

## Chapter 8 - Transcription, Translation, and Proteins Processing

### 2. Presentations to Peers

#### Oral Presentations

May the Spores Be With You: New insights into metabolic shutdown  
Oregon State University, Corvallis, OR November 2022

Going Dormant: Metabolic Shutdown in *Bacillus subtilis*  
St. Joseph's College, Standish ME January 2019

Metabolic Shutdown in *Bacillus subtilis*: New Insights  
St. Joseph's College, Standish ME May 2017

New Insights Into Metabolic Shutdown in *Bacillus subtilis*: sporulation,  
communication, and degradation  
Russell Sage College, Troy, NY May 2017

New Insights Into Metabolic Shutdown in *Bacillus subtilis*: sporulation,  
communication, and degradation  
College of the Holy Cross, Worcester MA April 2017

Directed metabolic shutdown in the forespore of *Bacillus subtilis* is controlled  
by the  $\sigma^F$ -regulated *micA* gene  
GRC Microbial Stress Response, Mt Holyoke College, South Hadley, MA July  
2016

Directed metabolic shutdown in the forespore of *Bacillus subtilis* is controlled  
by the  $\sigma^F$ -regulated *micA* gene  
Boston Bacterial Meeting, MIT, Cambridge MA June 2016

RecA dynamics and the SOS response in *E. coli*  
Mt Holyoke College, South Hadley, MA January 2014

RecA dynamics and the SOS response in *E. coli*  
Lester Newman Seminar, Portland State University, Portland OR Jan 2014

Evaluating, exploring and exploiting small Cas9 proteins  
UNC Gene Therapy Center Seminar, Chapel Hill NC September 2013

RecA dynamics and the SOS response  
UNC Gene Therapy Center Seminar, Chapel Hill NC July 2013

RecA dynamics and SOS in *E. coli*: How cells regulate the DNA damage  
response

Mass General Hospital Cancer Research Center, Boston MA April 2013

Molecular Interactions in PriC-Mediated DNA Replication Restart (S.R. Wessel)

Keystone Symposia on Molecular and Cellular Biology, Alberta, Canada  
March 2013

RecA dynamics and SOS in *E. coli*: How cells regulate the DNA damage response

Research Center for Molecular Medicine, Vienna, Austria February 2013

RecA dynamics and the SOS response in *E. coli*: How cells limit damage induction

UMass Amherst, Massachusetts December 2013

To be or not to be: Factors that limit SOS expression in *Escherichia coli*  
Microbiology Departmental Seminar, March 2012

Requirements for constitutive SOS expression in DNA replication mutants of *E. coli*

Boston Bacterial Meeting, Harvard University, Cambridge, MA June 2011

Checkpoint formation at the replication factory: RecX, UvrD and RadA prevent RecA filaments leaving replication forks

Microbiology Departmental Seminar, September 2010

Replicative vs. non-replicative space: Novel mutations uncover unique environments for SOS expression

University of Pennsylvania AFCRI seminar, Philadelphia, PA July 2010

Novel RecA and UvrD mutations uncover unique environments for SOS expression: Replicative vs. non-replicative space

Boston Bacterial Meeting, Harvard University, Cambridge MA June 2010

Differential accessibility of replication fork substrates by RecA in *E. coli*

UMass Amherst Microbiology Departmental Retreat, February 2010

DNA damage response regulation in *E. coli*: Requirements for constitutive SOS in a *dnaG* mutant

Microbiology Departmental Seminar, September 2009

Genetic studies of the *E. coli* replisome: A new *dnaB* mutant and its significance in replication

Microbiology Departmental Seminar, October 2008

**3. Grant and Contract Support**

N/A

**4. Patent awards, cultivar releases and inventions**

N/A

**5. Other information appropriate to the discipline**

**i. Published Structures**

5WC3 – SpoIIIAG

DOI: 10.2210/pdb5wc3/pdb

3SXU – Structure of the *E. coli* SSB-DNA polymerase III interface.

DOI: 10.2210/pdb3sxu/pdb

**ii. Editorial Review Boards**

Editorial board, Genetics Society of America 2017

Editorial board, WW Norton and Co. 2016

Editorial board, The American Society for Microbiology (ASM) 2011

**iii. Professional Development**

**a. Pedagogy Training**

**New2OSU** (certification)

*Structured on existing literature, New2OSU is focused on impacting student success by accelerating the effectiveness of newer faculty. In collaborative cohorts, participants develop the knowledge and skills necessary to build inclusive, interactive, and instructionally sound learning environments to promote student engagement, retention, and deeper levels of learning. New2OSU partners with units across campus for participants to learn about OSU's policies and practices; our teaching and learning culture; and available resources.*

**New Faculty Foundations Teaching Training**

*Introduction to pedagogy (active learning strategies, classroom management, curriculum and assessment design)*

**WIC Faculty Seminar** (certification)

*The annual WIC Faculty Seminar focuses on learning best practices for teaching writing across the disciplines. Designed for faculty teaching WIC courses and faculty using writing in non-WIC*

*courses, the seminar is appropriate for all faculty who are interested in improving student learning through writing.*

## **b. PROFESSIONAL DEVELOPMENT AND LEADERSHIP TRAINING**

### **Social Justice Education Initiative Tier I and II (certification)**

*Oregon State University*

The Social Justice Education Initiative, or SJEI, provides facilitated learning opportunities and consultation that specifically support achieving inclusive excellence across all OSU endeavors.

### **Confronting Systemic Whiteness In Higher Education Faculty Seminar**

*Oregon State University*

A four-day intensive focused on raising the consciousness of faculty about the systemic and institutional discrimination that, given the current season, Black students, faculty and staff face in higher education.

### **Black Minds Matter**

*Oregon State University*

Black Minds Matter is a month-long public course designed to increase the national consciousness about issues facing Black boys and men in education. The course draws parallels between issues faced by Black males in society and the ways that Black minds are engaged in the classroom. Through this lens, we will engage research on Black students in education (from preschool to doctoral education), emphasizing strategies and practices that can support their success. Similar to the Black Lives movement, the course provides an affirmative statement that Black minds do matter. In particular, the course encourages educators to see their classrooms, offices, schoolyards, and campuses as sites for civil resistance.

### **OMSI Science Communication Fellow (certification)**

*Oregon State University/Oregon Museum of Science and Industry*

OMSI Science Communication Fellows are STEM professionals or industry and academic researchers, including faculty, graduate students, technicians, or other individuals in science, engineering, health, or technology related positions. After participating in specialized training, Fellows are certified by OMSI as current science ambassadors and skilled communicators. Fellows join a

community of STEM professionals passionate about helping public audiences engage with STEM in meaningful and relevant ways.

**Search Advocate** (certification)

*Oregon State University*

Each Search Advocate is a consultant/participant who advances inclusive excellence by asking questions to help committee members test their thinking, identifying and promoting practices that advance diversity and social justice, and minimizing the impacts of cognitive and structural biases. As external committee members, advocates are able to explore assumptions, norms, and practices that an internal member might not question. The search advocate plays a vital role in position development, recruitment, screening, interviews, references, evaluation, and integration of the new faculty or staff member into the institution. In partnership with the search chair, search committee members, and hiring official, the search advocate affirms OSU's commitment to inclusive excellence.

**Dialogue Facilitation Fellow** (certification)

*Oregon State University*

A term-long intensive training lab for dialogue facilitators. This professional learning seminar trains participants to raise confidence and capacity to facilitate cognitively and emotionally complex learning spaces; dynamically train facilitators to support strategic dialogic efforts and respond nimbly to emerging community needs; cultivate dialogic practices throughout diverse functional areas; grow and sustain a community of practice which maintains continued development for dialogue facilitation

**Inclusive Excellence at OSU (IE@OSU) fellow** (certification)

*Oregon State University*

A term-long intensive, funded by HHMI, that trains and challenges participants to incorporate equity and social justice into their curriculum and introduces them to social justice pedagogy.

**Career Champions**

*Oregon State University*

The "Career Champions" seminar is designed to prepare faculty and staff to support first-generation students, students of color, and students with high-financial need on their pathway to career. Involvement in this project is a unique opportunity to collaborate with faculty and staff across the university, gain

professional experience, and help shape a new program with potential to impact Oregon State students for years in the future.

## **D. SERVICE AND OUTREACH**

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### **1. University Service**

#### **i. Department/Unit**

1. CORE Values Committee, founding member, 2018-current
2. Department of Microbiology Scholarship Committee, 2018-current
3. Search Committee Chair, advisor search committee, 2019
4. Search committee member, advisor search committee, 2022
5. Honors Thesis Committee
  - a. Leone Davila
  - b. Emma Maddox
  - c. R. Hansani Kasthuriarachchi
  - d. Anna Laptova
6. Search Committee Chair, advisor search committee, 2022
7. Supplementary Academic Advisor, Summer-Fall 2022

#### **ii. University**

1. Community for the Advancement of Antiracist Instruction, founding member, 2020-current

The CAAI is designed as a professional development opportunity for instructors and TAs to take ownership of antiracist work in their teaching practice and beyond. The CAAI intends to create a space where instructors and TAs will have agency and feel empowered to explore antiracist teaching in a community of colleagues.

### **2. Service to the Profession**

- i. On editorial boards (see above, section C:5:ii)

### **3. Service to the Public (Professionally related)**

- i. OMSI Science Communication Fellow