

Joy K. Ward

**Provost and Executive Vice President
Professor, Department of Biology
Case Western Reserve University**

EDUCATION

1997	Ph.D. Department of Botany	Duke University
1994	M.S. Department of Botany	Duke University
1991	B.S. Department of Biology	Penn State University

LEADERSHIP POSITIONS

2024—Present	Provost and Executive Vice President: Case Western Reserve University
2023—2024	Interim Provost and Executive Vice President: Case Western Reserve University
2020—2023	Dean of the College of Arts & Sciences: Case Western Reserve University
2017—2020	Associate Dean of Research: College of Liberal Arts and Sciences, University of Kansas (KU)
2014—2015	Senior Administrative Fellow: Training and engagement in higher education leadership (KU)

ACADEMIC POSITIONS

2020—Present	Professor (with tenure) Department of Biology, Case Western Reserve University
2015—2020	Dean's Professor (with tenure) Highest honor bestowed by the Dean for excellence in research (KU)
2015—2020	Professor (with tenure) Department of Ecology & Evolutionary Biology (KU)
2009—2015	Associate Professor (with tenure) Department of Ecology & Evolutionary Biology (KU)
2006—2015	Inaugural Thelma and Edward Wohlgemuth Chair Endowed Chair for early-career faculty (KU)
2003—2009	Assistant Professor (tenure-track) Department of Ecology & Evolutionary Biology (KU)
1998—1999	American Post-doctoral Fellow, American Association of University Women (AAUW)
1998—2003	Post-doctoral Researcher, University of Utah, Department of Biology

HONORS and AWARDS

2020—Present	Fellow of the American Association for the Advancement of Science
2022	Penn State’s Outstanding Science Alumni Award
2017	University Scholarly Achievement Award: Highest honor bestowed by the Chancellor for research in STEM (KU)
2016	University of Kansas Women of Distinction Award
2015	K. Barbara Schowen Undergraduate Research Mentor Award (KU)
2011	Featured Scientist in Kansas history: Ad Astra Foundation
2010—Present	Kavli Fellow: Selected by the Kavli Board and the National Academy of Sciences
2009	Presidential Early Career Award for Scientists and Engineers (PECASE); Conferred by President Obama (January 2010) in the White House: “ <i>highest honor bestowed by the United States government on outstanding scientists and engineers in the early stages of their independent research careers</i> ” — White House press release
2009	KU Stars Award: Lawrence, KS Chamber of Commerce
2008—2013	National Science Foundation CAREER Award
1997	Perry Prize: Dissertation of highest distinction, Duke University, Department of Botany
1991	Hammond Science Scholarship: Penn State University (PSU)
1991	Amos William and Annie Martha Unger Memorial Scholarship (PSU)
1990	NASA Space Life Science Training Program (national competition); Ten-week life sciences training program at the Kennedy Space Center
1988	Pennsylvania State Fair Queen Scholarship: Funded a portion of undergraduate tuition

NATIONAL LEADERSHIP ROLES

2021—Present	Advisory Committee Chair: Earth and Biological Sciences Directorate, Pacific Northwest National Laboratory
2021—Present	Advisory Committee: Pacific Northwest National Laboratory (advises the entire national lab on issues of national importance)
2019	Invited panel member: National Academy of Sciences (NAS): 30 th Anniversary of the <i>Kavli Frontiers of Science</i> (with Marcia McNutt, Bruce Alberts, Steve Chu and Juan Gilbert) http://www.nasonline.org/programs/kavli-frontiers-of-science/past-symposia/2019-30th-panel.html
2019	Advisory Committee Chair: Pacific Northwest National Laboratory <i>PREMIS: Predicting Ecosystem Resilience through Multi-scale and Integrative Science</i> (\$15M initiative)
2018	Committee of Visitors: National Science Foundation (NSF): Reviewed the entire Division of Integrative Organismal Systems (IOS)

- 2015—2019 **Co-Chair (2017—2019) and Vice-Chair (2015—2017)**
Gordon Conference: *CO₂ Assimilation in Plants: Genome to Biome*
(elected at the international level by peers)
- 2014 Invited attendee and speaker at the Merrill Leadership Conference;
Sponsored by Merrill Advanced Studies: *Planning for Future Research in
Public Universities in Uncertain Times*
- Resulting Conference Publication:**
Ward JK. 2014. Enhancing the success of early career faculty in STEM
fields during uncertain times. In ML Rice, Merrill Advanced Studies
Center. *Planning for Future Research in Public Universities in Uncertain
Times* pp. 158-165
- 2012—2013 **Member of a U.S. delegation to Uzbekistan**
Sponsored by the American Association for the Advancement of Science
(AAAS) and the U.S. State Department; Tashkent, Uzbekistan and
Washington D.C.
- 2011—2019 **Two-time U.S. Chair and Planning Board Member;**
**National Academy of Sciences: *Arab-American Frontiers of Science,
Engineering, and Medicine***
Attended Kuwait (2011, 2019); Oman (2014); Saudi Arabia (2016)
Led symposia and a seed grant program with the NAS to enhance
research collaborations among early-career scientists from the U.S.,
the Middle East, and northern Africa
- 2010—2014 **U.S. Chair and Planning Board Member;**
National Academy of Sciences: *Japanese-American Frontiers of Science*
Japan (2010, 2014), U.S. (2012)
Led symposia to enhance research collaborations among early-career
scientists from the U.S. and Japan

LEADERSHIP TRAINING

- 2023 **New Provosts Intensive**, sponsored by EAB
- 2019 **Diversity, Equity, and Inclusion Workshop** (competitive selection)
Inclusivity in the Plant Sciences and Beyond, Howard Hughes Medical
Institute, Chevy Chase, MD
- 2016—2018 **Food Systems Leadership Institute (FSLI); Graduated in 2018**
Two-year executive leadership training program sponsored by the APLU
for Chairs, Deans, Vice Presidents, and industry/government leaders
- 2015 **Coaching Strong Women in the Art of Strategic Persuasion Workshop**
Sponsored by the National Science Foundation (NSF), Denver, CO

BOARD MEMBERSHIPS

- 2022—Present **Board Member for the Holden Arboretum and Cleveland Botanical
Garden**, Cleveland, OH
- 2010—2020 **Board of Trustees: KU Office of Research (independent corporation)**

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Key Accomplishments of UNIVERSITY LEADERSHIP

Interim Provost and Executive Vice President Case Western Reserve University, 2023—2024

Responsibilities:

The provost and executive vice president is the chief academic officer of Case Western Reserve University. The primary responsibilities of this position are providing leadership that supports all aspects of the academic enterprise of the university and assuring that resources are aligned with the academic goals of the university. The provost acts to promote innovation in research and scholarship, excellence in teaching and learning both inside and outside of the classroom, and recognition of the value of research, education, and service to society at large.

Examples of Key Accomplishments:

1. Enhancing Student Success and Retention:

- Ensuring a smooth transition of our re-aligned Student Affairs Office. Four-year advisors from the new Undergraduate Advising Support Office have met with all incoming students, registered them for their first semester, and have begun to build supportive relationships that will last across the students' time at CWRU
- Planning trainings for faculty pre-major advisors who will be the main academic advisors of students prior to their declaring a major
- Developing an app that provides students with quick access to the "front door" of the university including links to wellness, public safety, academic support, financial support, advising, and campus events
- Enabling the development of an exceptional Explore Curriculum in the new General Education Requirements that will allow students to learn about Cleveland, the campus, and new areas of interest

2. Reacting to the Supreme Court Ruling Against Affirmative Action in Admissions:

- Ensuring that we are following the law in all admissions processes while simultaneously maintaining our core values of diversity, equity and inclusion across our campus
- Forming a task force of university leaders to re-envision our admissions processes with diversity remaining as a core value of our campus community

3. Forming a Task Force in Collaboration with Faculty Senate to Better Understand and Prepare for the Impacts of AI on Education on our Campus

4. Increasing Interdisciplinary Engagement Across Campus:

- Envisioning how to increase strategic hiring in the College and Schools, which will advance our contributions to society and will increase our competitiveness in acquiring external funding and remaining leaders in key areas of creative works and scholarship
- Planning the new Interdisciplinary Science and Engineering Building (ISEB), a \$300M investment, which will provide collaborative space to enhance

innovations in the natural sciences, social sciences, engineering, medicine, and intersections with the arts and humanities

5. Learning from the University Community:

- Meeting with faculty, staff, students, alumni, community partners and donors (and attending many campus events) to more fully understand our achievements as an institution and to learn how I can better serve all constituencies as interim provost

Dean of the College of Arts and Sciences Case Western Reserve University, 2020—2023

Responsibilities:

The Dean leads all aspects of the College and advances its overall strategic vision, which includes the social sciences, natural sciences, mathematics, arts and humanities; drives innovative approaches to enhance synergies and connections across disciplines; supports a model of inclusivity, equity and diversity among faculty, staff and students; ensures the fiscal health of the unit (\$130M operating budget plus endowed funds); enhances the quality of undergraduate and graduate programs; advances research and creative works that positively impact society and that increase external funding from federal agencies and foundations; advances development and alumni engagement; leads interdisciplinary centers and community partnerships; determines faculty and staff compensation in collaboration with the central administration; and provides supports for associate deans and chairs through leadership mentoring, support and training.

Examples of Key Accomplishments:

1. Driving Strategic Growth through Fiscal Responsibility and Leadership Engagement:

- Operated a surplus budget each year through careful strategic growth and spending (following more than a decade of deficit spending). This was achieved in conjunction with major growth in faculty hiring, increased faculty salaries and supports, and increased graduate student stipends. At the close of FY23, over \$6M was available for future strategic growth of the College
- Enhanced fairness in faculty compensation by revising the process of merit-based raises. The new process focuses on accountability by chairs for faculty review, provides an explanation for determining raises that has been well-received by both chairs and faculty, and emphasizes the importance of transparency and communication in the process
- Founded the inaugural Dean's State of the College Address to showcase the advancements of the College and to thank faculty and staff for their contributions
- Developed a new staff mentorship program to improve the quality of onboarding and to foster inter-departmental connections. New employees are paired with a high-performing peer from a different department for hands-on support, guidance, and help navigating the College and university

- Supported leadership growth of the College by funding the Academic Impressions New Chair Bootcamp, providing supports for additional professional training to chairs, funding associate deans to attend the two-year Food Systems Leadership Institute (FSLI), and by developing leadership talent in faculty through one-on-one mentoring by the dean
- Created the Outstanding Staff Awards (begins Fall 2023), whereby college staff who provided exceptional contributions to the college over the past academic year will be honored and will receive a monetary award

2. **Advancing the Research Profile of the College:**

- Increased the research expenditures of the College by 144% over three years (from \$5.4M at the start of FY21 to \$13M ending FY23). This was achieved by providing seed funds to faculty, building a culture that rewards research, and by growing the College Office of Research to support faculty who are submitting grants. The College is on target to again double its research expenditures within three years
- Raised over \$8M from donor support for the **Expanding Horizons Initiative**, a program that provides internal seed funding to support faculty research and creative works. The program has funded 68 proposals to date, which has supported 181 undergraduates, 51 graduate students, and 80 faculty members (in 2 years). The program has generated over \$1M in external grant support as a result of faculty leveraging seed funds to acquire external grants, with many more grants pending. This program is now funded in perpetuity and will support the research advancement of the College for years to come
- Founded programs to provide funding for all faculty to attend a meeting each year; to support the publication of books and articles; and to provide bridge funding to continue research when faculty are between grants (new programs)

6. **Achieving Excellence through Diversity:**

- Created the first Associate Dean for Diversity, Equity and Inclusion position in the College and appointed Prof. Joy Bostic to the role
- Developed the first diversity statement for faculty job applicants in the College, along with guidelines for its use by search committees. This approach subsequently became a model for faculty hiring across the entire campus
- Hired six underrepresented tenure/tenure-track faculty during two hiring cycles (there was a one-year hiring freeze when I arrived due to covid). This includes top scholars in the sciences and the humanities, including Professor Michele Berger who leads the Baker-Nord Center for the Humanities
- Supported North Star graduate students with reduced tuition who were recruited from our partner HBCU universities and colleges
- Served as a co-creator of the HILLS program funded by the Mellon Foundation (with Provost Ben Vinson III, Tim Beal, Joy Bostic) that aims to promote diversity in academic leadership through advancement of humanities scholars. Since 2021, this program has provided 9 underrepresented postdoctoral scholars with stipend support

- Recruited three scholars to lead seminar courses (12 in total) focused on understanding racism and human diversity in partnership with the Anisfield-Wolf Book Awards and the Cleveland Foundation. Over 200 students participate in these courses each academic year
- Tripled student enrollments in the AFST minor (Africana Studies)

4. Creating a Transformational Educational Experience for Students:

- Increased graduate student stipends across the College by 20% (on average) with a future focus on continuing to increase graduate student supports each year
- Developed and taught a new course (co-taught with Drew Poppleton) for undergraduates entitled *Career Exploration & Networking* that brought alumni leaders (CEOs, community leaders, scientists, athletes, entrepreneurs) into the classroom to discuss the realities of building a successful career and the importance of mental health, resiliency and persistence throughout a lifetime
- Received a \$2M gift from the Mandel Foundation to advance a new major, the *Experimental Humanities*. This major will integrate a strong humanities education with STEM approaches and will foster student success in a highly technological world of the future. This gift also supports student involvement in interdisciplinary research with faculty at the intersections of STEM disciplines and the humanities
- Advanced the Emerging Scholars Program through additional budget supports and fundraising focus. This program supports and mentors Cleveland-area students who attend CWRU with graduation rates that are comparable or higher than the overall student body. This program won the 2022 National Best Practices in Student Retention Award from the Consortium for Student Retention Data Exchange
- Developed the GCAS Graduate Student Scholarship and the Creative Endeavors Grant program to support and encourage graduate student research proposal development and grant-writing training
- Designed and received funding (\$15M) to build new undergraduate biology teaching labs to support our growing student body with an increased interest in biology and neuroscience

4. Engaging Philanthropic Supports to Advance the Impact of the College

- Achieved a record high for fundraising in FY23 with a total attainment of \$52.1M (the previous record was \$37.7M in FY18). The dean and her development team raised a total of \$107.6M across her three-year term
- Created a new Virtual Dean's Salon approach to fundraising in lieu of in-person visits during covid that involved a series of six evening events, including one specifically targeted to donors with a lifetime giving of \$100,000 or greater. This allowed us to meet and exceed our fundraising goals during covid
- Launched Ignite: A Celebration of Donor Philanthropy in conjunction with Homecoming. A total of 65 donors attended who support areas such as scholarships, the Expanding Horizons Initiative, and a variety of departmental and faculty programs; students presented research projects and this was well received by donors

5. Collaborating with the Community to Advance Education and Wellness

- Attained a \$23.5M gift that grew into a \$60M campus initiative to advance research and community supports for advancing mental health. This includes the formation of a new research institute (the Moll Institute for Mental Health and Well-Being), a building renovation, community outreach, and extensive faculty hiring in clinical psychology to help contribute to solving the current mental health crisis
- Created the Associate Dean for Community Partnerships and International Initiatives position in the College and appointed Prof. Daniel Goldmark to the role
- Supported research and educational collaborations with the Cleveland Museum of Art, the Cleveland Institute of Music, the Western Reserve Historical Society, the Karamu House (longest-running African American theatre in the U.S.), the Holden Forests & Gardens, the Cleveland Metroparks Zoo, the Cleveland Natural History Museum, and many others

Associate Dean of Research

College of Liberal Arts and Sciences, University of Kansas, 2017—2020

Responsibilities:

The Associate Dean of Research (natural and social sciences) leads an overarching series of initiatives to enhance research productivity and external funding among faculty and students. This individual supports a variety of research cultures and creates an inclusive environment for all to engage in research. This position also works collaboratively with the Associate Dean for Arts and Humanities to support multi-disciplinary research across the College, while collaborating with other research units across campus. This position also communicates advances in research to the KU community, donors, federal agencies and to society at large.

Examples of Key Accomplishments:

1. Co-founded (2017) the ***Research Excellence Initiative (REI)*** in collaboration with the Associate Dean of Arts and Humanities. We allocated \$850,000 in seed grant support over two years to support research. **Notably, this initiative depended entirely on private funds raised by the Associate Deans in conjunction with the Dean and KU Endowment**
2. Secured a \$1.5 million donation to establish the long-term ***Theeuwes Post-doctoral Fellowship***
3. Developed and led grant workshops for faculty that focused on acquiring research grants (e.g., CAREER awards), time management, work/life balance, resilience after grant/manuscript rejections, and remaining research-active throughout a career. I supported numerous grant teams / individuals for the NSF ADVANCE grant, the National Endowment for the Humanities, the Henry Luce Foundation grant, the John Simon Guggenheim Fellowship, AAAS grants, and an NSF Research Traineeship Grant (NRT). I also supported numerous grant matches while leveraging other units for additional support
4. I advised the Provost, College Dean, and Associate Dean for Administrative Affairs on policy decisions regarding research space, research benchmarking, limited grant submissions, post-doctoral issues, and modified instructional duties for faculty caregivers and parents

5. I founded and co-led the program, *Sneakers and Scholarship*, which communicates the importance of research in the arts, humanities, and sciences. Each installment of this program involved a wellness walk to a “research site” on campus where the researcher/artist showcase their work followed by a group discussion. Due to its success, this on-site communication became a campus-wide model for other units
6. In collaboration with the Associate Dean of Arts and Humanities and the Associate Dean of Diversity, Equity, and Inclusion, we established a grant mechanism to support community-engaged scholarship that focused on community-validated problems such as addiction, eating disorders, lack of medical care and poverty

ACADEMIC ACTIVITIES and ACHIEVEMENTS

GRANT FUNDING

External Funding

2019	U.S. Department of Energy (PI: Ward; Gordon Conference Chair). CO ₂ assimilation in plants from genome to biome: Support for the 2019 Gordon Research Conference. \$10,000
2019	U.S. Department of Agriculture (PI: Ward; Gordon Conference Chair). CO ₂ assimilation in plants from genome to biome: Support for the 2019 Gordon Research Conference. \$25,000
2017—2019	U.S. Department of Energy , EMSL Users Grant (PI: Hoyt). Development of high-throughput metabolomics technologies: Applications for studying flowering time in <i>Arabidopsis</i> .
2016—2019	National Science Foundation (PI: Ward). RAPID: Decline and resilience of white ash populations during an emerald ash borer invasion. \$188,744
2015—2020	National Science Foundation (PI: Ward). Delineating the roles of rising CO ₂ and temperature on flowering time across pre-industrial through future conditions. \$681,231
2014—2017	U.S. Department of Energy , EMSL Users Grant (PI: Ward). Delineating the roles of rising CO ₂ and temperature on flowering time and plant carbon gain across pre-industrial through future conditions.
2013—2014	U.S. Department of Energy , EMSL Users Seed Grant (PI: Ward). Physiological and molecular mechanisms controlling altered flowering times at elevated [CO ₂].
2012—2014	National Science Foundation (PI: Ward). DDIG: The El Niño Southern Oscillation and glacial juniper tree physiology. \$11,740
2012—2013	National Science Foundation (PI: Ward). REU: CAREER: Plant evolution at low CO ₂ : Responses of ice age trees. \$6,000
2012	Seed grant from the Arab-American Frontiers of Science: U.S. National Academy of Sciences (PI:Ward). Supported a Palestinian scientist (Dr. Rezq Basheer-Salimia) to conduct research in my lab. \$4,750
2009—2012	National Science Foundation (PI: Ward, with 4 co-PIs). Global

- environmental change and local ecosystems: A Kansas MSP-Start project for P-20 students. \$322,074
- 2008—2013 **National Science Foundation** CAREER Award (PI: Ward). Plant evolution at low CO₂: Responses of ice age trees. \$842,893
- 2005—2009 **National Science Foundation** (PI: Ward; co-PI: J. Kelly). Plant evolution at elevated CO₂: Physiological and genetic mechanisms controlling developmental timing. \$634,274
- 2004—2008 **National Science Foundation** (Collaborator with 9 others). Enhancement of research and education facilities at the KU Field Station. \$323,538
- 2003—2006 **U.S. Department of Agriculture** (PI: Ward). Mechanisms for increasing seed yield at elevated CO₂: Linking whole-plant responses with gene expression. \$150,000
- 1995—1997 **National Science Foundation**. DDIG: The potential for evolution of *Arabidopsis* at low and elevated CO₂ (Duke University). \$11,000

Internal Funding

- 2013—2016 **Provost's Strategic Initiatives**, Research Investment Council: (PI: Ward; Hileman and Nagel are co-PIs). Determining the effects of rising CO₂ and temperature on flowering time: Scientific and social implications. \$328,867
- 2005—2007 **New Faculty—Kansas General Research Fund** (PI: Ward). Plant evolution at CO₂: Physiological and genetic mechanisms controlling developmental timing. \$11,000

COURSES TAUGHT

University of Kansas (2003—Present)

- Professional Development in STEM** (BIOL 420; open to all majors)
- Global Change: Ecological, Physiological, and Isotopic Approaches** (BIOL 701)
- NSF IGERT C-CHANGE: Climate, Ecological, and Social Change** (EVRN 624):
Team-based graduate course on climate change; taught in collaboration with geology and humanities faculty that supported inter-disciplinary graduate training
- Topics in Global Change and Ecology** (BIOL 477)
- Physiology of Organisms** (BIOL 408: lecture; BIOL 409: laboratory)

Duke University (1997—1998)

- Physiological Plant Ecology (BIOL 265)
- Ecology and Society (BIOL 43)

PROFESSIONAL AFFILIATIONS (PAST AND CURRENT)

- American Association for the Advancement of Science (AAAS)
- American Association of University Women (AAUW)

American Society of Plant Biologists (ASPB)
Council of Colleges of Arts & Sciences (CCAS)
Ecological Society of America (ESA)

PEER-REVIEWED PUBLICATIONS

(Authors trained in my lab: Undergraduate*, Graduate**, Post-doctoral***)

- Kinmonth-Schultz H***, JH Sørnstebo, AJ Croneberger, SS Johnsen, E Leder, A Lewandowska-Sabat, T Imaizumi, OA Rognli, H Vinje, **JK Ward**, S Fjellheim. 2023. Responsiveness to long days for flowering is reduced in *Arabidopsis* by yearly variation in growing season temperatures. *Plant, Cell & Environment*. DOI: 10.1111/pce.14632
- Henkhaus NA, W Busch, A Chen, A Colón-Carmona, M Cothran, N Diaz, JP Dundore-Arias, M Gonzales, D Hadziabdic, RA Hayes, GC MacIntosh, A Na, B Nyamasoka-Magonziwa, D Pater, FC Peritore-Galve, T Phelps-Durr, K Rouhier, DB Sickler, JH Starnes, QR Tyler, E Valdez-Ward, ME Vega-Sánchez, RR Walcott, **JK Ward**, SE Wyatt, F Zapata, AT Zemenick, DB Stern. 2022. Removing Systemic Barriers to Equity, Diversity, and Inclusion: Report of the 2019 Plant Science Research Network Workshop: *Inclusivity in the Plant Sciences*. *Plant Direct* 6: e432
- Becklin K***, **JK Ward**, DA Way. 2021. *Advances in Photosynthesis, Respiration, and Climate Change*. Springer (edited book)
- Fischer JM**, **JK Ward**. 2021. Trichome responses to elevated atmospheric CO₂ of the future. In: *Advances in Photosynthesis, Respiration, and Climate Change*, eds: Becklin KM, **JK Ward**, and DA Way. Springer
- Carter JM**, TE Burnette**, **JK Ward**. 2021. Tree physiology and intraspecific responses to extreme events: Insights from the most extreme heat year in U.S. history. In: *Advances in Photosynthesis, Respiration, and Climate Change*, eds: Becklin KM, **JK Ward**, and DA Way. Springer
- Kinmonth-Schultz H***, AM Lewandowska-Sabat, T Imaizumi, **JK Ward**, OA Rognli, S. Fjellheim. 2021. Flowering times of wild *Arabidopsis* accessions from across Norway correlate with expression levels of *FT*, *CO*, and *FLC* genes. *Frontiers in Plant Science*. doi: 10.3389/fpls.2021.747740
- Walker II SM**, **JK Ward**. 2018. Interactions between rising CO₂ and temperature drive accelerated flowering in model plants under changing conditions of the last century. *Oecologia* 187: 911-919.
SMW received a student award from the journal for this paper
- Hultine KR, SE Bush, **JK Ward**, TE Dawson. 2018. Does sexual dimorphism predispose dioecious riparian trees to sex ratio imbalances under climate change? *Oecologia* 187: 921-931
- Boiteau RM, DW Hoyt, CD Nicora, HA Kinmonth-Schultz***, **JK Ward**, K Bingol. 2018. Structure elucidation of unknown metabolites in metabolomics by combined NMR and MS/MS prediction. *Metabolites* 8: 8

- Becklin KM***, MS Walker II**, DA Way, **JK Ward**. 2017. CO₂ studies remain key for understanding a future world. *New Phytologist* 214: 34-40
- Li G, LM Gerhart**, SP Harrison, **JK Ward**, JM Harris, IC Prentice. 2017. Changes in biomass allocation buffer low CO₂ effects on tree growth during the last glaciation. *Scientific Reports* 7: 43087
- Carter JM**, ME Orive, LM Gerhart**, JH Stern*, RM Marchin**, J Nagel, **JK Ward**. 2017. Warmest extreme year in U.S. history alters thermal requirements for tree phenology. *Oecologia* 183: 1197-1210
- Becklin KM***, JT Anderson, L Gerhart**, S Wadgyamar, CA Wessinger, **JK Ward**. 2016. Examining plant physiological responses to climate change through an evolutionary lens. *Plant Physiology* 172: 635-649
- Becklin KM***, G Mullinix*, **Ward JK**. 2016. Host plant physiology and mycorrhizal functioning shift across a glacial through future CO₂ gradient. *Plant Physiology* 172: 789-801
- Walker LR, DW Hoyt, SM Walker II**, **JK Ward**, CD Nicora, K Bongol. 2016. Unambiguous metabolite identification in high-throughput metabolomics by hybrid 1D 1 H NMR/ESI MS 1 approach. *Magnetic Resonance in Chemistry* DOI: 10.1002/mrc.4503
- Voelker S, R Brooks, F Meinzer, R Anderson, M Bader, G Battipaglia, K Becklin***, D Beerling, D Bert, J Betancourt, T Dawson, J-C Domec, R Guyette, C Koerner, S Leavitt, S Linder, J Marshall, M Mildner, I Panyushkina, H Plumpton, K Pregitzer, M Saurer, A Smith, R Siegwolf, M Stambaugh, A Talhelm, J Tardif, P Van de Water, **JK Ward**, L Wingate. 2015. A dynamic leaf gas-exchange strategy is conserved in woody plants under changing CO₂: evidence from carbon isotope discrimination in paleo and CO₂ enrichment studies. *Global Change Biology*, 22: 889-902
- Becklin KM***, JS Medeiros***, K Sale*, **JK Ward**. 2014. Evolutionary history underlies plant physiological responses to global change since the Last Glacial Maximum. *Ecology Letters* 17: 691-699
- McLean BS, **JK Ward**, MJ Polito, SD Emslie. 2014. Responses of alpine herbaceous plant assemblages to low glacial CO₂ revealed by fossil marmot (*Marmota*) teeth. *Oecologia* 175: 1117-1127
- Fuller BT, Fahrni SM, Harris JM, Farrell A, Coltrain JB, Gerhart LM**, **Ward JK**, Taylor RE, Southon JR. 2014. Ultrafiltration for asphalt removal from bone collagen for radiocarbon dating and isotopic analysis of Pleistocene fauna at the tar pits of Rancho La Brea. *Quaternary Geochronology* 22: 85-98
- Basheer-salimia R, **JK Ward**. 2014. Climate change and its effects on olive tree physiology in Palestine. *Review of Research* 3: 1-7
- Medeiros JS***, **JK Ward**. 2013. Increasing atmospheric CO₂ from glacial to future concentrations affects drought tolerance via impacts on leaves, xylem and their integrated function. *New Phytologist* 199: 738-748

- Ward JK**, D Samanta Roy**, I Chatterjee, CR Bone*, CJ Springer***, JK Kelly. 2012. Identification of a major QTL that alters flowering time at elevated [CO₂] in *Arabidopsis thaliana*. *Plos ONE* 7: e49028
- Basheer-Salimia R, M Awad, **JK Ward**. 2012. Assessments of biodiversity based on molecular markers and morphological traits among West-Bank, Palestine fig genotypes (*Ficus carica* L.). *American Journal of Plant Sciences* 3: 1241-1251
- Gerhart LM**, JM Harris, JB Nippert***, DR Sandquist, **JK Ward**. 2012. Glacial trees from the La Brea tar pits show physiological constraints of low CO₂. *New Phytologist* 194: 63-69
- Gerhart, LM**, **JK Ward**. 2010. Plant Responses to low [CO₂] of the past. Tansley Review. *New Phytologist* 188: 674-695
- Lewis JD, **JK Ward**, DT Tissue. 2010. Phosphorus supply drives nonlinear responses of cottonwood (*Populus deltoides*) to glacial through future CO₂. *New Phytologist* 187: 438-448
- Nippert JB***, MB Hooten, DR Sandquist, **JK Ward**. 2010. A Bayesian model for predicting El Niño events using tree-ring widths and cellulose δ¹⁸O. *Journal of Geophysical Research: Biogeosciences* 115: G01011
- Nippert JB***, JJ Butler Jr, GJ Kluitenberg, DO Whittemore, D Arnold, SE Spal*, **JK Ward**. 2010. Patterns of *Tamarix* water use during a record drought. *Oecologia* 162: 283-292
- Gonzalez-Meler MA, E Blanc-Betes, CE Flower, **JK Ward**, N Gomez-Casanovas. 2009. Plastic and adaptive responses of plant respiration to changes in atmospheric CO₂ concentration. *Physiologia Plantarum* 137: 473-484
- Ward JK**, DA Myers, RB Thomas. 2008. Physiological and growth responses of C₃ and C₄ plants to reduced temperature when grown at low CO₂ of the last ice age. *Journal of Integrative Plant Biology* 50: 1388-1395
- Springer CJ, RA Orozco*, JK Kelly, **JK Ward**. 2008. Elevated CO₂ influences the expression of floral-initiation genes in *Arabidopsis thaliana*. *New Phytologist* 178: 243-255
- Marchin RM**, EL Sage*, **JK Ward**. 2008. Population-level variation of *Fraxinus americana* L. (white ash) is influenced by precipitation differences across the native range. *Tree Physiology* 28: 151-159
- Springer CJ***, **JK Ward**. 2007. Flowering time and elevated CO₂. Tansley Review. *New Phytologist* 176: 243-255
- Ward JK**, JM Harris, TE Cerling, A Wiedenhoft, MJ Lott, M-D Dearing, JB Coltrain, JR Ehleringer. 2005. Carbon starvation in glacial trees recovered from the La Brea tar pits. *Proceedings of the National Academy of Sciences of the United States of America* 102: 690-694 (**mentioned in the New York Times**)
- Ward JK**. 2005. Evolution and growth of plants in a low CO₂ world. In: *A History of Atmospheric CO₂ and Its Effects on Plants, Animals, and Ecosystems*, eds: Ehleringer J, T Cerling and D Dearing. Springer-Verlag, pp. 232-257
- Ward JK**, J Kelly. 2004. Scaling up evolutionary responses to elevated CO₂: Lessons from *Arabidopsis*. *Ecology Letters* 7: 427-440

- Dawson TE, **JK Ward**, JR Ehleringer. 2004. Temporal Scaling of physiological responses from gas exchange to tree rings: a gender-specific study with boxelder. *Functional Ecology* 18: 212-222
- Coltraine JB, JM Harris, TE Cerling, JR Ehleringer, M-D Dearing, **JK Ward**, J Allen*. 2004. Rancho La Brea stable isotope biogeochemistry and its implications for the paleoecology of late Pleistocene, coastal southern California. *Palaeogeography, Palaeoclimatology, Palaeoecology* 205: 199-219
- Ward JK**, TE Dawson, JR Ehleringer. 2002. Responses of *Acer negundo* genders to inter-annual differences in water availability determined from carbon isotope ratios of tree ring cellulose. *Tree Physiology* 22: 339-346
- Ward JK**, J Antonovics, RB Thomas, BR Strain. 2000. Is atmospheric CO₂ a selective agent on model C₃ annuals? *Oecologia* 123: 330-341
- DeLucia EH, RB Thomas, **JK Ward**. 1999. Critical assessment of the response of forest ecosystems to elevated atmospheric carbon dioxide. *Tree Physiology* 19
- Ward JK**, BR Strain. 1999. Elevated CO₂ Studies: Past, present and future. *Tree Physiology* 19: 211-220
- Ward JK**, DT Tissue, RB Thomas, BR Strain. 1999. Comparative responses of model C₃ and C₄ plants to drought in low and elevated CO₂. *Global Change Biology* 5: 857-867
- Ward JK**, BR Strain. 1997. Effects of low and elevated CO₂ partial pressure on the growth and reproduction of *Arabidopsis thaliana* from different elevations. *Plant, Cell and Environment* 20: 254-260
- Dippery JK** (maiden name), DT Tissue, RB Thomas, BR Strain. 1995. Effects of low and elevated CO₂ on C₃ and C₄ annuals. I. Growth and biomass allocation. *Oecologia* 101: 13-20

PRESENTATIONS

Invited Symposia, Keynote Addresses, and Plenary Talks (recent)

- Ward JK**. 2023. Deciphering the mechanisms that drive changes in flowering time in response to rising CO₂. *Botany2023*, July 25, 2023, Boise, ID (major symposium)
- Ward JK**. 2019. Plant responses to rising CO₂: From the last glacial through the future. *Translational Plant Sciences Mini-symposium*, February 15, 2019, Virginia Tech University, Blacksburg, VA (keynote)
- Ward JK**. 2018. Plant responses to rising CO₂: From the last glacial through the future. American Society of Plant Biologists Major Symposium: *Ecophysiology of Photosynthesis from the Leaf to the Global Scale*. July 17, 2018, Montreal, Canada (symposium)
- Ward JK**. 2015. Plant responses to rising CO₂: From the last glacial period through the future. *Center for Ecology, Evolution and Behavior, 2015 Spring Research Symposium*, May 14, 2015, University of Kentucky, Lexington, KY (keynote)
- Ward JK**. 2015. The Influence of low CO₂ on plants during the last glacial period: From leaves

to ecosystems. Plant Biology Initiative Symposium, May 6, 2015, Harvard University, Cambridge, MA (symposium)

Carter JM, **JK Ward**. 2014. Phenological responses of plants to global climate change- Implications for policy. Office of Science and Technology Policy (OSTP), Executive Office of the President of the United States, Washington DC (policy talk)

Ward JK. 2014. Physiological responses of trees to rising CO₂ since the last glacial period: synchronous responses on both hemispheres. Combio 2014, October 2, 2014, Canberra, Australia (plenary)

Ward JK, SM Walker. 2014. Delineating the roles of rising CO₂ and temperature on flowering time in *Arabidopsis thaliana* genotypes. Combio 2014, September 30, 2014, Canberra, Australia (symposium)

Ward JK. 2014. Plant responses to changing CO₂ from the last glacial period through the future. Plant Biology 2014: American Society of Plant Biologists, July 14, 2014, Portland, OR (symposium)

Invited University Seminars (recent)

Ward JK. 2019. Insights into plant responses to past and future environments. April 26, 2019, Princeton University, Princeton, NJ

Ward JK. 2017. Plant responses to rising CO₂: From the last glacial period through the future. December 20, 2017, Donald Danforth Plant Science Center

Ward JK. 2017. Insights into plant responses to past and future environments. April 10, 2017, Chancellor's University Scholarly Achievement Award Ceremony, University of Kansas, Lawrence, KS

Ward JK. 2016. Plant responses to rising CO₂: From the last glacial period through the future. November 11, 2016, University of Western Ontario, London, ON, Canada

Ward JK. 2015. Plant responses to changing CO₂ from the last glacial period through the future. September 18, 2015, Clemson University, Clemson, SC

Ward JK. 2015. Climate change and ecosystems. Endowment trip with Chancellor Gray-Little and KU donors. June 2015, Seattle, WA

Ward JK. 2014. Long-term responses of plants to climate change: From glacial through future environments. December 8, 2014, University of Tokyo, Tokyo, Japan

Ward JK. 2014. Long-term responses of plants to climate change: From glacial through future environments. April 17, 2014, Washington University, St. Louis MO

Ward JK. 2013. Plant Responses to Changing CO₂: From the last glacial period through the future. November 21, 2013, Boyce Thompson Institute for Plant Research, Ithaca, NY

Ward JK. 2013. Plant Responses to Changing CO₂: From the last glacial period through the future. October 21, 2013, Duke University, Durham, NC

Ward JK. 2013. Plant Responses to Changing CO₂: From the last glacial period through the future. September 11, 2013, University of Maryland, College Park, MD

Ward JK. 2013. Plant Responses to Changing CO₂: From the last glacial period through the future. May 2, 2013, University of New Mexico, Albuquerque, NM

Ward JK. 2013, Plant Responses to Changing CO₂: From the last glacial period through the future. April 29, 2013, University of Washington, Seattle, WA

****Plus over 80 additional talks and poster presentations made at scientific meetings and Conferences***

PROFESSIONAL SERVICE

Editorial

2014—2020 Editorial Board: *Advances in Photosynthesis and Respiration*.
Book series, Springer

2013—2020 Handling editor for *Oecologia*

2013—Present Board of Advisors for *New Phytologist*

2005—2015 Editor for the Faculty of 1000, Physiological Ecology Section

International and National

2018—2019 Departmental external review teams: University of Texas at El Paso, Department of Biology (2018); University of Maryland, Department of Environmental Science and Technology (2019)

2018—2019 Advisory Committee: American Association of Plant Biologists (ASPB), Environmental Ecological Plant Physiology (nominated by peers)

2017—2018 Outreach Officer: American Association of Plant Biologists, Environmental Ecological Plant Physiology (elected nationally by peers)

2016—2018 iPASS Advisory Committee, Pacific Northwest National Lab, \$10M plant initiative

2016—Present External reviewer of packages for promotion and tenure (many)

2016—2017 *New Phytologist* Plenary Speaker Selection Committee for the Ecological Society of America Annual Meeting

2015 Invited Participant: National Science Foundation FEW Workshop: *Water- and Energy-efficient Food Production: Solutions for America's Bread Basket*, Manhattan, KS

2013 National Judge: Siemens Competition in Math, Science & Technology, Washington DC

2011, 2012 Invited Participant: National Science Foundation Math-Science Partnership (MSP) Meeting for enhancing K-12 education in the sciences, Washington DC

2011 Invited participant: National Science Foundation Workshop: *Field Stations and Marine Laboratories Emerging Initiatives*, Colorado

Springs, CO

- 2009 Invited participant: National Science Foundation Workshop: *VAL as a Potential Tool for Experimental Study of Climate Change*, Arlington, VA
- 2008 Invited participant: Smithsonian Environmental Research Center Workshop: *The impact of Rising Atmospheric CO₂ and Climate Change on Ecosystems*, Edgewater, MD
- 2008 Produced a video for the National Science Foundation describing my CAREER award research that was used for the presentation "Leading Edge Science in Integrative Organismal Systems" for Congress
- 2007 Symposium Chair: *Linking Physiological Ecology, Evolutionary Biology, and Functional Genomics for Understanding Biotic Responses to a Changing Environment*. Ecological Society of America, San Jose, CA
- 2001 Member of the Advisory Committee to guide the long-term goals and directions of the NSF-funded National Phytotron, Duke University, Durham, NC
- 1997 Workshop Chair: Terrestrial Carbon Processes (TCP) and Global Change and Terrestrial Ecosystems (GCTE) Workshops. Duke University, Durham, NC
- 1995—1997 Taught ecology labs and mentored undergraduate women for the Carolinas and Ohio Science Education Network (COSEN), Durham, NC

Grant Panels

Department of Energy Joint Genome Institute (JGI); Environmental Sciences Molecular Laboratory (EMSL); National Science Foundation; National Academy of Sciences; Oklahoma Plant Science Research Partnership; U.S. Department of Agriculture

UNIVERSITY SERVICE

- 2019—2020 Research Space Committee (appointed by the Dean)
- 2019—2020 Research Metrics Committee (appointed by the Provost)
- 2017—2020 Chair (2019—Present) and member: University Scholarly Achievement Award Selection Committee (appointed by the KU Chancellor)
- 2017—2020 Dean's Executive Committee
- 2017—2020 College of Liberal Arts and Sciences Advisory Board
- 2017—2018 Search Committee Member: General Counsel and Vice Chancellor for Legal Affairs
- 2015 Search Committee Member: Dean of the College of Liberal Arts and Sciences
- 2014—2017 Member of the Provost's Advisory Committee for the College of Liberal Arts and Sciences
- 2014 Panel member to advise faculty on acquiring NSF CAREER awards
- 2013—2017 Member of the KU Family Committee for the KU Capital Campaign as

	appointed by the KU Endowment
2013—2014	Chair, University SenEx Athletics Committee
2013	Search Committee Member: Dean of Graduate Studies
2012—2015	KU Athletic Director's Advisory Board
2011	KU Summit Planning Committee Member for the Provost's Initiatives: <i>Sustaining the Planet, Powering the World</i>
2010—2011	Search Committee Member: Kansas Geologic Survey Director
2009—2011	Member of the University of Kansas Energy Council
2009—2010	Member of the Chancellor's Research Task Force
2009—2010	Search Committee Member: Dean of the College of Liberal Arts and Sciences
2009	Chair of the KU Student-Athlete Support Services Self-Study Committee
2008—2011	Chair of the Faculty Mentor Program in Athletics
2008—2009	Committee Member: University Steering Committee for NCAA Certification; also attended an NCAA Compliance Training meeting
2007—2015	Mentor for KU graduate programs: SELF Fellows program and the IGERT C-Change program
2006—Present	Curator of the Philip V. Wells packrat collection for paleoecology research
2006—2007	Member of the University Committee on Post-doctoral training
2004—2007	Chancellor's Athletic Advisory Board
2004—2005	Member of the Scholarship and Research Committee

DEPARTMENTAL SERVICE

2015—2020	Research Seminar Committee
2015—2016	Chair: Committee to Publicize Scholarly Research
2014—2015	Member of the Infrastructure Committee for KU Biological Sciences
2012—2013	Member of the Committee on Sabbatical Leave
2010—2020	Faculty mentor for early-career faculty
2009—2011	Chair (2010—2011) and Member (2009—2010) of the Strategic Planning Committee
2009—2017	Member of the Faculty Merit Evaluation Committee
2003—2006	Mentor for the National Science Foundation REU program in EEB
2003—2004	Member of the Undergraduate Education and Research Committee
1995—1996	Organized the Women in Biology Seminar Series, Duke University
	Faculty Search Committees: Theoretical Ecologist (2005), Microbial Ecologist (2006)

COMMUNITY SERVICE

2017—2020	Lector at St. Lawrence Catholic Student Center, Lawrence, KS
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2017—2020	Assist with food collection for Catholic Charities at St. Lawrence Catholic Student Center
2017—2020	Taught photosynthesis lectures at Free State High School (AP Bio)
2015—2020	Provide grant funds (NSF Broader Impacts) and mentoring to enhance data collection at the Southwest Middle School Garden, Lawrence, KS
2013—2020	Serve the L.I.N.K. Food Kitchen, Lawrence, KS
2011—2014	Founded the fourth grade “Science Day at KU” program. Students from Lawrence schools visited KU labs to directly observe a day in the life of a science researcher

STUDENT TRAINING AND MENTORING

Post-docs trained and mentored in my lab:

1.	Clint Springer	2004—2007	Faculty at St. Joseph’s Univ.
2.	Jesse Nippert	2006—2007	Faculty at Kansas State Univ.
3.	Juliana Medeiros	2010—2013	NIH IRACDA Fellow; Faculty at Holden Arboretum
4.	Katie Becklin	2010—2017	NIH IRACDA Fellow; Faculty at Syracuse University
5.	Laurel Haavik	2016—2019	NSF funded; U.S. Forest Service
6.	Hannah Kinmonth-Schultz	2016—Present	NIH IRACDA Fellow

Graduate students trained and mentored in my lab:

1.	Renee Marchin (M.A.)	2004—2006	
2.	Debosree S. Roy (M.A.)	2005—2008	
3.	Laci Gerhart (Ph.D.)	2007—2013	NSF IGERT Fellow; KU Self Fellow Faculty at UC Davis
4.	Michael Walker (Ph.D.)	2010—2017	NSF GK-12 fellow; NSF IGERT Fellow
5.	Jacob Carter (Ph.D.)	2011—2017	NSF IGERT Fellow; OSTP Intern in the White House
6.	Aleah Henderson (Ph.D.)	2015—Present	NIH PREP fellow
7.	James Fischer (Ph.D.)	2015—Present	
8.	Amanda Carmichael (M.A.)	2018—Present	
9.	Timothy Burnette (Ph.D.)	2019—Present	KU Self Fellow

2004—2020 **Advisor and mentor for NIH programs designed to increase the diversity of students entering STEM fields:**

(a) Initiative for Maximizing Student Development (IMSD; 1 student), **(b)** Haskell Indian Nations University Bridge Program (2 students), **(c)** Post-

Baccalaureate Research Education Program (PREP, 2 students) and **(d)**
Institutional Research and Academic Career Development
Awards (IRACDA) for post-doctoral researchers (3 post-docs)

***I trained and mentored over 50 undergraduate students in my lab, including 39 women and 12 underrepresented students in the sciences.**