



COUNCIL ON UNDERGRADUATE RESEARCH

## **2023-2024 Elections Biology Division: Councilor Slate**

**Position Purpose:** The CUR Council is a multidisciplinary body providing advisory input to the Board, so they have a broader perspective when making resource investment decisions. The Council serves in a communication capacity, surfacing key items arising from the Divisions, bridging the insight of the Division to the work of CUR as a whole, and serving as one means of information and resource dissemination from the central organization to the Divisions and members. The CUR Council is a newly developed body of volunteer leaders for this election cycle.

### **Needed Qualifications:**

- Strong communication skills
- Previously served as a Division Councilor is a plus, but not required
- Membership with CUR
- Can not be serving concurrently as a Division Representative

*There are 2 individuals running.*

*You may vote for both candidates presented to be elected as councilors for this division.*

Candidate information is presented on the following pages. Click on each candidate name below to be taken to their Information In the document.

- [Joyce Fernandes](#)
- [Karen Lee](#)

# Joyce Fernandes, Miami University

## *Biology Division Nominee*

### **NOMINEE STATEMENTS**

#### **Describe your leadership experience both within CUR and extramural.**

As a lead PI of an NSF award to improve retention in the Biological sciences (2008-2012), I worked with faculty across four departments to manage the recruitment, placement and professional development of cohorts of undergraduate students [8-10/year]. I helped to institutionalize two components of the award activities: (1) creation of the FYRE program [First Year Research Experience] to provide an early pathway into research. (2) collaboration with graduate students to develop a course that taught study skills to navigate introductory biology courses. A paper was published in CBE-Life Science Education [Hoskins et al 2017] resulting from this work. As director for undergraduate research at my institution since 2017, I have (i) developed programming that provides early access to undergraduate research through first year experiences; offered these experiences for institutional programs aimed at academic success and retention (ii) provided support for faculty, graduate students and staff to enhance their impact on undergraduate researchers (iii) facilitated the documentation of enrollments in independent study and research based courses (iv) established partnerships with institutional offices to showcase undergraduate research involvement. My involvement on the CUR-wide Advocacy committee (since 2014) and within the Biology division (since 2011) focusses on enabling councilors to be advocates for undergraduate research and to train our undergraduates to do the same. Since 2014, I have collaborated with colleagues across divisions to develop and offer professional development workshops on the topic of integrating research into the curriculum, through pre-conference workshops and institutes. I have been a voice for the engagement of graduate students and postdocs in the mission of CUR. I served as a rotating program officer at the National Science Foundation from 2012-2014, managing programs with a portfolio that totaled \$30M. These programs were cross cutting across multiple directorates, allowing me to participate in collaborative decisions and setting priorities.

#### **How will your skills help the Council successfully uphold its charge?**

Advisory input on resource investment decisions: Through my roles as faculty leader of my research group, director of undergraduate research, principal investigator on funded grants, and NSF program officer, I have had fiscal oversight in multiple arenas, and at multiple levels. Communication capacity: Through my role as director of undergraduate research and managing a small office of 1.5, I have engaged in partnerships with offices across the institution to raise the visibility of undergraduate research. This requires an alignment of vision, highlighting shared missions, and collaboration as a collective. At the 2024 showcase of undergraduate research at my institution, these collaborations and collective communication were displayed as posters highlighting faculty-student partnerships from each of the 6 colleges at my institution that were generated and publicized by University Communications and Marketing. Through my work at CUR to organize professional development workshops for early career faculty, graduate students and postdocs, I have demonstrated my commitment to communication across divisions, that benefits not only the divisions at CUR, but impacts stakeholders who are new to CUR as they engage in undergraduate research. Recommendations to the Board on Division creation, merging, and sunseting." My administrative roles at the institution and the National Science Foundation, as well as in the capacity of lead PI on grants and leading my own research lab, has provided me with opportunities to create yearly reports, reflect on the efficiencies of processes, projects and personnel and make decisions on focusing energies and resources on new projects, re-tooling current projects, or closing down others that are not productive. This experience will be useful to provide input to the CUR Board on creation, merging, and sunseting divisions.

**NOMINEE ABBREVIATED CV**

An abbreviated CV highlighting the candidate's accomplishments with respect to undergraduate research is available on the next page.

## **Joyce J Fernandes**

*Professor*, Department of Biology, Miami University Oxford, OH  
45056 e-mail: [fernanej@miamioh.edu](mailto:fernanej@miamioh.edu); Tel: 513-529-7211

### **APPOINTMENTS [partial listing]**

2022-present *Chair Elect*, Ohio Chapter of Project Kaleidoscope, an AACU STEM organization  
2017-present *Director*, Office of Research for Undergraduates, Miami University  
2011-present *Professor*, Miami University. Department of Biology.  
2012- 14 *Rotating Program Officer*, Div. of Biological Infrastructure, National Science Foundation  
2014- 2017 *Co-Chair* Advocacy Committee, Council on Undergraduate Research  
2017-2021 *Chair* Advocacy Committee, Council on Undergraduate Research  
2021-present *Member* Advocacy and partnerships Committee, Council on Undergraduate Research  
2011-present *Councilor*, *Division of Biology*. Council on Undergraduate Research  
2006- 2011 *Associate Professor*, Department of Zoology, Miami University, Oxford, OH  
2006- 2012 *Faculty Teaching Associate*, Center for Enhancement of Learning and Teaching. Miami University, Oxford, OH  
2005-06 *Associate Director*, *Science Education*. Graduate Teaching Center. Yale University. CT  
2005-06 *On leave from Miami University*  
1999-06 *Assistant Professor*, Department of Zoology, Miami University, Oxford, OH  
1993-99 *Associate Research Scientist and Postdoctoral Research Associate*. Department of Molecular, Cellular and Developmental Biology, Yale University. New Haven, CT

### **AWARDS**

2022-23: Scholars transforming research [STR] Council on Undergraduate Research  
2023-24: FASEB Howard Garrison Advocacy Fellowship

### **EDUCATION**

Ph.D. (1994) Tata Institute for Fundamental Research. India. (Developmental Biology)  
MS (1988) MS University, Baroda. India. (Microbiology)  
B.S (1986) University of Bombay, India. (Microbiology, Chemistry)

### **GRANTS**

#### **External Research Funding [partial listing; total \$1,212,551]**

2012-2017: R15: National Institutes of Child Health and Human Development. "Glial remodeling in *Drosophila*: proliferation, membrane outgrowth and nerve ensheathment" \$355,000.00. PI: Joyce J Fernandes.  
2022: Under Represented Student First Year Research Experience, \$9375. *Proctor and Gamble Higher Education Fund* PI: Joyce Fernandes, co-PI Carolyn Craig  
2011 (continued support) "URM: ASSURE – Achieving Success in Science through Undergraduate Research Experiences." \$90,945.00 National Science Foundation; *Division of Biological Infrastructure*. PI: Joyce J Fernandes.; co-PI: Phyllis Callahan. *Duration*: 2007- 2012.

### **PROFESSIONAL AFFILIATIONS**

Society for Neuroscience	American Society for Cell Biology
Genetics Society of America	American Association of Colleges and Universities
Sigma-Xi Scientific Research Society	
Council on Undergraduate Research	

### **SERVICE**

#### **University-level [partial listing]**

2022- present *Chair*, Senate Undergraduate Research Committee  
2020-present *Member*, *Equity Diversity and Inclusion Committee [EDIC-College of Arts and Science]*  
2016-present *Member*, Advisory Board for the NSF funded Louis Stokes Alliance for Minority Participation

## Scientific community

### Review Panels:

**2022** *Committee of Visitors*, National Science Foundation

2005-2012 *National Institutes of Health NIH- FO3A*

Pre- and post-doctoral applications; Molecular, Cellular and Developmental Neuroscience

2012-present *National Science Foundation*

### Professional Development Workshops Conducted:

2023: Lead organizer, CUR Beginning a Research Program in an Experimental Science Discipline at a Primarily Undergraduate Institution (PUI). *Council on Undergraduate Research*

2021: Lead Organizer, "Tuesdays in July"- A 4-part series on Beginning a Research program at a Primarily Undergraduate Institution. *Council on Undergraduate Research*

2020 Lead Organizer, *Planning and developing a successful research program at a Primarily Undergraduate institution*, Workshop for the Council on Undergraduate Research, June 28<sup>th</sup> 2020

2019 Lead Organizer, *"Integrating Research and Teaching at Primarily Undergraduate Institutions"*, Workshop for the Society for Neuroscience

## RELEVANT PUBLICATIONS (of 25)

\* Graduate Student, \*\* Undergraduate Student

1. Integrating Research into the Undergraduate Curriculum: 1. Early Research Experiences and Training Buffalari D<sup>#</sup>, Fernandes JJ<sup>#</sup>, Chase L, Lom B, McMurray MS, Morrison ME, Stavnezer AJ. <sup># equal first authorship.</sup> *Journal of Undergraduate Neuroscience Education*. 2020 VOLUME 19: ISSUE 1
2. Integrating Research into the Undergraduate Curriculum: 2. Scaffolding Research Skills and Transitioning toward Independent Research Morrison ME, Lom B, Buffalari D, Chase L, Fernandes JJ, McMurray MS, Stavnezer AJ. *Journal of Undergraduate Neuroscience Education*. 2020 VOLUME 19: ISSUE 1
3. Integrating Research into the Undergraduate Curriculum: Research Training in the Upper-level Neuroscience Curriculum. Chase L, McMurray M, Stavnezer AJ, Buffalari D, Fernandes JJ, Lom B, Morrison ME. *Journal of Undergraduate Neuroscience Education* 2020 VOLUME 19: ISSUE 1

## RECENT PRESENTATIONS [Undergraduate Research]

2023: Communicating research projects with general audiences: developing narratives through collaborative efforts across the institution

2023: Advocating for Undergraduate Research: What it is, Why it's important, and How to engage in it.

2021 Examining the academic success of under-represented student groups: *A collaboration between instructors and students*

## CURRICULUM DEVELOPMENT

**UNV 171/UNV 172:** First Year Research Experience 1-3 credit hours. I have developed the curriculum for this set of two courses, that is being used across multiple disciplines

## OTHER

In the capacity of the Director of Undergraduate research [50% administrative role] at my institution, I have responsibility for four strategic goals of my office

- (1) Introduce students to undergraduate research **earlier in their careers**, with an emphasis on inclusion of students from **underrepresented groups**.
- (2) Position the Office to **support undergraduate research efforts** across the institution.
- (3) Obtain **comprehensive documentation across divisions** about participation of undergraduates, graduate students, and faculty, in undergraduate research.
- (4) Increase **visibility of UGR on campus and off campus**.

# Karen Lee, George Mason University

## *Biology Division Nominee*

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### **NOMINEE STATEMENTS**

#### **Describe your leadership experience both within CUR and extramural.**

My career has been dedicated to providing opportunities for students to participate in research and creative activities. I spent 20 years as a biology faculty member at a small, rural, public PUI before moving to my current position in the campus-wide undergraduate research office of a large, public, urban, research university. At the University of Pittsburgh Johnstown, I was one of the founders of their campus-wide research symposium and was appointed their first undergraduate research coordinator. At George Mason University I run the direct student programming in the campus-wide undergraduate research office (OSCAR). I was a Biology Division Representative (Councilor) from 2004-2022 and was recently re-elected. During that time, I served on division and CUR-wide committees including the Biology Mentor Awards Committee, the Biology Small Grant Awards Committee (chairing for 2 years), the Nominations Committee, the CUR Fellows Committee, the CUR fellows task force, and served two terms as a member of the Nominations Vetting Committee, one year as chair. I was an appointed member of the task force which recommended changes in the CUR governance structure in 2006 and chaired the subcommittee which wrote the Nominations Vetting Committee Guidelines. I have reviewed for Posters on the Hill, NCUR, WCUR, SPUR, CUR Quarterly, and serve as an external reviewer for the CUR Program Review Service. At a CUR meeting several years ago I gathered a group of faculty from Virginia colleges and universities to talk about undergraduate research in Virginia. That meeting led to the formation of the Network for Undergraduate Research in Virginia (NURVa). I am a founding member and a member of the steering committee. Undergraduate research and creative activities and other experiential learning are keys part of education. No student who wants a research experience should be prevented from doing so by economic or other circumstances.

#### **How will your skills help the Council successfully uphold its charge?**

The newly created council is meant to be a bridge between the divisions and the board and provide the board with a broader perspective on important issues moving forward. The positions will require the ability to communicate effectively, listen to many points of view, and have a broad view of CUR. I have been involved in CUR governance for many years, through the addition of several new divisions and changes in the governance structure. I have chaired both CUR-wide and Division committees. I have a broad multidisciplinary view of CUR and of undergraduate research. I have worked at small undergraduate campuses and a large R1. My breadth of experience is well suited to the role of the council. To the role I bring my skill at creating new initiatives, starting with an idea, and soliciting input and feedback from a variety of sources until we reach a consensus. The founding of NURVa, the creation of OSCAR's Peer Leaders program, the redesign of one of our programs, and the development of an undergraduate research program at the University of Pittsburgh at Johnstown were all accomplished this way. I am good at generating and developing ideas and, more importantly, in listening to others' ideas on how to improve initiatives and incorporating those ideas. Listening and incorporating ideas from a variety of points of view will be essential for this role. I have extensive experience as a reviewer. Reviewing requires the ability to read or listen objectively, whether doing a program review, sitting on an NSF panel, or reviewing abstracts for NCUR. These skills will be useful when synthesizing different perspectives on CUR-wide issues.

### **NOMINEE ABBREVIATED CV**

An abbreviated CV highlighting the candidate's accomplishments with respect to undergraduate research is available on the next page.

## Curriculum Vitae for Karen T. Lee

Office of Student Scholarship,  
Creative Activities, and Research  
George Mason University  
4400 University Drive, MS: 1E2  
Fairfax, VA 22030

Johnson Center 228  
Email: [klee57@gmu.edu](mailto:klee57@gmu.edu)  
cell# 814-241-1419

### Education:

Ph.D. Biology (1994): Northeastern University, Boston, MA.  
B.A. Biological Sciences (1985): Mount Holyoke College. S. Hadley, MA.  
Williams-Mystic Program in American Maritime Studies, Mystic Seaport Maritime Museum, Fall 1983.

### Professional History:

#### **Assistant Director, Office of Student Scholarship, Creative Activities, and Research**

George Mason University June 2016-present  
Affiliate Faculty: Department of Environmental Science and Policy and  
Department of Biology; member of the Graduate Faculty College of Science,  
George Mason University September 2016-present

#### **Assistant/Associate Professor**

Department of Biology, University of Pittsburgh Johnstown July 1996- June  
2016. Tenure and promotion to Associate Professor granted April 2002.  
Undergraduate Research Coordinator: April 2008- June 2016

#### **Visiting Assistant Professor**

Department of Zoology, Connecticut College Sept. 1994 – June 1996

#### **Postdoctoral Teaching Fellow**

Department of Biology, Bryn Mawr College Sept. 1992-August 1994.

**Trainings and Workshops Completed:** CIMER Facilitation Entering Research, CIMER Facilitating Entering Mentoring, CITI Human Subjects Research, CITI Responsible Conduct of Research, UndocuAlly workshop, Safe Zone, Changing the Face of STEM, CUR Institutionalizing Undergraduate Research.

### Conference Presentations:

More than 30 conference presentations, including presentations at every CUR or URP conference since 2002.

### Refereed publications: (only those with \*undergraduate coauthor)

Lee, K.T. and J.L. Vespoli\*. 2015. Tracking color change in individual green crabs, *Carcinus maenas*. *Northeastern Naturalist* 22: 413-423.  
Dillon\*, B.A and K.T. Lee. 2002. Effect of abandoned mine drainage on crayfish distribution along a pH gradient. *Modern Approaches to Crustacean Biology: Proceedings of the 2000 Annual Meeting of the Crustacean Society*. Kluwer Academic Publishers.

- McKnight\*, A., L. Mathews\*, R. Avery\*, and K.T. Lee. 2000. Color morphology is correlated to distribution of green crabs in southern New England. *Crustaceana* 73:763-768.
- Mathews\*, L., A. McKnight\*, R. Avery\*, and K.T. Lee. 1999. Incidence of autotomy in New England populations of green crabs, *Carcinus maenas*, and an examination of the effect of claw autotomy on diet. *Jour. Crust. Biol.* 19:713-719.

**Service:**

**Professional:**

- Member: Council on Undergraduate Research (CUR); Biology Councilor, 2004 –2022, 2023-present; elected member Nominations Vetting Committee (2016-2019; 2019-2022), Chair Nominations Vetting Committee 2020-2021, CUR Fellows Task Force, 2022-2023; curriculum reviewer 2015-
- Founding member and member of the steering committee: Network for Undergraduate Research in Virginia (NURVA), 2018- present
- Guest editor *Northeastern Naturalist*, 2006
- Reviewer: *NSF panelist and ad hoc reviewer DUE, Scholarship and Practice of Undergraduate Research, Journal North American Benthological Society, Marine Ecology Progress Series, Behavioural Processes, Air, Water and Soil Pollution, Marine Biology, Northeastern Naturalist, CUR Quarterly.*

**University and Community Service:**

- George Mason University Office of Fellowships Goldwater Committee 2018-
- George Mason University Patriot Green Fund Committee, Faculty Chair 2017-
- George Mason University Career Influencers Network 2016-
- Pitt. Johnstown Undergraduate Research Coordinator 2008- 2016/Chair Pitt. Johnstown Symposium for the Promotion of Academic and Creative Enquiry, 2004-2016
- Reviewer, Pitt. Central Research Development Fund Small Grants, 1999, 2004, 2013
- Presented Workshop on aquatic invertebrates: Stackhouse Park, 2009, 2010, 2012.
- Visiting Scientist and/or Science Fair Judge, Westmont Elementary School Science in School Week, 2000-2007, 2011, 2014.
- Pitt. Johnstown Faculty Senate President 2008-2009; President Elect 2007-2008; Acting President, Spring 2004; Vice President 2003-2005
- At Large Representative, Pitt. Johnstown Faculty Senate Council, 1998-2000; 2002-2003.
- At-large representative Pitt. Johnstown Campus Status Committee; 2008
- Pitt. Johnstown Preprofessional Committee, 1997-2007.
- Member of more than a dozen search committees (George Mason and Pitt. Johnstown) and peer review committees for promotion or contract renewal both in and outside of tenure stream at Pitt. Johnstown.