

# Cell and Molecular Biology (CEMB)

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Douglas Rhoads  
Program Director  
Email: drhoads@uark.edu

Adnan Alrubaye  
Associate Director  
Email: aakhalaf@uark.edu

Phyllis Howell  
Assistant to the Associate/Assistant Deans  
213 Gearhart  
479-718-1183  
Email: pahowell@uark.edu

Cell and Molecular Biology Website (<https://cell.uark.edu>)

**Degrees Conferred:**  
M.S., Ph.D. (CEMBMS, CEMBPH)

**Program Description:** Cell and Molecular Biology is an interdisciplinary graduate program incorporating faculty from 16 departments and four colleges in the University of Arkansas system. Graduate studies may be pursued in any area of cell or molecular biology for which there is faculty expertise.

**Primary Areas of Faculty Research:** The study of various aspects of cell function, structure, metabolism, and chemical functions on, within, and between cells; the study of biomolecular interactions; the relationships between biomolecular reactions and observed cellular properties; molecular genetics, protein chemistry, biological structures; as well as the use of molecular detection methods to detect or characterize biological states in prokaryotes, eukaryotes, systematics, forensics, or health care.

## M.S. in Cell and Molecular Biology

**Admission to Degree Program:** Applicants must submit transcripts, letters of recommendation, and the CEMB Applicant Profile. Applicants may also wish to present Graduate Record Examination scores for the Verbal and Quantitative tests, and the GRE writing instrument, to enhance their credentials. For admission, a student must secure a sponsoring faculty member. Individual faculty may require additional materials (GRE, writing examples, etc.). The sponsoring faculty member will submit probable thesis subjects to the Program Committee prior to acceptance of the student. Once an applicant has been approved by the Program Committee, the program submits the application for admission to the Graduate School. Admitted and sponsored students will be responsible for the Graduate School's application fee unless paid by the sponsoring faculty member. When deemed appropriate by the Director and Program Advisory Committee, the Cell and Molecular Biology program will allow a qualified applicant to be admitted to complete research rotations through up to three designated research laboratories during his/her first semester enrolled in the Cell and Molecular Biology graduate program. Admission for research rotations is contingent upon: 1) Stipend support has been guaranteed for the student during the rotation semester; and 2) the Cell and Molecular Biology faculty designated for the rotation have agreed to host the student during this period. After the rotation period, the student must obtain a faculty research sponsor.

**Requirements for the Master of Science Degree:** For the M.S. degree, the Graduate School and/or the program requires 30 semester hours, a comprehensive examination, a cumulative GPA of 3.00, and a minimum residence of 30 weeks. Any student who receives a grade of "F" in any graduate-level course will be subject to dismissal following review by the Program Advisory Committee. All candidates for the M.S. must complete a minimum of 24 hours of post-baccalaureate graduate credits not including seminar and thesis credit hours (18 hours plus CHEM 58103 and CHEM 58403) in Cell and Molecular Biology-approved courses and 6 hours of thesis research. In addition, all candidates who are considered full-time must enroll every fall and spring semester in a Cell and Molecular Biology designated seminar course. Graduate advisory and thesis committees will consist of at least three program faculty representing at least two different departments. With the approval of the student's Graduate Advisory Committee, up to 6 hours of alternative graduate courses may be used to satisfy the 24 hours of course work. All M.S. candidates must complete a thesis based on their research and pass a comprehensive oral examination based on the thesis. Examination and approval of the thesis is by the student's Graduate Thesis Committee. Just prior to the Final Examination, the M.S. candidate will present a public seminar announced to all Cell and Molecular Biology faculty and students.

Students should also be aware of Graduate School requirements with regard to master's degrees (<http://catalog.uark.edu/graduatecatalog/degreerequirements/#mastersdegreestext>).

## Ph.D. in Cell and Molecular Biology

**Admission to Degree Program:** All applicants must have a B.A. or B.S. in a basic or applied science. Applicants must submit transcripts, letters of recommendation, and the CEMB Applicant Profile. Applicants may also wish to present Graduate Record Examination scores for the Verbal and Quantitative tests, and the GRE writing instrument, to enhance their credentials. GRE scores are required to compete for special graduate school fellowships. For consideration for admission, a student must secure a sponsoring faculty member. Individual faculty may require additional materials (GRE, writing examples, etc.). The sponsoring faculty member will submit probable thesis subjects to the Program Committee prior to acceptance of the student. Once an applicant has been approved by the Program Committee, the program submits the application for admission to the Graduate School. Admitted and sponsored students will be responsible for the Graduate School's application fee unless paid by the sponsoring faculty member. When deemed appropriate by the Director and Program Advisory Committee, the Cell and Molecular Biology program will allow a qualified applicant to be admitted to complete research rotations through up to three designated research laboratories during his/her first semester enrolled in the Cell and Molecular Biology graduate program. Admission for research rotations is contingent upon:

1. Stipend support has been guaranteed for the student during the rotation semester; and
2. the Cell and Molecular Biology faculty designated for the rotation have agreed to host the student during this period.

After the rotation period, the student must obtain a faculty research sponsor.

**Requirements for the Doctor of Philosophy Degree:** Candidates for the Ph.D. must complete 18 hours of dissertation research. Students wishing to bypass the M.S. for a Ph.D. must complete the same 24 hours of course work in Cell and Molecular Biology-approved course work as for the M.S. degree, plus a minimum of 18 hours of dissertation research. In addition, all candidates who are considered full-time must enroll every fall

and spring semester in a Cell and Molecular Biology designated seminar course. Graduate advisory and dissertation committees will consist of at least four program faculty representing at least two different departments. With the approval of the student's Graduate Advisory Committee, up to 6 hours of alternative graduate courses may be used to satisfy the 24 hours of course work. Any student who receives a grade of "D" or "F" in any graduate-level course will be subject to dismissal following review by the Program Advisory Committee. Any student receiving more than two grades of "C" in courses of two or more credit hours is no longer eligible for the Ph.D., but may elect to complete an M.S. degree in the program

Candidates for the Ph.D. who do not meet the requirement for proficiency in spoken English at the time of admission must demonstrate proficiency in spoken English through a university-accepted examination prior to their candidacy exam. English proficiency courses are available at the University of Arkansas to help in this effort. Meeting this language requirement will not only prepare candidates for communication in oral examinations, research groups, national meetings, and interviews, but will also (in conjunction with the written language evaluation) enable students to serve as teaching assistants, providing an alternative mechanism for support in the event that other support is unavailable.

All Ph.D. students must complete the Candidacy Examination. The Candidacy Examination for the Ph.D. will consist of the writing of an original research proposal using the guidelines for a federally funded post-doctoral fellowship (e.g., NIH, NSF, USDA) and an oral examination over the proposal, related subjects, and general knowledge. The written and oral portions of the candidacy examination must be completed within the Ph.D. candidate's first 29 months in this program.

Students in the Ph.D. track will, in collaboration with their Graduate Advisory Committee, select a topic and format for their research proposal within the two years in the program. The proposal topic is to be within the field of Cell and Molecular Biology but on a subject distinct from the student's Ph.D. research. The written proposal is submitted to the student's Graduate Advisory Committee for evaluation and approval or rejection. Students may submit the proposal more than once. Upon completion of an approved proposal the candidate must then pass an oral examination by the student's Graduate Advisory Committee covering the proposal, related subjects as determined by the examining committee, and general knowledge relevant to research in Cell and Molecular Biology.

Only upon satisfactory completion of the proposal and oral examination, as judged by the student's Graduate Advisory Committee, does a student become a candidate for the Ph.D. Students who fail to complete the candidacy examination in the allotted time will be dropped from the Ph.D. program but may choose to become candidates for the M.S. The Ph.D. is granted not only for fulfillment of technical requirements but also for development and possession of critical and creative thought abilities in the areas of Cell and Molecular Biology. Evidence of these abilities is given through the completion of a dissertation. The student's Graduate Dissertation Committee will evaluate the dissertation and conduct an oral Final Examination of the candidate over the dissertation and any other subject matter deemed appropriate by the committee. Administration of the final oral defense will follow the Graduate School guidelines outlined in the Graduate Catalog. Just prior to the Final Examination, the Ph.D. candidate will present a public seminar announced to all CEMB faculty and students.

Students should also be aware of Graduate School requirements with regard to doctoral degrees (<http://catalog.uark.edu/graduatecatalog/degreerequirements/#phdandedddgreestext>).

## Graduate Faculty

### A

**Adams, Paul D.**, Ph.D. (Case Western Reserve University), B.S. (Louisiana State University), Professor, Department of Chemistry and Biochemistry, 2006, 2021.

**Alrubaye, Adnan A.**, Ph.D., M.Ed. (University of Arkansas), M.Sc. (University of Baghdad), Assistant Professor, Department of Poultry Science, Department of Biological Sciences, 2016, 2021.

**Alverson, Andrew James**, Ph.D. (University of Texas at Austin), M.S. (Iowa State University), B.S. (Grand Valley State University), Associate Professor, Department of Biological Sciences, 2012, 2018.

**Atungulu, Griffiths Odhiambo**, Ph.D., M.S. (Iwate University, Japan), B.S. (Jomo Kenyatta University of Agriculture and Technology, Kenya), Associate Professor, Department of Food Science, 2013, 2019.

### B

**Balachandran, Kartik**, Ph.D., M.S. (Georgia Institute of Technology), B.S. (National University of Singapore), Associate Professor, Department of Biomedical Engineering, 2012, 2018.

**Baum, Jamie I.**, Ph.D., B.S. (University of Illinois-Urbana-Champaign), Associate Professor, Department of Food Science, 2011, 2018.

**Beitle, Robert R.**, Ph.D., M.S.Ch.E., B.S.Ch.E. (University of Pittsburgh), Professor, Ralph E. Martin Department of Chemical Engineering, Jim L. Turpin Professorship in Chemical Engineering, 1993, 2006.

**Bluhm, Burt H.**, Ph.D., M.S. (Purdue University), B.S. (University of Oklahoma), Associate Professor, Department of Entomology and Plant Pathology, 2008, 2014.

**Bottje, Walter G.**, Ph.D. (University of Illinois-Urbana-Champaign), M.S. (Southern Illinois University), B.S. (Eastern Illinois University), Professor, Department of Poultry Science, 1985, 1993.

**Burgos, Nilda Roma**, Ph.D., M.S. (University of Arkansas), B.S. (Visayas State College of Agriculture-Philippines), Professor, Department of Crop, Soil and Environmental Sciences, 1998, 2010.

### C

**Catanzaro, Donald G.**, Ph.D. (University of Arkansas), A.B. (University of California, Los Angeles), Research Assistant Professor, Department of Biological Sciences, 2014.

**Ceballos, Ruben M.**, Ph.D. (University of Montana), M.A. (University of Alabama-Birmingham), B.S. (University of Alabama-Huntsville), Assistant Professor, Department of Biological Sciences, 2016.

**Chen, Jingyi**, Ph.D. (University of Washington), M.A. (State University College at Buffalo), B.S. (Zhongshan University), Professor, Department of Chemistry and Biochemistry, 2010, 2019.

**Correll, Jim**, Ph.D., M.S. (University of California-Berkeley), B.S. (Pennsylvania State University), Distinguished Professor, Department of Entomology and Plant Pathology, 1989, 2018.

### D

**Douglas, Marlis R.**, Ph.D., M.S., B.S. (University of Zurich), Professor, Department of Biological Sciences, Bruker Life Sciences Chair, 2012.

**Douglas, Michael Edward**, Ph.D. (University of Georgia), M.S., B.S. (University of Louisville), Professor, Department of Biological Sciences, 21st Century Chair in Global Change Biology, 2011.

**Dowling, Ashley Patrick Gregg**, Ph.D. (University of Michigan-Ann Arbor), B.S. (University of Arizona), Professor, Department of Entomology and Plant Pathology, 2008, 2019.

**Dridi, Sami**, Ph.D., M.S. (National Polytechnic Institute of Lorraine, France), B.S. (Superior Institute of Mateur, Tunisia), Professor, Department of Poultry Science, 2013, 2018.

**Du, Yuchun**, Ph.D. (Kagoshima University, Japan), B.S. (Shaanxi University of Technology, China), Associate Professor, Department of Biological Sciences, 2007, 2013.

**Durdik, Jeannine M.**, Ph.D. (Johns Hopkins University), B.S. (Purdue University), Professor, Department of Biological Sciences, 1994, 2004.

## E

**Egan, Martin J.**, Ph.D., B.Sc. (University of Exeter, United Kingdom), Associate Professor, Department of Entomology and Plant Pathology, 2016, 2022.

**Erf, Gisela F.**, Ph.D. (Cornell University), M.S., B.S. (University of Guelph, Canada), Professor, Department of Poultry Science, Avian Immunology Professorship, 1994, 2004.

**Etges, William J.**, Ph.D. (University of Rochester), M.S. (University of Georgia), B.S. (North Carolina State University), Professor, Department of Biological Sciences, 1987, 2004.

**Evans, Timothy A.**, Ph.D. (Indiana University), B.S. (Slippery Rock University), Associate Professor, Department of Biological Sciences, 2013, 2019.

**Evans-White, Michelle Allayne**, Ph.D. (University of Notre Dame), M.S., B.S. (Kansas State University), Professor, Department of Biological Sciences, 2008, 2018.

## F

**Fan, Chenguang**, Ph.D. (Iowa State University), B.S. (Nanjing University), Associate Professor, Department of Chemistry and Biochemistry, 2016, 2022.

**Forbes, Kristian M.**, Ph.D. (University of Jyväskylä), M.P.H. (Latrobe University), B.Sc. (Latrobe University), Assistant Professor, Department of Biological Sciences, 2018.

**Fritsch, Ingrid**, Ph.D. (University of Illinois-Urbana-Champaign), B.S. (University of Utah), Professor, Department of Chemistry and Biochemistry, 1992, 2005.

## G

**Gibson, Kristen Elizabeth**, Ph.D. (Johns Hopkins University), B.S. (University of Central Florida), Professor, Department of Food Science, 2012, 2022.

**Gogglin, Fiona**, Ph.D. (University of California-Davis), B.S. (Cornell University), Professor, Department of Entomology and Plant Pathology, 2001, 2011.

**Greene, Nicholas P.**, Ph.D. (Texas A&M University), M.S., B.S. (University of South Carolina), Professor, Department of Health, Human Performance and Recreation, 2013, 2022.

## H

**Hargis, Billy M.**, Ph.D., D.V.M. (University of Minnesota-Twin Cities), M.S. (University of Georgia), B.S. (University of Minnesota), Distinguished Professor, Department of Poultry Science, Sustainable Poultry Health Chair, 2000, 2017.

**Harris, Leonard**, Ph.D. (Cornell University), B.S. (University of Colorado, Boulder), Assistant Professor, Department of Biomedical Engineering, 2020.

**Henry, Ralph Leroy**, Ph.D., M.S. (Kansas State University), B.S.E. (University of Kansas), Distinguished Professor, Department of Biological Sciences, W.M. Keck Endowed Professorship, 1996, 2012.

**Hestekin, Christa**, Ph.D. (Northwestern University), B.S.Ch.E. (University of Kentucky), Associate Professor, Ralph E. Martin Department of Chemical Engineering, Ansel and Virginia Condray Endowed Professorship in Chemical Engineering, 2006, 2013.

**Hestekin, Jamie A.**, Ph.D. (University of Kentucky), B.S.Ch.E. (University of Minnesota-Duluth), Professor, Ralph E. Martin Department of Chemical Engineering, Maurice E. Barker Chair in Chemical Engineering, 2006, 2017.

**Heyes, Colin David**, Ph.D. (Georgia Institute of Technology), B.S. (Loughborough University), Professor, Department of Chemistry and Biochemistry, 2008, 2021.

**Huang, Yan**, Ph.D. (University of Wyoming), M.S. (Dankook University), B.S. (China Agricultural University), Associate Professor, Department of Animal Science, 2015.

## I

**Ivey, Mack**, Ph.D., B.S. (University of Georgia), Associate Professor, Department of Biological Sciences, 1992, 1998.

**Iyer, Shilpa**, Ph.D. (University of Georgia), M.Sc., B.Sc. (University of Pune, India), Assistant Professor, Department of Biological Sciences, 2016.

## J

**Jensen, Hanna Katariina**, Ph.D. (University of Oulu, Finland), Research Assistant Professor, Department of Biomedical Engineering, 2015.

## K

**Kilyanek, Stefan M.**, Ph.D., M.S. (University of Chicago), B.S. (Grand Valley State University), Associate Professor, Department of Chemistry and Biochemistry, 2014, 2019.

**Kim, Jin-Woo**, Ph.D. (Texas A&M University), M.S. (University of Wisconsin-La Crosse), B.S. (University of Iowa), Professor, Department of Biological and Agricultural Engineering, 2001, 2011.

**Korth, Ken L.**, Ph.D. (North Carolina State University), B.S. (University of Nebraska), Professor, Department of Entomology and Plant Pathology, 1999, 2009.

**Kral, Timothy Alan**, Ph.D. (University of Florida), B.S. (John Carroll University), Professor, Department of Biological Sciences, 1981, 2008.

**Kuenzel, Wayne J.**, Ph.D. (University of Georgia), M.S., B.S. (Bucknell University), Professor, Department of Poultry Science, 2000.

**Kwon, Young Min**, Ph.D. (Texas A&M University), M.S., B.S. (Seoul National University), Professor, Department of Poultry Science, 2002, 2016.

## L

**Lay, Jackson**, Ph.D. (University of Nebraska-Lincoln), Professor, Department of Chemistry and Biochemistry, 2002.

**Lee, Sun-Ok**, Ph.D., M.S. (Iowa State University), M.S., B.S. (Dongduk Women's University, South Korea), Associate Professor, Department of Food Science, 2008, 2016.

**Lehmann, Michael Herbert**, Ph.D., Diploma in Biology (Philipps University of Marburg, Germany), Professor, Department of Biological Sciences, 2002, 2018.

**Leong, Josiah**, Ph.D. (Stanford University), B.A. (University of California, Berkeley), Assistant Professor, Department of Psychological Science, 2020.

**Lessner, Daniel J.**, Ph.D. (University of Iowa), B.S. (University of Wisconsin-Stevens Point), Professor, Department of Biological Sciences, 2008, 2020.

**Lewis, Jeffrey A.**, Ph.D. (University of Wisconsin-Madison), B.S. (University of California-Santa Barbara), Associate Professor, Department of Biological Sciences, 2013, 2020.

**Li, Jiali**, Ph.D., M.S. (The City College of the City University of New York), M.S. (University of Science and Technology of China), B.S. (Hei Long Jiang University), Professor, Department of Physics, 2002, 2016.

**Li, Yanbin**, Ph.D. (Pennsylvania State University), M.S. (University of Nebraska-Lincoln), B.S. (Shenyang Agricultural University), Distinguished



Professor, Department of Biological and Agricultural Engineering, Tyson Endowed Chair in Biosensing Engineering, 1989, 2003.

## M

**McIntosh, Matt**, Ph.D. (Pennsylvania State University), B.A. (Virginia Tech), Professor, Department of Chemistry and Biochemistry, 1996, 2011.

**McNabb, David S.**, Ph.D. (Louisiana State University Health Sciences Center), B.S. (University of Texas at Arlington), Associate Professor, Department of Biological Sciences, 2000, 2006.

**Millett, Francis**, Ph.D. (Columbia University), B.S. (University of Wisconsin), Distinguished Professor, Department of Chemistry and Biochemistry, 1972, 2003.

**Moradi, Mahmoud**, Ph.D. (North Carolina State University), M.S., B.S. (Sharif University of Technology), Professor, Department of Chemistry and Biochemistry, 2015, 2023.

**Murach, Kevin A.**, Ph.D. (Ball State), M.S. (James Madison University), B.S. (University of North Carolina), Assistant Professor, Department of Health, Human Performance and Recreation, 2021.

## N

**Nakanishi, Nagayasu**, Ph.D. (University of California, Los Angeles), B.S. (University of California, San Diego), Assistant Professor, Department of Biological Sciences, 2017.

**Nayani, Karthik**, Ph.D. (Georgia Institute of Technology), B.S.Ch.E. (Indian Institute of Technology, Kanpur), Assistant Professor, Ralph E. Martin Department of Chemical Engineering, 2020.

**Nelson, Christopher**, Ph.D. (Vanderbilt University), Assistant Professor, Department of Biomedical Engineering, 2019.

## P

**Paré, Adam C.**, Ph.D. (University of California, San Diego), B.S. (Cornell University), Assistant Professor, Department of Biological Sciences, 2019.

**Patitz, Matthew J.**, Ph.D., M.S., B.S. (Iowa State University), Associate Professor, Department of Electrical Engineering and Computer Science, 2012, 2018.

**Pereira, Andy**, Ph.D. (Iowa State University), M.S. (Indian Agricultural Research Institute, India), B.Sc.Ag. (Govind Ballabh Pant University of Agriculture and Technology, India), Professor, Department of Crop, Soil and Environmental Sciences, Anheuser-Busch and Arkansas Wholesalers Professorship in Molecular Genetics, 2011.

**Pinto, Ines**, Ph.D. (Louisiana State University Health Sciences Center), M.S., B.S. (University of Chile), Associate Professor, Department of Biological Sciences, 2000, 2006.

## Q

**Qian, Xianghong**, Ph.D., M.Phil. (George Washington University), B.S. (Nanjing University, P.R. China), Professor, Department of Biomedical Engineering, 2011, 2016.

**Quinn, Kyle P.**, Ph.D. (University of Pennsylvania), B.S. (University of Wisconsin), Assistant Professor, Department of Biomedical Engineering, 2014.

## R

**Rajaram, Narasimhan**, Ph.D. (University of Texas, Austin), B.E. (Anna University, India), Assistant Professor, Department of Biomedical Engineering, 2014.

**Rao, Raj R.**, Ph.D. (University of Georgia), M.S. (University of Texas), M.Sc., B.E. (Birla Institute of Technology and Sciences, India), Professor, Department of Biomedical Engineering, 2016.

**Rhoads, Douglas Duane**, Ph.D. (Kansas State University), M.A., B.A. (Wichita State University), University Professor, Department of Biological Sciences, 1990, 2006.

**Rupe, John C.**, Ph.D., M.S. (University of Kentucky), B.S. (Colorado State University), University Professor, Department of Entomology and Plant Pathology, 1984, 2019.

## S

**Sakon, Joshua**, Ph.D. (University of Wisconsin-Madison), B.S. (Southern Oregon University), Professor, Department of Chemistry and Biochemistry, 1997, 2016.

**Samsonraj, Rebekah M.**, Ph.D. (Cornell University), B.S. (University of Colorado, Boulder), Assistant Professor, Department of Biomedical Engineering, 2020.

**Shi, Ainong**, Ph.D. (North Carolina State University), M.S. (Graduate School of Chinese Academy of Agricultural Sciences), B.S. (Zhejiang University), Associate Professor, Department of Horticulture, 2013, 2019.

**Song, Young Hye**, Ph.D. (Cornell University), Assistant Professor, Department of Biomedical Engineering, 2019.

**Srivastava, Vibha**, Ph.D. (Jawaharlal Nehru University, New Delhi), M.S. (Govind Ballabh Pant University of Agriculture and Technology), B.S. (D.E.I. University), Professor, Department of Crop, Soil and Environmental Sciences, 2001, 2012.

**Stenken, Julie A.**, Ph.D. (University of Kansas), B.S. (University of Akron), Professor, Department of Chemistry and Biochemistry, 21st Century Chair of Proteomics, 2007.

**Stephenson, Steven Lee**, Ph.D., M.S. (Virginia Polytechnic Institute and State University), B.S. (Lynchburg College), Research Professor, Department of Biological Sciences, 2003.

**Sun, Xiaolun**, Ph.D., M.S. (Virginia Polytech Institute and State University), B.S. (Southern China Agricultural University), Associate Professor, Department of Poultry Science, 2016, 2023.

**Szalanski, Allen Lawrence**, Ph.D. (University of Nebraska-Lincoln), M.S. (Kansas State University), B.S. (University of Manitoba), Professor, Department of Entomology and Plant Pathology, 2001, 2011.

## T

**Thallapuranam, Suresh**, Ph.D. (Osmania University), Professor, Department of Chemistry and Biochemistry, 2003, 2015.

**Tian, Ryan**, Ph.D. (University of Connecticut), B.S. (Fudan University, Shanghai), Professor, Department of Chemistry and Biochemistry, 2004, 2023.

**Tipsmark, Christian K.**, Ph.D., M.S. (University of Southern Denmark), Associate Professor, Department of Biological Sciences, 2010, 2016.

**Trudo, Sabrina P.**, Ph.D. (University of Washington), B.S. (Brigham Young University), Associate Professor, School of Human Environmental Sciences, Twenty First Century Endowed Chair in Human Environmental Sciences, 2015.

**Tzanetakakis, Ioannis E.**, Ph.D. (Oregon State University), M.S., B.S. (Agricultural University of Athens, Greece), Professor, Department of Entomology and Plant Pathology, 2008, 2016.

## W

**Wang, Ya-Jane**, Ph.D. (Iowa State University), M.S. (University of Minnesota-Twin Cities), B.S. (National Taiwan University), Professor, Department of Food Science, 1999, 2009.

**Wang, Yong**, Ph.D., M.S. (University of California, Los Angeles), B.S. (University of Science and Technology of China), Associate Professor, Department of Physics, 2022.

**Washington, Tyrone A.**, Ph.D., B.S. (University of South Carolina at Columbia), Associate Professor, Department of Health, Human Performance and Recreation, 2011, 2018.

**Westerman, Erica L.**, Ph.D. (Yale University), M.Sc. (University of New Hampshire), B.S. (Yale University), Assistant Professor, Department of Biological Sciences, 2016.

**Wickramasinghe, Ranil**, Ph.D. (University of Minnesota-Twin Cities), M.S., B.S. (University of Melbourne, Australia), Distinguished Professor, Ralph E. Martin Department of Chemical Engineering, Ross E. Martin Chair in Emerging Technologies, 2011, 2021.

**Wilkins, Charles L.**, Ph.D. (University of Oregon), B.S. (Chapman College), Distinguished Professor, Department of Chemistry and Biochemistry, 1998.

**Wolchok, Jeffrey Collins**, Ph.D. (University of Utah), M.S., B.S. (University of California at Davis), Associate Professor, Department of Biomedical Engineering, 2011, 2017.

**Worthington, Margaret L.**, Ph.D. (North Carolina State University), M.S. (University of California-Davis), B.S. (Duke University), Associate Professor, Department of Horticulture, 2016, 2022.

## Z

**Zhang, Qingyang**, Ph.D. (Northwestern University), M.S. (Loyola University–Chicago), B.S. (Beijing Normal University), Associate Professor, Department of Mathematical Sciences, 2015, 2021.

**Zhang, Wen**, Ph.D. (Purdue University), M.S. (University of Kansas), Associate Professor, Department of Civil Engineering, 2011, 2018.

**Zhao, Jiangchao**, Ph.D. (University of Wisconsin-Madison), M.S., B.S. (China Agricultural University), Associate Professor, Department of Animal Science, 2015, 2019.

**Zhuang, Xuan**, Ph.D. (University of Illinois Urbana-Champaign), Assistant Professor, Department of Biological Sciences, 2021.

## Courses

### **CEMB 5900V. Special Topics in Cell and Molecular Biology. 1-6 Hour.**

Consideration of new areas in Cell and Molecular Biology not yet treated adequately in textbooks or in other courses. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer) May be repeated for up to 6 hours of degree credit.

### **CEMB 59101. Seminar in Cell and Molecular Biology. 1 Hour.**

Discussion of current topics in Cell and Molecular Biology. All graduate students in the Cell and Molecular Biology degree program must enroll every fall and spring semester in this course or an approved alternate seminar course. Prerequisite: Graduate standing. (Typically offered: Fall and Spring) May be repeated for degree credit.

### **CEMB 6000V. Master's Thesis. 1-6 Hour.**

Master's thesis. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer) May be repeated for degree credit.

### **CEMB 7000V. Doctoral Dissertation. 1-18 Hour.**

Doctoral dissertation. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer) May be repeated for degree credit.