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Education/Professional Preparation

Institution	*Concentration*	*Date/Degree*
ACE Institute	Chief Academic Officers	2012-2013
Harvard (Kennedy School)	Executive Training	2007
Univ. Calgary, Canada	Postdoctoral Fellowship (Dr. B. R. McMahon)	1980-1983
Birmingham Univ., U.K.	Comparative Physiology (Dr. E. W. Taylor)	1980/Ph.D.
Birmingham Univ., U.K.	Biological Sciences (First Class Honors)	1977/B.Sc.

Academic Appointments

Institution	*Rank*	*Dates*
Syracuse University	Professor of Biology	2016-present
West Virginia University	Professor of Biology	2009-2016
Wright State University	Professor of Biological Sciences	1994-2009
University of Florida	Professor of Zoology	1994
University of Florida	Associate Professor of Zoology	1989-1994
University of Florida	Assistant Professor of Zoology	1984-1989

Administrative Appointments

Institution	*Position*	*Dates*
Syracuse University	Special Advisor (Chancellor Kent Syverud)	2020-2022
Syracuse University	Provost, VC Academic Affairs (Chancellor Kent Syverud)	2016-2020
West Virginia University	Senior Advisor (President Gordon Gee)	2014-2015
West Virginia University	Provost, VP Academic Affairs (President Jim Clements)	2009-2014
Wright State University	Dean, Science and Mathematics	2002-2009
Wright State University	Chair, Biological Sciences	1994-2002

Selected Honors, Recognitions and Distinctions

Recognition	*Granting body/Institution/Agency*	*Dates*
Continuous funding	National Science Foundation (total $29.4M)	1985-2020
Hon Lifetime Membership	Association College University Biological Educators	2019
Executive Committee	APLU Science Math Teacher Imperative	2013-2015
Executive Committee	APLU Council on Academic Affairs	2012-2014
Diversity Award (COSM)	Wright State University	2009
Ohio Women's Hall of Fame	Governor of Ohio	2008
Dayton's Ten Top Women	Dayton Community	2007
Quest Community Award	Wright State University	2004
Outstanding Faculty Member	WSU Board of Trustees	2000
Women's Advancement	Wright State University	1997
Teaching Incentive Program	University of Florida	1993
Presidential Medal	Society for Experimental Biology	1988
Editorial Board	Comparative Biochemistry and Physiology	2002-2004
Editorial Board	Experimental Biology on Line	1996-2000
Editorial Board	Physiological Zoology	1993-1998

I. ADMINISTRATIVE LEADERSHIP/EXECUTIVE MANAGEMENT

Air University Board of Visitors, Sept 2022-August 2025

Appointed by the Secretary of Defense to advise the Secretary of the Air Force regarding the educational, doctrinal, and research policies of the nation's Air and Space Force academic institutions overseen by Air University. Assigned to conduct academic review of the Air Force Institute of Technology (11/22) as a Special Government Employee.

Provost, Vice Chancellor Academic Affairs, Syracuse University (SU), March 2016-Jan 2020

Institutional Complexity and Scope: Private, international research university, accredited by Middle States Commission on Higher Education.
22,500 students (200 degree programs), >**5300 faculty and staff.**
Annual budget **$1.5B**, Carnegie **R1 Highest** Research ranking (>**$150 M** expend), Endowment **$1.37B.**
Academic units reporting to the Provost: Architecture; College of Arts and Sciences; School of Education; College of Engineering and Computer Science; David B. Falk College of Sport and Human Dynamics; School of Information Studies; College of Law; Martin J. Whitman School of Management; Maxwell School of Citizenship and Public Affairs; S.I. Newhouse School of Public Communications; College of Visual and Performing Arts; University College; Research; Libraries; Graduate Education; IT; Registrar; and Syracuse Abroad with Centers in London, Strasbourg, Madrid, Hong Kong, Santiago, and Florence.
Facilities: Main campus of 708 acres in Syracuse NY with satellite facilities in Manhattan, DC and LA.

Provost, Vice President Academic Affairs, West Virginia University (WVU), Sept 2009-June 2014

Institutional Complexity and Scope: State flagship, land-grant university with comprehensive Academic Health Center (AHC), accredited by Higher Learning Commission (HLC).
32,000 students (200 degree programs), >**8000 faculty and staff** (20,000 employees enterprise wide).
Annual budget **$2.5B** ($1.5B health enterprise), Carnegie **R1 Highest** Research ranking (>**$150 M** expenditures), Endowment **$1.25B.**
Academic units reporting to the Provost: Eberly College of Arts and Sciences; College of Business and Economics; College of Creative Arts; Statler College of Engineering and Mineral Resources; College of Education and Human Services; Reed College of Media; WVU Law; Davis College of Agriculture, Natural Resources and Design; College of Physical Activity and Sport Science; Honors College; University College: two integrated divisional campuses (Potomac State College, WVU Institute of Technology); Research; Libraries; Academic Innovation; Extension (55 county offices); Graduate Education; IT; University Registrar; Enrollment Management; and GlobalWVU.
Facilities: 500 buildings, 2431 acres, 8 research farms, 4 forests, multiple health clinics.
Reporting to VP Health Sciences Center (HSC): Dentistry, Medicine, Nursing, Pharmacy, Public Health.

Dean, College of Science & Mathematics, Wright State University (WSU), July 2002-Dec 2009

Institutional Complexity and Scope: Public comprehensive doctoral institution, HLC Accredited, two campuses, **17,000 students** (200 programs); Annual budget **$400M**, Carnegie **R2 Moderate** Research ranking (~**$70 M** expenditures), Endowment **$114M**, **2200 faculty and staff;** Colleges/schools: Liberal Arts; Science and Mathematics; Business; Education; Engineering; University College; Lake Campus; Medicine; Professional Psychology; Nursing; and Graduate Studies.

College of Science and Mathematics (CoSM) Complexity and Scope: College departments: Mathematics and Statistics; Earth and Environmental Sciences; Physics; Chemistry; Psychology; and Biological Sciences. Departments matrixed with the School of Medicine: Neurosciences, Cell Biology and

Physiology; and Biochemistry and Molecular Biology. **1800 undergraduates** (17 programs), **360 graduate** students (14 master's, 3 doctoral programs).
Centers: Electronics Shop; Statistical Consulting Center; Brehm Environmental Research Laboratories; Semiconductor Center; Center for Genomics Research; Comprehensive Neurosciences Center; Center for Math and Science Education; and Center for Environmental Analytics.
265 employees (150 instructional faculty including 13 jointly appointed with Education and 2 with Engineering; 30 adjuncts; and 85 professional staff).
Budget **$45.4M** ($32M in State funds, **$13.4M** in research expenditures).
Facilities: 7 buildings with 200,000 ASF.

Chair, Biological Sciences, Wright State University, August 1994-June 2002

Department Scope: **36 faculty and staff**, **600 majors**, and **60 graduate students.** Annual budget **$3.5M** (**$1.8M** in research expenditures).

Faculty Member, University of Florida (UF), January 1984-August 1994

Institutional Scope: AAU member; Carnegie **R1 Highest** research, Land/sea/space-grant institution.

HIGHLIGHTS OF ADMINISTRATIVE LEADERSHIP

NATIONAL VISIBILITY

Congressional Briefing

Wheatly, M. G. 2004 *Science for All Americans* before the House Science Committee during AAAS/NSF conference "Invention and Impact: Building Excellence in Undergraduate STEM Education".

Leadership in National Higher Education Associations

As Provost at Syracuse University:
ADVANCE Resource and Coordination Network: Equity in STEM Community Convening (Keynote 2019); External Advisory Committee (2016 – present)
Atlantic Coast Conference Provosts' Group: elected President for 2020.
Colonial Provosts' Group (2016-2020).
Education Advisory Board, Academic Affairs Forum (2016-20).

As Provost at WVU
APLU (Association of Public and Land-grant Universities):
Council on Academic Affairs: Panel organizer (2014, Partnering with 2-yr institutions; 2013, MOOCs).
Council on Innovation, Competitiveness, and Economic Prosperity: Panelist (2014, Economic Engagement Partnership; 2013, Partnerships for Sustaining Energy Workforce).
Commission on the Science and Mathematics Teacher Imperative (*SMTI*): Plenary (2014, Administrators' Perspectives on Supporting the Improvement of STEM Teaching).
Education Advisory Board: Academic Affairs Forum (2010-2014).
UEDA (University Economic Development Association): Keynote address (2013, West Virginia University: Economic Development at a "Super" Land-Grant in a Rural State).
WEPAN (Women in Engineering ProActive Network): Plenary (2014, Advancing Culture in Engineering).
NSF ADVANCE: Served as Co-Convener (with President Linda Katehi, UC Davis) of the 2014 mini-conference of Presidents and Provosts of ADVANCE IT Institutions.

As Dean
CCAS (Council of Colleges of Arts and Sciences): Panel organizer and presenter: (2008, Deans of Science and Engineering working together to unplug the STEM pipeline; 2006, Recruiting and retaining women faculty and administrators in the arts and sciences; 2004, Merging departments).
CASUU (Council for the Arts and Sciences in Urban Universities): Presenter: (2008, Expanding the STEM pipeline in the face of shrinking STEM resources; 2007, First-year STEM experience).

STRATEGIC PLANNING/ACTION

As Provost at Syracuse University: Led the implementation of *Trajectory to Excellence* institutional Academic Strategic Plan through cascading planning processes into all schools/colleges. Unit plans were aligned with the Strategic Enrollment Management Plan, the Rankings Agenda and Invest Syracuse Priorities and were mapped into the 10-year RCM budget build. Implemented RCM refinements (cost pools and tuition allocation model). Plans were reviewed by an *ad hoc* committee of Trustees that made a series of categorical and unit specific recommendations in an Executive Summary that was endorsed by the Academic Affairs Committee and presented to the Full Board. Ongoing monitoring continues through a Trustee Work Group. Data dashboards were developed by Institutional Effectiveness and Assessment for monitoring (in TaskStream).
Co-created the $100M funding initiative *Invest Syracuse* to enhance the University's position as an academically distinguished, student-focused, international research university. Developed a 5 year implementation plan calling for investments in student experience ($22.5M), academic excellence ($37.5M) and financial aid ($40.0M).
Developed and implemented a strategic faculty hiring and retention plan to optimize ROI of Invest Syracuse funds that included: improving culture and climate in faculty life to improve retention; increased attention to diversity in searching; and ensuring quality in faculty hiring.
Developed a rank order list of priorities for academic facilities construction, renovation and reallocation involving appropriate space studies. Conducted a comprehensive review of all Study Abroad Centers, World Partners and academic facilities beyond Syracuse. Developed strategic plans for the facilities in NYC, DC and LA. Established the Campus Facilities Advisory Board to promote transparency in communications around institutional facilities decisions. Developed a governance and funding model to implement facilities projects.

As Provost at WVU*:* Co-led *Vision 2020, the first Comprehensive Strategic Plan for WVU* with the VP for HSC and a 40-member Strategic Planning Council. Cross constituency groups were established to solicit input on: discovery and innovation; diversity and inclusion; faculty and student retention; living/learning; and internationalization. Mission, vision and 5 strategic goals (1. Education, 2. Research, 3. Inclusivity, 4. Global, 5. Outreach) were established and approved (Faculty Senate, and Board of Governors). Implementation was effected through Roundtables dedicated to: student success; faculty educational responsibility; research; global engagement; economic well-being; creating an inclusive culture; and lifelong learning. Parallel planning exercises were initiated in academic and non-academic units. Administrative structures were optimized to advance the plan, to monitor and to communicate plan progress through establishing benchmarks, metrics, and qualitative measures, and to establish the cycle for assessment and evaluation required for HLC reaffirmation of accreditation.
Chaired the University Planning Committee with strategic stewardship of existing resources (tuition and fees, employee salary plans and funding the Campus Master Plan). Grew main campus revenues from $749M to $1B through enrollment growth (31,646 to 32,348); and instructional FTE from 1024 to 1124.

As Dean: Led *Opening Minds to Science: Strategic Plan 2007-2012* defining vision, mission, 7 core strategies, 56 strategic objectives and 32 performance measures aligned with the institutional plan.

Actualized the plan through strategic stewardship of existing resources and administrative restructuring e.g. merging academic departments: Neurosciences, Cell Biology and Physiology (from Anatomy and Physiology); Earth and Environmental Sciences (from Institute for Environmental Quality and Geology).

Regional Academic Planning: Interacted closely with Wright Patterson Air Force Base, Air Force Research Labs and Air Force Institute of Technology to envision Dayton's post-manufacturing economy. Led the Base Realignment and Closure (BRAC) Commission Academic Task Force (WSU, Univ of Dayton, AFIT, AFRL, Central State Univ).

OPTIMIZING HEALTH ENTERPRISE FOR HEALTHCARE REFORM

As Provost at WVU: Partnered with VP for HSC to develop joint operating agreement between WVU Hospital and the University Health Associates to form WVU Healthcare which grew from 700,000 to 930,000 patients ($1.1B to $1.65B in revenue). Facilitated the founding of a new School of Public Health.

ATTRACTING PUBLIC AND PRIVATE FINANCIAL RESOURCES

*Competitive Federal Funding***:** Funded as PI continuously for 30 years (career total >$29.4M)

Foundations: W. M Keck, Kauffman, Howard Hughes Medical Institute, Claude Worthington Benedum

Fundraising/Development:
As Provost at Syracuse University: coordinated fundraising goals (and associated evaluation) for academic deans; Coordinated Advisory Board schedule/location/agenda in advance of the launch of a $1.5B Capital Campaign *Forever Orange*. Provided input on Campaign Case Statements. Annual new business increased from $92M (2015) to $163M (2019). Corporations/Foundations support increased from $3M (2017)to $9.7M (2019) and Endowment increased from $1.14B (2015) to $1.33B (2018).

As Provost at WVU: Worked with the President and senior leaders to develop strategic academic priorities for a Capital Campaign that raised more than $100M/yr for 4 years (foundation assets grew from $745M to $1.25B) including a transformational gift ($67M) to name the Engineering college; Founded the Women in Science and Engineering Giving Circle.

As Dean: Leveraged a transformational gift ($50M) for construction of a research building; 15 fold increase in annual gifts (from $572,061 in 2001 to $8,769,740 in 2008); Launched the Women in Science Giving Circle, the first in support of STEM women nationwide (raised $90,563 and celebrated 10 anniversary in 2020). Developed effective communications strategy to reengage alumni in the college.

ACCREDITATION, ASSESSMENT AND PERFORMANCE METRICS

As Provost at Syracuse University: Led the institutional process for successful reaffirmation of accreditation (2018) through the Middle States Commission on Higher Education including self-study design and implementation, site visits, and all associated communications. This exercise involved Senate adoption of the Shared Competencies (reasonings and abilities) that will differentiate signature skills of a Syracuse University graduate in the marketplace. Implemented four-year cycle of Academic Program Review that will migrate to the EAB Academic Performance Solutions product for benchmarking productivity metrics against peer institutions. Conducted a meta-assessment study of how faculty are engaging in program and unit-level assessment.
Led significant progress towards establishing a common First Year Signature Syracuse Experience. Moved two academic departments and associated programs to different schools for better disciplinary alignment.

Served as Evaluation Team Member for Boston University reaccreditation through New England Commission on Higher Education (2019).

As Provost at WVU: Led the institutional process for successful reaffirmation of accreditation (HLC 2014) Established Office of Academic Planning and Accreditation (2011, led by AVP with a Planning and Accreditation Officer) in response to the emerging Continuous Quality Improvement model for HLC.

As Dean: Coauthor of criterion 2 ("Preparing for the Future") for successful reaffirmation (HLC 2006). Presenter at annual HLC Conferences: Transformative pedagogy: engaging and retaining students in STEM (2009); The WSU self-study in anticipation of reaccreditation (2007)

ADVANCING INSTITUTIONAL REPUTATION/RANKINGS

As Provost at Syracuse University: Developed an academic strategy that advanced institutional rankings: *USNWR* ranking from 61 (2016) to 53 (2019), Carnegie R1 classification solidified, *Military Times* ranking from 35 (2016) to 6 (2019) and plans are in place to advance salient academic program rankings and Shanghai Jiao Tong AWRU rankings. Entering class SAT increased by 53 pts (2015-9).

As Provost at WVU: Carnegie classification advanced from R2 (2010) to R1 (2015); *USNWR* ranking advanced from #97 public (2010) to #89 (2011); Nationally competitive undergraduate fellowships doubled from 24 (2005-9) to 57 (2010-14); Entering class SAT increased by 40 pts (2009-2014).

ENTERPRISE RISK ASSESSMENT, CAMPUS FLASHPOINT CRISIS MANAGEMENT

As Provost at Syracuse University: Managed the academic response to significant campus flashpoints (March 2018, November 2019) and implemented ERM strategy and associated training.

As Provost at WVU: In response to an academic integrity incident (2008), oversaw the implementation of the American Association of Collegiate Registrars and Admissions Officers recommendations to establish the Office of the University Registrar.

TALENT IDENTIFICATION/DEVELOPMENT

Building and sustaining empowered diverse distributive leadership teams

As Provost at Syracuse University: Appointed 4 Associate Provosts, VPR (Auburn University), SVP for Academic Operations (Brookings Institution) and 7 academic deans (Cleveland Marshall College of Law, University of Kentucky, University of Miami, University of Rochester; 2 were underrepresented, 1 female and 2 international).
Developed and conducted formal (and mid-term) performance reviews on academic deans
Appointed 8 Provost's Faculty Fellows to cultivate a talent pipeline for academic administration (5 were female, 3 were underrepresented)
Chaired the search for SVP Enrollment and the Student Experience.
Served on search committee for Chief Financial Officer.

As Provost at WVU: Hired 12 team members (7 Deans and 5 other direct reports), 5 of these were women, 2 were underrepresented individuals, and 8 were external (including Northern Arizona University, Purdue University, North Carolina State University, Virginia Tech, J & J Pharmaceuticals). Provost's Leadership Team held accountable yearly for one "big" goal that would measurably improve the institution. Introduced an evaluation process for academic deans that included academic productivity metrics and qualitative indicators. Implemented *Digital Measures* for faculty productivity

As Dean: Hired 11 chairs/directors (4 external from The Geological Survey, Worcester Polytechnic Institute, Emory University and West Virginia University) and 5 interims (2 were women).

Recruiting, retaining and advancing a diverse and distinguished faculty and staff

As Provost at Syracuse University: Hired approximately 90 faculty annually
Absorbed personnel and activities of ADVANCE and WiSE into the Office of Faculty Affairs to lead institutional transformation around inclusive excellence.
Restructured the Provost's Advisory Committee on Promotion and Tenure; reviewed 60 cases annually
Revamped the process by which faculty are selected for prestigious awards, and *Emeriti* status
Produced *Innovation Orange* faculty digital spotlights at athletic events
Developed a dual career hiring policy and funding mechanism

As Provost at WVU: Increased hiring of women and underrepresented faculty and staff
Provided productivity tools through National Center for Faculty Development and Diversity
Trained a cohort of male "Advocates" to promote gender and racial equity
Required departments to develop a sponsorship plan (with funding) before approval of new faculty lines
Worked closely with Div. Diversity, Equity and Inclusion to foster a climate that promotes success

As Dean: Hired approx. 60 tenure track faculty (30 women and one African American).

As Chair: hired 10 tenure track faculty (4 women)

As Professor: Provost's Council on Faculty Enhancement Activities: Sabbaticals cte (1992-4); Administrative Track cte (1992-4); Planned 3 day "Workshop for Potential Administrators" (1993)

EQUIPPING FACULTY FOR WORLD CLASS TEACHING/RESEARCH/SCHOLARSHIP/CREATIVITY

As Provost at Syracuse University: Launched the Center for Teaching and Learning Excellence.
Research expenditures increased from $85M to $146M.
Separated the combined VPR/Dean of Graduate School role into two distinct portfolios and hired VPR and Associate Provost for Graduate Education and Dean of the Graduate School
Resourced a functional Office of Research with additional staffing in proposal services and compliance (COI, export control, RCR). Seated a Research Equipment Task Force. Office of Technology Transfer established innovation-generating collaborations with many university partners in U.S. and abroad.
Invested approaching $2M in intramural grants to catalyze scholarship, research and creative activity.
Dedicated $37.5M investment in 100 new faculty lines in Signature fields and interdisciplinary Clusters.
Created the Syracuse Office of Undergraduate Research and Creative Engagement (the SOURCE; $1M in base funding) as a hub for student research, creativity and discovery.
Expanded funding for 36 additional doctoral students $750,000.
Funded $1.2M in support of postdoctoral fellowships and Small Equipment Program.
Launched the Infrastructure Institute to advance global and domestic infrastructure.

As Provost at WVU: Research expenditures increased from $141M (2009) to $152M (2014); grew doctoral enrollment by 5%.
Invested in 100 new FTE (72 tenure track) lowering student:faculty ratio from 27:1 to 21:1.
Round 1 hiring (30 lines) relieved instructional pressures; Round 2 hiring (24 lines) was dedicated to investment in STEM; Round 3 hiring (20 lines) was committed to "game changing" interdisciplinary cluster hires known as "Mountains of Excellence" (details below).
Revisited the University P and T parent document.

Increased institutional funds to fuel exploratory research/scholarship ($385,000 to $735,000).
Co-chaired the University Strategic Research Council chaired by VPR.
Hired Associate VPR for Creative/Scholarly Activity to promote non-STEM scholarship/creativity.
As Dean:
Research expenditures doubled from $6,908,868 (2001-2) to $14,921,758 (2008-9).
Increased faculty start-ups (from high of $200K to a high of $320-550K).
Implemented an 8-year $33M capital plan involving: space needs assessment, rehabilitation of 4 buildings and construction of life science research building; P3 to construct 13,000 ASF off-campus incubator.
Expanded graduate stipend support through partnership with regional industry and Air Force.
Created a Research Advisory Committee for college level review of institutional research competitions.
Provided staff support to assist cross disciplinary proposal "capture" teams.
Developed a policy for accrual of evaluation credit for faculty participating in multi-PI grants.
Negotiated the infrastructure requirements for BRTTC-funded GRIP initiative (University of Cincinnati) and Ohio Research Scholars (in layered sensing and bio imaging).

As Chair: Research expenditures increased by 67%

As Professor: Served on UF's Review Committees for Research Development Awards (1993, 4) and selection of NSF Presidential Faculty Fellows (1992, 4).

PROMOTING INTERDISCIPLINARY COLLABORATION

As Provost at Syracuse University: Established research Clusters in: Aging, Behavioral Health and Neuroscience; Artificial Intelligence, Autonomous Systems and the Human Technology Frontier; Big Data and Data Analytics; Bio-Enabled Science and Technology; Energy and Environment; Innovation and Entrepreneurship; Social Differences, Social Justice; Citizenship and Democratic Institutions; Quantum Information Science; and Virtual and Immersive Interactions.

As Provost at WVU: Established research Clusters (requiring a business plan for sustainability and appointment of an Advisory Board) in: Radio Astronomy; Eliminating Health Disparities in Appalachia; Improving STEM Education and Scientific Literacy; Utilization of Shale Gas; and Promoting the Stewardship of Water Resources. "Flash funding" incentivized existing faculty to engage with the cluster.

As Dean: Co-created an interdisciplinary technology-based Learning with Disability concentration shared among 4 doctoral programs (Biomedical Sciences; Human Factors/Industrial Organizational Psychology; Computer Science and Engineering; Engineering) and acquired NSF IGERT funding ($3M) to launch it.
Established a Science and Math Education Council for faculty, administrators and K-12 practitioners.
Appointed a Coordinator of Science and Math Education to develop a Center and Ph. D. program.
Implemented a new interdisciplinary Ph.D. program in Environmental Sciences.
Established research centers in: Math and Science Education; Environmental Analytics
Developed policy for P & T evaluation of jointly appointed faculty and credit accrual for multi-PI grants.

PROMOTING A LEARNER-CENTERED ACADEMIC SUCCESS CULTURE

Undergraduates:
As Provost at Syracuse University: Transferred Enrollment Management to a merged unit Enrollment and the Student Experience. Together with a newly hired SVP, launched the Retention and Student Success Steering Committee and Council, and increased retention and graduation metrics by 2 and 3%.
Improved student services for registration, academic policies, and degree certification.
Revamped the academic/career advisement operation in schools and colleges.

Intrusive communications with students not yet registered or electing to transfer from the institution.
Recognition of high achieving students at the end of their first semester.
Launched the Center for Learning and Student Success to provide free peer-based tutoring to students concentrating on the historically challenging courses (>6000 tutoring visits per semester).
Implemented Hobsons Starfish, Degreeworks and electronic transcript delivery.
Partnered on "Fifteen to Finish" and an "over the line" discount to improve graduation rates.
Led progress towards establishing a common First Year Experience so that student become engaged in the campus community through dialogue around identity and belonging;health and wellness; and diversity and inclusion in part through a shared reading, exposure to regional history and culture; familiarity with campus health/wellness and success resources. The first year seminar is to be followed by an elective IDEA course (deepening understanding of Inclusion/Diversity, Equity, Access).

As Provost at WVU: Enrollment Management was moved from Student Affairs to Academic Affairs (2011) with an aggressive strategic enrollment and marketing plan that included regular retreats for academic deans focused on issues such as creating majors with relevancy for the knowledge economy and growing graduate programming. Established living learning communities; created instructional space at residential complex; promoted service learning opportunities. Reconceptualized the First Year Experience and the Resident Faculty Leader Program.
Main campus: increased enrollment by 10% including a doubling of underrepresented students, a quadrupling of international students and 2% increase in women students. Incentivized colleges to invest in learning support centers.
Degrees conferred increased from 5926 to 6367. Retention and graduation rates increased by 2%.

University College was launched (2013) to deliver university-wide academic support/enrichment and to provide an administrative home for students who had not yet declared majors, who desired to change majors, or who had not yet met requirements to enter their desired major (served 5600 students).
Academic supports included: counseling, prescriptive advisement, early alert, tutoring, bridge programs for at-risk students and an academic success institute for students on probation.
Academic enrichments included: civic engagement, service-learning, undergraduate research, McNair, pre-health professions advisement and ASPIRE (center for national fellowships).

As Dean: 2+2 Pathways: Created degree completion pathways for community college transfers.
PI on NSF-funded STEP grant (~$2M) with Sinclair Community College to develop a first year experience for "not yet ready" STEM majors that boosted retention (59- 66% in science; 46-82% in engineering).
Led a funded Choose Ohio First proposal ($3M scholarships) to retain STEM students in OH
Played a leadership role in regional STEM P-20 consortium including: creation of the Dayton Regional STEM School; creation of Gates Foundation-funded National Governor's Association STEM center.
Increased STEM enrollment by 10%; created new positions for Coordinators of General Education and STEM Student Success; Addressed "gateway" service courses for degree completion (math for engineering, microbiology for nurses, science and math content for early and middle childhood education. Increased doctoral enrollment by 68% (73 to 123). Created a "Deans Circle" with proportional representation of undergraduate majors.
Improved advisement staff and facilities in Biology and Psychology and in Pre-Health Professions.
Launched an annual Awards Ceremony to recognize accomplishments of students and faculty.

As Chair: Leveraged federal grants totaling $1,773,774 for curricular initiatives; reformed General Education Biology Lab Class; developed tracks in Exercise Science and Biological Education.

As Professor: Co-chaired College "Focus on Teaching" work group (1990-2) that planned college workshops "Diversity in the Classroom: Understanding Each Other" and "Peer Perspectives on Teaching". College Curriculum Committee (1987-8).

Graduate students

As Provost at Syracuse University: Hired an Associate Provost for Graduate Education and Dean of the Graduate School dedicated to provide central support, coordination and oversight of graduate enrollment management as well as to improve the graduate student experience including: increased minimum stipends; launched the Office of Professional and Career Development; initiated a new child-care subsidy; and migrated all graduate students to a common platinum level health plan.

As Provost at WVU: Changed reporting structures for Assoc Provost of Graduate Education to report through the VPR to optimize synergy between research and graduate training (2012).
Emphasis on Pathways to Careers, grew internships and campus recruitment by Fortune 500 companies

FORWARD-THINKING SOLUTIONS, TECHNOLOGIES, NEW DELIVERY FORMATS

As Provost at Syracuse University: Co-created a plan for post-traditional future students, partnered in launching the Center for Online and Digital Learning (CODL).
Coordinated graduate online programming through 2U that led to significant growth in programming (2 in 2015 to 15 in 2019 serving 5000 students) with associated revenue growth from $11M to $27M. Contracted with 2U for 10 short courses.
Launched one of the first in the nation online *Juris Doctor* interactive programs JDi through CODL.
Worked with the VC Strategic Initiatives to create an Entrepreneurial Ecosystem.
Base budgeted the Blackstone Launchpad for sustainability after funding concluded.
ITS implemented several new major systems: Blackbaud, Blackboard, Hobson's Starfish and Degreeworks. Built a remediation plan for the Green Data Center. Completed the first successful ERP implementation in 25 years; reviewed digital accessibility and Information Security Framework; and developed a "cloud first" IT strategy (Microsoft and Azure cloud).

As Provost at WVU: Discussant at 2nd International *Coursera* conference (2013)
Organizer and presenter of panel at APLU CAA meeting on "Reframing the MOOC Conversation: Building an Online Strategy" [Joe Glover (UF), Karen Hanson (UM), Michael Tanner (APLU)]
Launched Academic Innovation (2013, former College of Extended Learning) comprised of: WVU Online and extended campus; teaching and learning commons; iDesign, K12 Digital Initiative; ACCESS courses for high school students and Summer Session. Led by an AVP, this unit developed WVU's online strategy. Implemented Quality Matters review of all online courses.
Established task-force on Research, Innovation and Commercialization which recommended establishment of the Launchpad (incubator); 30 small business start-ups to date
Supported state-wide WV Collegiate Business Plan Competition (with a high school equivalent)
Established Brickstreet Center for Innovation and Entrepreneurship
Supported the Bureau of Business and Economic Research in providing indicators of WV fiscal health.

IT: Optimized reporting structures (CIO co-reports to Provost and CFO) and governance for IT decision-making (Gartner Consulting). Completed IT projects: identity/access management solution for 45,000 accounts; infrastructure upgrades; migration of student email to google.edu cloud; implementation of the Kuali open source software platform for Electronic Research Administration; LMS Blackboard Vista 8 upgrade to Learn 9 (serving 77,000 students annually with a repository of 5000+ courses); assessed enterprise-wide network vulnerability; increased bandwidth to 818 megabits/second; and established a high performance computing center.

As Dean: Implementation of OH economic development initiatives including: the Wright Center for Innovation (daytaOhio); Third Frontier; Hayes investment; and BRTTC.

COMMITMENT TO INCLUSIVE EXCELLENCE

As Provost at Syracuse University: Supported establishment of Office of the University Ombuds and hiring of the inaugural Chief Diversity and Inclusion Officer.
Led Diversity and Inclusivity Short- and Long-Term recommendations including: adoption of a university-wide ICT accessibility policy and creation of a centralized budget for faculty/staff accommodation; purchased institutional membership in the National Center for Faculty Development and Diversity; exploration of LGBT major; and adoption of ASL as a required language where one is required.
Trained 800 faculty on inclusive teaching, microagressions and universal design for learning and launched the Advanced Diversity, Equity and Inclusion Institute.
Launched the Lender Center for Social Justice.
Adjusted salaries of 197 women faculty ($2M base budget) following the recommendations of a Faculty Salary Review committee.
Created policies to allow for degree completion for students impacted by U.S. Immigration policy.
Conducted a comprehensive Disability Audit review. Worked with NY Disability Services Council and NYSED to promote legislative support for students with disabilities culminating in the first Higher Education and Disability Advocacy Day in Albany. Undertook significant campus education on disability bias, academic ableism and disability as diversity.
Supported opportunities for faculty of color to network.
Served on the Internal Advisory Board for the Women's Leadership Initiative.
Served as PI of the NSF (Louis Stokes Alliance for Minority Participation (LSAMP); HRD 1712733; "Upstate new York LSAMP: Strengthening the pipeline between two and four year institutions"; M. G. Wheatly, J. White, D. Johnson, T. Hamilton and A. C. Staniec; $4,000,000 (2017-2020).

As Provost at WVU:

Launched the Women's Leadership Initiative at WVU http://womensleadership.wvu.edu/ has trained >150 campus women over 4 years through the small group executive coaching model employed at Harvard conferences. A research agenda is being disseminated through publications in the Leadership Studies literature and through conference presentations.

Served as PI for acquisition and implementation of $3.2 M NSF-funded ADVANCE (STEM women) grant: chaired Internal Advisory Board; engaged 16 STEM/SBS departments in a dialogical change process to promote interdependence and collective efficacy as the framework for institutional culture change. ADVANCE initiatives resulted in increased % of women and minorities in applicant pools; 32% increase in hiring of women in STEM/SBS; increased advancement rate; increased representation on P and T ctes; NSF indicator data show salary and space are comparable for male and female hires.
Invested $360K to expand the ADVANCE sponsorship program to underrepresented non-STEM faculty.
Required training in unconscious bias for all search committees.
Recommended administrative structures for a Chief Diversity Officer (Div. Diversity, Equity, Inclusion).
Initiated a Parental/Alternate Work Assignment Policy (for 9-month faculty), and grouped Work/Life policies centrally on institutional web pages; planned lactation rooms in all major buildings
Advocated for GLBTq community and Black Faculty Association.
Institutional liaison to COACHE (Collaborative on Academic Careers in Higher Education): presented at two COACHE workshops at Harvard. Deployed survey/climate data to improve faculty satisfaction.
WVU became a charter member of OH Higher Education Recruitment Consortium (dual career hiring).

As Dean: Leveraged federal/state funding for STEM pipeline initiatives including:

PI on ADVANCE IT grant ($3M) Launching Equity across the Dayton Entrepreneurial Region
PI on Ohio STEM Ability Alliance ($3M) with OSU
PI on Creating Laboratory Access for Science Students ($0.5M)
PI on Gateway into first-year STEM ($2M) with Sinclair Community College

Creating Laboratory Access for Science Students (CLASS) recognized by Congress as a national model.
Served as institutional liaison for Ohio's Louis Stokes Alliance for Minority Participation ($3M NSF).
Facilitated the establishment of a Miami Valley Chapter of the Association for Women in Science.
Developed a "Women in Academic Leadership" reading group.
Negotiated the first "partial unpaid leave" (half time appointment) and hiring of a career couple.
Established a Safety and Security Committee for STEM women working after hours in labs.

As Chair: Leveraged federal funds for universal access to STEM careers including:

PI on Universally accessible biology laboratory curriculum ($585,000)
PI on Underrepresented mentoring in environmental biology with Wilberforce Univ ($260,000)

As Professor: Of 16 graduate students supervised, 10 were women and 2 were minority; of 4 postdocs, 3 were women; Routinely taught Senior/Honors Seminars on promoting representation in STEM including: Whose Science Is It?; Women in Science; Hypatia's Legacy: Historical and Contemporary Perspectives of Women in Science. Led Book Groups on: issues of Inclusion including: Sheryl Sandberg Lean In; H. Etzkowitz, C. Kemelgor and B. Uzzi Athena Unbound: the Advancement of Women in Science and Technology

Association of Women Faculty (UF) Elected President (1993); Programming Committee (1993-4); Planning Committee (1992-3); Minority Mentor (1988-1991)

ENGAGEMENT WITH EXTERNAL STAKE-HOLDERS

Legislature, system leaders, alumni, corporate and community boards

As Provost at Syracuse University: Supported the establishment of a Government and Community Relations office. Supported the Shaw Center for Public and Community Service to coordinate service learning across campus. Routinely engaged with the Voting (44) and Life (72) Trustees, and members of school/college Advisory Boards.

As Provost at WVU: Acquired Carnegie Classification "Engaged Campus" (2010); Led campus discussions that conceptualized the "essential" land-grant mission promoting access to education, health and economic development; Hired an Associate Provost (Engagement and Outreach) to catalyze economic development with VPR, VP State Relations and the Chief Global Officer. Invested in STEM education at 4-H summer camps. WV's acquisition of Summit Bechtel Reserve (4th national Boy Scouts of America camp and permanent site of the Jamboree) has combined state economic development with a STEM pipeline opportunity for WVU; Hosted Economic Outlook conferences for state government (House and Senate) and business; Served on regional United Way Board and led the WVU Campaign in 2011 Significant interactions with Board of Governors, WVU Foundation Board and WVU Alumni Board

As Dean:
Federal/State Relations: Testimony linking STEM and economic development before OH's Senate Education Committee (2009); OH Board of Regents Program Effectiveness, Research and Technology (PERT) committee (2006); OH Department of Economic Development Third Frontier Initiative defending the Dayton Region Wright Megacenter Proposal (2006); OH Legislative Leaders (2007).

Corporate/Industry/Community Boards/Relations: Established College Corporate Board including representatives from Wright Patterson Air Force Base, General Dynamics, Barco, IAMs, Greene Memorial Hospital, Community Tissue and Blood Bank, and Cargill.
Leveraged Industry Support from Barco Simulation and Hess Petroleum through daytaOhio (Visualization Lab); Schlumberger Petrochemical (salt dome project); Procter and Gamble (combinatorial chemistry); MeadWestvaco Corp (endowed chair).
Served on the Board of the Dayton Regional STEM School

K-12 Outreach: Trebuchet Competition; Invention Convention; Greene County Science Day; TechFest; Exploring Science and Engineering; Take Our Sons and Daughters to Work Day; President's Day Preprofessional Forum. Special projects: Girls in Science; sponsorship of Charity Adams Earley Academy for Girls; Sally Ride Middle School Science Festival for Girls.

As Chair: Served on Ohio's Transfer and Articulation agreement cte (2- to 4-year biology courses).

CONSULTATIVE MANAGEMENT/SHARED GOVERNANCE

As Provost at Syracuse University: Reported at every Senate meeting, member of the Agenda Committee and the Academic Affairs Committee. Hosted "Lunch and Learn" gatherings with groups of faculty. Sought University Senate approval on changes to the Faculty Manual relating to faculty titles, academic freedom for adjunct faculty, prohibition of consensual relationships between faculty and undergraduates, and background checks for all faculty. Collaborated on annual census data for faculty.

As Provost at WVU: Highly visible public presence with routine visits to academic units; productive dialogue with Faculty Senate and Senate Executive Committee, Staff Council and Student Government; Chaired the Council of Deans (including the HSC deans and Campus Presidents).

As Dean: Assumed position after unionization of the faculty; negotiated 7 original sets of bylaws with AAUP. Extensive experience with arbitrations and grievances

As Professor: Faculty Senator (1992-4, 1986-88)

STRENGTHENING INSTITUTIONAL IDENTITY/BRAND, PUBLIC COMMUNICATIONS

Media presence (print, TV, radio, digital, university publications, E news); STEM image spots; experienced with a range of audiences including providing Congressional Testimony. Requested speaker on STEM/Economic Development, Higher Education, Emerging Technologies, and Inclusive Excellence.

EXPERIENCE WITH DIVISION 1 NCAA INTERCOLLEGIATE ATHLETICS

As Provost at Syracuse University: Worked with Provosts and Presidents in the Atlantic Coast Conference to advance the ACC Academic Consortium and promoted Syracuse University's full participation in all sponsored ACCAC events including: the Leadership Network Program (faculty and student), the Smithsonian Festival, Meeting of the Minds, the Three Minute Thesis, Inventure Competition, the Washington Seminar and DemocrACCy.
Worked with AD John Wildhack to support 600 scholar/athletes posting the best GSR and APR in institutional history and attainment of nationally competitive awards (NCAA Graduate Award and a Walter Byers finalist). Hosted a Summit for heads of Academic Support in the ACC conference.

As Provost at WVU: Experienced conference realignment from the Big East to the Big XII. Worked with Oliver Luck (AD) to promote success of scholar athletes, Title IX and brand affinity

GLOBAL PERSPECTIVE

As Provost at Syracuse University: Established the Internationalization Council to develop recommendations to: improve the international student experience; globalize the curriculum; and develop a comprehensive China Strategy.
Rebranded Study Abroad as Syracuse Abroad and increased participation by 14% (1500 students).
To serve more international students: invested in English as a New Language and in-country onboarding.

As Provost at WVU: Chief Global Officer hired to merge International Student Services and International Programs into *oneGlobalWVU* including: 4-fold increase in international students: improved study abroad/student exchange; coordinated global research; and established international alumni groups. Established Center for Global Business and Strategy and Confucius Institute (Tianjin Univ of Fin & Econ).

2013 Ireland: **EPCoR delegate** to assess the role of the Irish Higher Education Authority in expanding the knowledge economy of the European Economic Community. Institutions visited: Forfas (Ireland's policy advisory board for enterprise, trade, science, technology and innovation), Irish Research Council, Health Research Board, Teagasc (agriculture and food development), the Marine Institute, Tyndall Institute of University College Cork, Nimbus Centre for Embedded Systems Research of Cork Institute of Technology, University/Trinity College Dublin Innovation Alliance, and National University of Ireland.

2012 China: Institutions visited: Chinese Academy of Forestry (Beijing), Northeast Forestry University (Harbin), Xi'an International Studies University and Xi'an University of Finance and Economics; Shanghai University of Finance and Economics; and Purolite China Co., Ltd (HangZhou).

2011 Oman and Jordan: Selected as a **Fulbright Scholar** to participate in a 2-week Seminar Abroad for Presidents and Provosts to discuss: accreditation and quality assurance, internationalization of higher education, strategic planning, and linking higher education to the workforce. Institutions visited: Sultan Qaboos University, Mazoon University, Ministry of Higher Education, Oman Medical College, World Learning, Nizwa University, Caledonian College of Engineering (Oman); Jordanian Higher Education System, Columbia University, Middle East Research Center, Al Quds University, Jordan University of Science and Technology, Yarmouk University, Ministry of Higher Education, Petra University, University of Jordan, and the Institute for Traditional Islamic Art (Jordan).

2010 Bahrain: collaborated with WVU alumni to found the Royal University for Women.

As Chair: CoPI on a FIPSE award to develop a US-Brazil biotech training consortium ($210,000)

As Professor: Of 16 graduate students supervised, 9 were international
PI on NSF funded collaboration with Brazil ($75,000).
Inducted into Phi Beta Delta International Honor Society.
Served on U.S. National Committee for the International Union of Physiological Sciences (1990-1993).
Expert Reviewer for the Canadian Institutes of Health, Natural Sciences and Engineering (2000)
Visiting International Researcher:

1997	Universidade de São Paulo, Brazil
1986	Centre National de la Recherche Scientifique, Strasbourg, France
1983	Smithsonian Tropical Research Institute, Naos, Panama
1982	Bamfield Marine Station, British Columbia, Canada
1981	Biology, McMaster University, Hamilton, Ontario, Canada
1979	Marine Biological Association of U. K., Plymouth, England

II. ACADEMIC LEADERSHIP AS A SCHOLAR/EDUCATOR

Professional Association Memberships

1. Society for Experimental Biology
2. Canadian Society of Zoologists
3. Society for Integrative and Comparative Biology
4. American Physiological Society
5. Crustacean Society
6. Sigma Xi
7. International Association of Astacology
8. Mount Desert Island Biological Laboratory
9. Ohio Academy of Sciences
10. Ohio Physiological Society
11. American Association of University Women
12. Council for Undergraduate Research
13. Assoc for College and Univ. Biology Educators
14. Association for Women in Science
15. National Association of Biology Teachers
16. National Science Teachers Association
17. Phi Beta Delta Honor Society
18. Council of Colleges of Arts and Sciences
19. Council of Arts and Sciences in Urban Universities
20. Association of Public and Land-grant Universities: Council on Academic Affairs
21. Education Advisory Board: Academic Affairs Forum
22. Big XII Provosts
23. American Council on Education,
24. Association for Chief Academic Officers (Board)
25. ACC Provosts (Elected Chair for 2020)
26. Colonial Provosts
27. International Leadership Association

Service to Academic Professional Associations

2000-2006	Steering Committee, Comparative Section of American Physiological Society
2000-2006	American Physiological Society, Committee on Committees
1998-2000	Society for Integrative and Comparative Biology, elected Program Officer, Division of Comparative Physiology and Biochemistry
1994	Secretary/Treasurer of International Association of Astacology
1993, 1997	American Physiological Society, Scholander Award judge at *Experimental Biology*
1992	American Physiological Society, Travel Awards Committee for IUPS Congress
1992	National Research Council review panelist
1991	Executive Board Member, International Association of Astacology
1990, 1991	Best Student Paper Committee (Division of Comp. Physiology and Biochemistry, ASZ)
1990-1993	U. S. National Committee for the International Union of Physiological Sciences-- representing the ASZ, delegate to the IUPS Assembly at 1993 Congress
1989-1991	Crustacean Society Awards Committee

Federal Agency Review Panels/Site Visits

2008	NSF panel (Processes Structure and Integrity, Physiological and Structural Systems)
2007	NSF Site Reviewer for EAST Regional Alliance in Disability, University of Southern Maine
2006	NSF Review Panel (Science Talent Expansion Program)
2003	NSF Review Panel (Integrative Animal Biology)
2002	NSF Review Panel (Undergraduate Mentoring in Environmental Biology)
2000	Expert Panel Review for Canadian Networks of Centres of Excellence (Canadian Institutes of Health, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada and Industry Canada) "DiversiGen: Genomics and Sustainable Development Network"
2000	NSF Review Panel (Ecological and Evolutionary Physiology)
2000	NSF Review Panel (Undergraduate Mentoring in Environmental Biology, Integrative Animal Biology)
1997, 1998	NSF Review Panel (Postdoctoral Fellowships for Biosciences Related to the Environment)

Expert Reviews

Journal Reviewer: Marine Behaviour and Physiology; Journal of Comparative Physiology; Canadian Journal of Fisheries and Aquatic Sciences; Journal of Crustacean Biology; Journal of Experimental Biology; Physiological and Biochemical Zoology; American Journal of Physiology; Biological Bulletin; Australian Journal of Marine and Freshwater Research; American Zoologist; Journal of Experimental Zoology; Freshwater Crayfish; Estuaries; Comparative Biochemistry and Physiology; Experimental Biology on Line; Journal of Experimental Marine Biology and Ecology; Limnology and Oceanography; Marine Biology; Cell and Tissue Research.

Grant Reviewer:
National Science Foundation; Canadian National Science & Engineering Research Council; Killam Fdn

Visiting Scientist at U.S. Research Facilities

1985, 1992-4	C.V. Whitney Marine Laboratory, St. Augustine, Florida
1984	Mount Desert Island Biological Laboratory, Maine
1982	Virginia Institute of Marine Sciences, Wachapreague, Virginia

University/Departmental Service as Professor at UF

University: Sigma Xi: Secretary (1990-91); Mote Marine Lab Liaison (1989-90).
Departmental Committees: Strategic Planning (Chair 1993-4); Faculty Searches: Marine Ecologist (1989), Biological Illustrator (1986), Comparative Developmental Physiologist (1985), Comparative Physiologist (1984); Executive (1984-6; 1989-91); Merit Pay (1991, 1994); Undergraduate (1992-3); Graduate Admissions (1987-9, 93-4); Interview Committee for Incoming Graduate Students (1988); Physiology Screening (Chair 1985-7); Seminar (Chair, 1988-9, Member, 1986-1988, 1991-3); Courtesy Appointments (1989-91, 1993-4); Sigma Xi representative to UF Chapter (1991-3); Space Committee (1991-3).

Courses Taught

University of Florida (UF), Wright State Univ (WSU), West Virginia Univ (WVU), Syracuse University (SU)
Lower Division: General Education Biology (UF); Introductory Biology for Majors (UF, WSU); First Year Seminar (SU); Integrative Physiology and Ecology (SU)
Upper Division: Physiology of Marine Animals; Crustacean Biology (UF); Mind the Gap: Inclusion, Diversity, Equity and Accessibility in STEM (SU)
Senior/Honors Seminars: Career Planning for Biologists (WSU);
Book Groups (undergraduate): John Kao Innovation Nation (WSU and WVU)
Graduate Seminars: Adaptation: Molecular/Cellular/Organismic; Calcium, the Be All and End All; Advanced topics in Human Computer Interactions (with Engineering) (WSU)
Book Group (Graduate): John Avice The Genetic Gods (WSU)

Biological Sciences Research Interests

Comparative physiology of decapod crustacea. Gas exchange, ion and acid-base regulation in response to environmental changes including salinity, temperature, dissolved gases, exercise, and the advance from aquatic to terrestrial existence. Cellular and molecular biology of epithelial (branchial/renal) ion motive proteins specifically Ca^{2+} pumps (SERCA and PMCA), Na^{+}/Ca^{2+} exchanger (NCX), Ca^{2+} channels (ECaC), Ca^{2+} binding proteins (SCP, CaM) and aquaporins. Temporal and spatial regulation of genes coding for Ca^{2+} transporting proteins. Biologically inspired adaptive interfaces. Biocomplexity.

Educational Scholarship Interests

Access of underrepresented groups to STEM careers. Women in higher education leadership. STEM women interacting with media professionals.

SCHOLARLY WORK (Summary)

Academic productivity indices provided in attached Appendix

Extramural funding 1981-2020	$29.5 M
Refereed articles in top tier journals	112
Papers/Abstracts in Conferences and Symposia	192
Post docs/Graduate students mentored	22
Seminars and colloquia	29

APPENDIX

MICHELE G. WHEATLY Ph. D.

ACADEMIC PRODUCTIVITY DATA

RESEARCH AWARDS (reverse chronological order; agency NSF, National Science Foundation; title; PIs; amount)

Federal Agencies

2022-2023 NSF (ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers); "Commemorating 20 years of ADVANCE: design thinking sessions for a digital exhibit and archive"; H. M. Metcalf, M. G. Wheatly, S. T. Smith and B. Mitchneck; $99,922.

2017-2020 NSF (Louis Stokes Alliance for Minority Participation (LSAMP); HRD 1712733; "Upstate new York LSAMP: Strengthening the pipeline between two and four year institutions"; M. G. Wheatly, J. White, D. Johnson, T. Hamilton and A. C. Staniec; $4,000,000.

2010-2015 NSF (ADVANCE IT: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers), HRD 100797; "West Virginia University program for retaining institutional diversity and equity (WVU PRIDE)"; M. G. Wheatly, K. Jackson, F. King, M. Latimer and L. Tower; $3,848,330.

2008-2013 NSF (Research in Disability Education-Regional Alliances in Disability), HRD 0833644 Collaborative Research Proposals; "RDE-RAD: Collaborative Research: Ohio's STEM ability alliance (OSAA): STEM degrees and careers for Ohioans with disabilities."; M. G. Wheatly, J. Flach*, J. Gallagher (WSU lead institution); M. Izzo, S. Rissing (OSU); $ 1,499,227 at WSU and $1,500,000 at OSU; * JF became PI when MGW left institution.

2008-2013 NSF (ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers), HRD 0810989; "In the footsteps of Katharine Wright: promoting STEM women through LEADER"; M. G. Wheatly, D. L. Goldstein*, K. Kendricks, J. Saliba and T. Schneider; $2,863,057; * DLG became PI when MGW left institution.

2006-2011 NSF (STEP: Science Talent Enhancement Program), DUE 0622466; "Gateway into first-year STEM curricula: a community college/university collaboration promoting retention and articulation"; M. G. Wheatly, N. Klingbeil*, K. Koenig, R. Jones and G. Sehi; $1,997,620; * NK became PI when MGW left institution.

2005-2010 NSF (IGERT: Integrative Graduate Education and Research Training), DGE 0504438; "IGERT: An interdisciplinary initiative on technology based learning with disability"; F. Golshani, N. G. Bourbakis, J. M. Flach, R.E.W. Fyffe and M. G. Wheatly; $2,976,823

2005-2009 NSF (Integrative Animal Biology), IBN 0445202;"The paradox of cellular calcium homeostasis during vectorial transfer: spatial and temporal regulation of Ca import/export proteins using the freshwater crayfish molting model"; M. G. Wheatly, Y. Gao and C. Gillen; $456,000.

2005-2006 NSF (Research in Disabilities Education), DEI 0435658; "Research in Disability Education: Demonstration, Enrichment and Information Dissemination"; M. Wheatly, M. E. Bargerhuff, S. Lunsford, H. Turner; $100,000.

2004-2006 NSF (Integrative Animal Biology), IBN 0076035; "ROA supplement to: Calcium homeostasis modeled on the freshwater crayfish molting cycle: from physiology to molecular regulation"; M. G. Wheatly and C. Gillen; $28,089.

2003-2008 NSF Louis Stokes Alliance for Minority Participation (LSAMP); "The Ohio Science and Engineering Alliance: University of Akron, Bowling Green State University, Case Western Reserve University, Central State University, Cleveland State University, University of Cincinnati, University of Dayton, Kent State University, Miami University, Ohio State University, Ohio University, University of Toledo, Wilberforce University, **Wright State University**, and Youngstown State University. Other partners included: Wright-Patterson Air Force Base, the Ohio Board of Regents, Ohio College Access Network (OCAN, with member programs including Cleveland Scholarship Programs, I Know I Can of Columbus, and the Cincinnati Youth Coalition), and COSI"; Karen Holbrook (OSU President), M. G. Wheatly and R. Mawasha (WSU leads); $3,500,000.

2001-2006 Fund for the Improvement of Postsecondary Education, U.S. Department of Education; "US-Brazil biotech training consortium (USABRIO)"; M. Morris, D. L. Goldstein and M. G. Wheatly; $210,000.

2001-2007 NSF (Course, Curriculum and Laboratory Improvement), DUE 0089396; "Creating laboratory access for science students (CLASS) with disabilities"; M. G. Wheatly, J.H. Tomlin, J. A. Vernooy, R. Brame and T. S. Wood; $504,570 plus supplement of $4,570.

2000-2006 NSF (Integrative Animal Biology), IBN 0076035; "Calcium homeostasis modeled on the freshwater crayfish molting cycle: from physiology to molecular regulation"; M. G. Wheatly; $395,000.

1999-2006 NSF (Undergraduate Mentoring in Environmental Biology), IBN 9975314; "UMEB: Wright State University partners with Wilberforce University to yield RESULTS (Research in Environmental Stress for the Underrepresented: Long Term Studies)"; M. G. Wheatly, L. Arlian, A. Burton, W. Carmichael, D. Goldstein, M. Gonzalez, K. Grasman, M. Hennessy, D. Krane, M. Morris; $259,754 plus supplement of $1,450.

1998-2003 NSF, IBN 9870374; "POWRE: The evolving function of the basolateral membrane Ca pump in exchange epithelia of a continuum of aquatic to semi-terrestrial Brazilian crabs"; M. G. Wheatly; $75,000.

1997-2002 NSF (Research Experience for Undergraduates, REU); "REU Supplement to NSF Grant IBN 9603723 "Physiological and molecular characterization of the Ca pump and exchanger: an integrated approach modeled on the freshwater crayfish molting cycle"; M. G. Wheatly; $22,500.

1997-2002 NSF (Course and Curriculum Development), DUE 9653121; "Making biology laboratories effective learning environments for students with disabilities: a national model for undergraduate instructors and grades 7-12 school teachers"; M. G. Wheatly, L. Ramey-Gassert (then P. Renick), T. Wood, S. Simon and J. Vernooy; $585,000.

1997-2002 NSF (Physiology and Behavior), IBN 9603723; "Physiological and molecular characterization of Ca pump and exchanger: an integrated approach modeled on the freshwater crayfish molting cycle"; M. G. Wheatly; $248,000.

1995-1998 U. S. Dept of Education (Patricia Roberts Harris Minority Graduate Fellowships); "Fellowship support for 3 underrepresented graduate students for 3 years"; M. G. Wheatly and M. Gonzalez; $213,000.

1994-1995 NSF (Physiology and Behavior), IBN 9316332; "Support for the Symposium "Calcium regulation: mechanisms and control in crustaceans and lower vertebrates."; M. G.Wheatly; $6,000.

1993-1996 NSF (Career Advancement Award), IBN 9307290; "Acquiring molecular techniques in order to characterize Ca transport using the molting cycle of a freshwater crustacean as a model system"; M.G. Wheatly; $50,000.

1992-1995 NSF (Sensory), BNS 9121568; “Structural and functional adaptations to salinity stress in a chemosensory system”; R. A. Gleeson, M. G. Wheatly, H. G. Trapido-Rosenthal, and H. C. Aldrich; $231,950.

1990-1995 NSF (REU Supplement: Physiological Processes), DCB-8916412; “Supplement to grant entitled "Physiological mechanisms of calcium regulation using the molting cycle of a freshwater crayfish as a model system." “; M. G. Wheatly; $7,000.

1990-1995 NSF (Physiological Processes), DCB 8916412; “Physiological mechanisms of calcium regulation using the molting cycle of a freshwater crayfish as a model system”; M. G. Wheatly; $221,000.

1989-1991 NSF (Biological Instrumentation Program), DIR 8820333; “Purchase of an atomic absorption spectrophotometer”; M. G.Wheatly, K. A. Bjorndal, D. H. Evans, L. J. Guillette, and H. B. Lillywhite; $28,082.

1984-1985 NSF (Biological Instrumentation Program), DCB 8413722; “Purchase of a liquid scintillation spectrometer”; D. H. Evans, M. G. Wheatly, P. O. Lawrence, R. J. Ferl and P. W. L. Chun; $20,000.

1985-1989 NSF (Regulatory), DCB 8415373; “Mechanisms of acid-base regulation in the freshwater crayfish”; M. G. Wheatly; $131,975.

1984-1984 NSF; “Travel grant to attend IUBS Congress in Liège”; M. G. Wheatly; $678.

State Agencies

2009-2014 Ohio Board of Regents (Choose Ohio First Scholarship Program COFSP 09.17); “STEM degrees and careers for Ohioans with disabilities including veterans: COF scholarships in support of NSF-funded regional alliance in disability (OSAA)”; M. G. Wheatly, J. Flach and J. Gallagher; $2,687,500.

2005-2006 Ohio Department of Education (subcontract from OSU); “Project AdLIT and CLASS”; M. G. Wheatly, M. E. Bargerhuff, J. Collier and H. Turner; $20,996.

2000-2002 Dayton Area Graduate Studies Institute/Air Force Research Lab (DAGSI/AFRL); “Biologically inspired adaptive interfaces”; R. Koubek (then C. Harvey), S. Narayanan, M. G. Wheatly, C. Phillips (Biomedical, Industrial and Human Factors Engineering, WSU), Partners: P. Smith (Industrial and Systems Engineering, OSU), M. Haas (AFRL) and J. Kloeber (AFIT); $400,000.

1981-1983 Alberta Heritage Foundation for Medical Research, Canada; “The interaction of respiratory and ionoregulatory functions in a model aquatic exchanger”; M. G. Wheatly; $64,880.

Competitive Institutional Funding (MGW was PI unless stated otherwise)

Syracuse University

2021-2022 HHMI (CHANcE) Effectiveness of a new course in helping STEM students become IDEA agents; $2500

Wright State University

2002-2002 Imaging core facility for natural and physical sciences at WSU; $30,000.
2000-2002 Immunolocalization of calcium transporters; $16,000.
1997-1997 Minigrant Proposal for Women’s Studies Course Development for BIO/UH 400 “Hypatia’s legacy: historical and contemporary perspectives of women in science”; $250.
1997-1999 Physiological characterization of Ca pump and exchanger; $17,233.
1997-1998 Upgrading student computer-assisted learning center in department of Biological Sciences; $49,601.
1993-1995 Molecular characterization of the Ca pump in crustaceans; $20,000.

University of Florida

1993-1995 Provision of equipment to support NSF Career Advancement Award; $2,400
1993-1993 Renovation of Laboratory 611 Carr Hall; $50,000.
1988-1988 Graduate research assistantship program; $5,080.
1986-1993 Travel grants to attend scientific meetings; $2,937.
1984-1985 Mechanisms of acid-base regulation in a model aquatic exchanger; $20,919.
1983-1984 Purchase of a Lex O_2 Con oxygen content measurement unit; $9,900.

PUBLICATIONS RECORD (in reverse chronological order)

Unpublished Theses

Ph. D. Thesis (July 1980). The problems of respiratory gas exchange and acid-base balance in water and air in two amphibious decapodan crustaceans.

Qualifying M. Sc. Thesis (June 1979). Bimodal respiration in two species of decapod crustaceans.

Lab/Teaching Manuals Authored

Wood, T. J., M .G. Wheatly, M. E. Bargerhuff, H. Turner, J. Vernooy, and M. Wendeln. 2006. Inclusive teaching in science labs. In: Inclusive Education: When Learning Becomes Common Ground (Renick, P. R., C. Harris, and C. Finegan eds), Wright State University, Dayton, p 98-103.

Wendeln, M., and M. G. Wheatly. 1996-2002 Animal and Plant Physiology. Burgess Publ. Co. 86p.

Scientific Domain
Refereed Journal Articles

1. Rohrback, S., M. G. Wheatly, and C. M. Gillen 2015. Calcium binding to *Procambarus clarkii* sarcoplasmic calcium binding protein splice variants. Comparative Biochemistry and Physiology, 179B, 57-63

2. White, A. J., M. J. Northcutt, S. E. Rohrback, R. O. Carpenter, M. M. Niehaus-Sauter, Y. Gao, M. G. Wheatly, and C. M. Gillen. 2011. Characterization of sarcoplasmic calcium binding protein (SCP) variants from freshwater crayfish *Procambarus clarkii*. Comparative Biochemistry and Physiology, 160B, 8-14.

3. Gao, Y., C. M. Gillen, D. R. Whalen, F. M. Vigo, A. E. Golshani, and M. G. Wheatly. 2009. Expression of genes encoding Ca^{2+} exporting proteins in freshwater crayfish *Procambarus clarkii* during cold acclimation. Journal of Thermal Biology, 34, 144-151.

4. Gao, Y., C. M. Gillen, and M. G. Wheatly. 2009. Cloning and characterization of a calmodulin gene (CaM) in crayfish *Procambarus clarkii* and expression during molting. Comparative Biochemistry and Physiology, 152B, 216-225.

5. Gillen, C. M., Y. Gao, M. M. Niehaus-Sauter, M. R. Wylde, and M. G. Wheatly. 2008. Elongation factor 1Bγ (eEF1Bγ) expression during the molting cycle and cold acclimation in the crayfish *Procambarus clarkii*. Comparative Biochemistry and Physiology, 150B, 170-176.

6. Wheatly, M. G., Y. Gao, and C. M. Gillen. 2007. Paradox of cell calcium homeostasis during vectorial transfer in crayfish kidney. General and Comparative Endocrinology, 152, 267-272.

7. Gao, Y,. and M. G. Wheatly. 2007. Molecular cloning of an epithelial Ca^{2+} channel (ECaC) like gene from crayfish *Procambarus clarkii*. Journal of Experimental Biology, 210, 1813-1824.

8. Wheatly, M. G., Y. Gao, L. M. Stiner, D. R. Whalen, M. Nade, F. Vigo, and A. E. Golshani. 2007. Roles of NCX and PMCA in basolateral calcium export associated with mineralization cycles and cold acclimation in crayfish. New York Annals of Science, 1099, 190-192.

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Refereed Books Chapters

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11. Wheatly, M. G. 1995. An overview of electrolyte regulation in the freshwater crayfish throughout the molting cycle. In: Freshwater Crayfish Vol. VIII (ed. R. P. Romaire), Louisiana State University Press, Baton Rouge, pp 420-436.

12. Wheatly, M. G. 1993. Physiological adaptations in decapodan crustaceans for life in fresh water. In: Advances in Comparative and Environmental Physiology. (ed. R. Gilles), Springer Verlag, Berlin Heidelberg, pp. 77-132.

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Reports

Wheatly, M. G., and F. C. Saleh. 1984. Acid-base regulation during experimental hyperoxia in the Rock crab *Cancer irroratus*. Bulletin of the Mount Desert Island Biological Laboratory, 24, 4-5.

Published Book Review

Wheatly, M. G. 2003. Review of "Biology of Freshwater Crayfish" by D. M. Holdich (2002). The Quarterly Review of Biology, 78, 493-4.

Education Domain

Edited Book

Sternberg, R. J., E. Davis, A. C. Mason, R. V. Smith, J. S. Vitter, and M. G. Wheatly (eds.) 2015. Academic Leadership in Higher Education: From the Top Down and the Bottom Up. Rowman & Littlefield, Lanham, MD. 30 chapters from presidents, provosts, deans and chairs, plus a preface and a final chapter, 286 pp.

Book Chapter

Bott, J. P., and M. G. Wheatly. 2015. Developing mentors on the path to leadership: a case study and conversation. In: Academic Leadership in Higher Education: From the Top Down and the Bottom Up (eds. R. J. Sternberg, E. Davis, A. C. Mason, R. V. Smith, J. S. Vitter, and M. G. Wheatly) Lanham, MD: Rowman & Littlefield, pp 81-87.

Refereed Journal Articles

1. Wheatly, M.G., L.N. Reed, M. Garland, and C.C. Jackson. 2023. Lessons learned from the pandemic: Syracuse University women embraced the online pivot in leadership education. Journal of Leadership Studies, 16 (4), 1-7. http://doi.org/10.1002/jls.21836.

2. Corsbie-Massay, C.L., and M. G. Wheatly. 2022. The role of media professionals in perpetuating and disrupting stereotypes of women in science, technology, engineering and math (STEM) fields. Frontiers in Communications. DOI: 10.3389/fcomm.2022.1027502

3. DeFrank-Cole, L., S. M. Latimer, P. Neidermeyer , and M. G. Wheatly. 2016. Understanding "why" one university's women's leadership development strategies are so effective. Advancing Women in Leadership Journal 36, 26-35.

4. Cottrell, L. A., S. Cottrell, M.G. Wheatly, B. Jungblutt, E. Dooley, and L. diBartolomeo. 2015. Matching the purpose of the general education curriculum with the reality of its implementation. Journal of General Education, 64 (1), 1-13.

5. DeFrank-Cole, L., M. Latimer, M. Reed, and M. G. Wheatly. 2014. The Women's Leadership Initiative: one university's attempt to empower females on campus. Journal of Leadership, Accountability and Ethics, 11 (1), 50-63.

6. Riffle, R., T. R. Schneider, A. Hilliard, E. Polander, S. Jackson, P. DesAutels, and M. G. Wheatly. 2013. A mixed methods study of gender, STEM departmental climate and workplace outcomes. Journal of Women and Minorities in Science and Engineering, 19 (3), 227-243.

7. Wheatly, M. G., J. Flach, C. Shingledecker, and F. Golshani. 2010. Delivering on the promise of Plato's academy: educational accessibility for the 21st century. Disability and Rehabilitation: Assistive Technology, 5, (2), 79-82.

8. Kendricks, K., N. Klingbeil, K. Koenig, and M. G.Wheatly. 2009. Transformative pedagogy: engaging and retaining students in STEM. In: A Collection of papers on self-study and institutional improvement, vol 3, Chapter 4. 77-80. The Higher Learning Commission: Chicago.

9. Golshani, F., M. G. Wheatly, M. E. Bargerhuff, and J. Flach. 2007. A multidisciplinary graduate program in technology-based learning with disability. Proceedings 2007 ASEE Annual Conference & Exposition, Honolulu, Hawaii, June.

10. Wheatly, M. G., N. Klingbeil, B. Jang., R. Jones, and G. Sehi. 2007. Gateway into first-year STEM curricula: a community college/university collaboration promoting retention and articulation. Proceedings 2007 ASEE Annual Conference & Exposition, Honolulu, Hawaii, June.

11. Kirch, S. A., M. E. Bargerhuff, H. Cowan, and M. G. Wheatly. 2007. Reflections of educators in pursuit of inclusive school classrooms. Journal of Science Teacher Education, 18 (4), 663-692.

12. Wheatly, M. G. 2006. Uniformity equates to increased success of women in the sciences: a testimonial in support of all-girls schools. Research in Women's Education Proceedings.

13. Kirch, S. A., M. E. Bargerhuff, H. Turner, and M. G. Wheatly. 2005. Inclusive science education: classroom teacher and science educator experiences in CLASS workshops. School Science and Mathematics, 105, 1-22.

14. Slack, H. L., and M. G. Wheatly. 2004. Creating laboratory access for science students (CLASS): students and faculty perspectives. Invention and Impact: Building Excellence in Undergraduate STEM education for the diverse student population. Pp 119-123, AAS, DC.

15. Bargerhuff, M. E., and M. G. Wheatly. 2004. Teaching with CLASS: Creating Laboratory Access to Science for Students with disabilities. Teacher Education and Special Education, 27, 318-321.

16. Wheatly, M. G. 2000. Team building through curriculum and research grant proposals: a "win-win" strategy, even if you lose the grant. National Issues in Higher Education, 50, 219-224.

17. Wheatly, M. G., T. J. Wood, P. Renick, and J. Vernooy. 1999. Making biology laboratories effective learning environments for students with disabilities: a national model for undergraduate instructors and grades 7-12 school teachers. Electronic Journal of Inclusive Education, 1 (3).

Editor of Special Volume of a Journal

Shingledecker, C., and M. G. Wheatly. 2010. Disability and Rehabilitation: Assistive Technology volume 5 no 2 (9 peer reviewed journal articles on Accessibility).

CONFERENCE PRESENTATIONS (in reverse chronological order)

Scientific Domain

Keynote Addresses and Plenary Lectures

1. Wheatly, M. G. 2006. The paradox of cellular calcium homeostasis during vectorial transfer: spatial and temporal regulation of Ca import/export proteins using the freshwater crayfish molting model. Conference of European Comparative Endocrinology. Manchester, UK August 2006.

2. Wheatly, M. G. 2005. Shedding and shucking: what shellfish can teach us about spatial and temporal regulation of genes for calcium transporting proteins. Marine Biomedicine and Environmental Sciences Student Research Open House, Medical University of South Carolina, July 22.

3. Wheatly, M. G., Y. Gao, Z. Zhang, D. Chen, F. Zanotto, and M. Hubbard. 2001. Subcellular Ca homeostasis during transepithelial Ca flux associated with crustacean molting: what role do SERCAs and PMCAs play? 3rd Int. Satellite Meeting of the Comparative Endocrinology of Calcium Regulation (International Bone and Mineral Society-European Calcified Tissue Society). Madrid, June, p 3.

4. Wheatly, M. G. 2000. Keynote Speaker. Ecology and people with disabilities. Ecological Society of America's Education and Human Resources Committee, ESA 85th Annual Meeting Snowbird, UT. August 2000.

5. Wheatly, M. G, and F. P Zanotto. 2000. Calcium homeostasis in crustaceans. 20th Conference of European Comparative Endocrinologists. September, Faro, Portugal.

6. Wheatly, M. G. 1996. Physiological and molecular characterization of the Ca pump and exchanger: an integrated approach modeled on the freshwater crayfish molting cycle. Keynote speaker. XI Reunião Anual da Federação de Sociedades de Biologia Experimental, Proceedings of a Symposium "Animal adaptability: an important tool to understand regulatory mechanisms", Cacambu, Brazil.

Conferences Organized

General co-chair with Dr. Forouzan Golshani of First International Conference on Technology-based Learning with Disability (LWD-07): "Celebrating 40 Years of Access in Education" held at Wright State University, July 19-20, 2007.

Symposia Organized

1. "Ionic regulation: molecular and integrative aspects". 3rd International Conference on Comparative Physiology and Biochemistry in Africa, Ithala, August 7-13, 2004. F. P. Zanotto and M. G. Wheatly.

2. "Molecular biology of ion motive proteins: lessons learned from comparative models." Sixth International Congress of Comparative Physiology and Biochemistry, Mt Buller, Australia, Feb 6, 2003 (One day symposium with 7 contributed symposium papers; funding from Faculty of Science and Technology, Cell and Organismal Biology Research Group, DVC Research, Deakin University), M. G. Wheatly and T. Toop.

3. "Recent advances in comparative solute transport and molecular biology of aquatic organisms". Featured topic at Experimental Biology Meeting San Diego April 17, 2000, (One day symposium with 4 contributed symposium papers; obtained APS funding), G. A. Ahearn and M. G. Wheatly.

4. "Integrative crustacean biology: evolutionary trends". Fifth International Congress of Comparative Physiology and Biochemistry, Calgary, Canada, August 23-28, 1999 (One day symposium with 7 contributed symposium papers and 16 authors; obtained NSF support), M. G. Wheatly, C. L. Reiber and W. W. Burggren.

5. "Calcium regulation: mechanisms and control in crustaceans and lower vertebrates." Intersociety meeting (APS, ASZ, CSZ, SEB) in San Diego, October 1994. (Two day symposium with 12 contributors; obtained NSF support), M. G. Wheatly and P. Greenaway.

Invited Symposium Presentations

1. Wheatly, M. G. 2006. Complexity and physiological changes of state. Symposium "Symposium on physiological complexity". Comparative Physiology 2006: Intersociety meeting sponsored by APS, Virginia Beach, October 8-11.

2. Wheatly, M. G., Y. Gao, L. M. Stiner, M. Nade, and D. Whalen. 2004. Integrative aspects of cellular Ca homeostasis in crustaceans: time and space. Symposium "Ionic regulation: molecular and integrative

aspects". 3rd International Conference on Comparative Physiology and Biochemistry in Africa, Ithala, August 7-13, 2004. F. P. Zanotto and M. G. Wheatly.

3. Wheatly, M. G. and Y. Gao. 2003. Pumping calcium: the key to building stronger shells. Symposium "Molecular biology of ion motive proteins: lessons learned from comparative models." Sixth International Congress of Comparative Physiology and Biochemistry, Mt Buller, Australia, Feb 6, 2003.

4. Wheatly, M. G., Y. Gao, L. M. Stiner, and L. Kelly. 2002. The crustacean molting cycle: a model for characterizing calcium pumps and exchangers. Symposium "Comparative models for understanding the molecular mechanisms of solute transport" Comparative Physiology Section of American Physiological Society, Experimental Biology, New Orleans, LA.

5. Wheatly, M. G., Z. Zhang, L. M. Stiner, J. R. Weil, and M. G. Hubbard. 2000. Cellular and molecular biology of calcium transporters: a crustacean model for calcium homeostasis. Featured Topic "Recent advances in comparative solute transport and molecular biology of aquatic organisms" Comparative Physiology Section of American Physiological Society, Experimental Biology, San Diego, CA.

6. Wheatly, M. G. 2000. Calcium homeostasis and the crustacean moult cycle: an integrated approach from epithelial cells to genes. Society for Experimental Biology Symposium. Physiology of Decapod Crustaceans, Exeter University, U.K. March.

7. Wheatly, M. G. 1999. Crustacean models for evolution of calcium transport. 5th International Congress of Comparative Physiology and Biochemistry, Calgary.

8. Wheatly, M. G. 1998. Calcium homeostasis during the crustacean molting cycle: physiological and molecular characterization of the Ca pump. ASBMR-IBMS Satellite meeting on "Comparative Endocrinology of Calcium Regulation", California Academy of Sciences, San Francisco.

9. Wheatly, M. G. 1998. Physiological and molecular characterization of the calcium pump: an integrated approach modeled on the crustacean molting cycle. Symposium "Cellular and molecular responses to environmental changes", Turku, Finland.

10. Wheatly, M. G. 1996. Calcium transport mechanisms in crayfish. 2nd European Crustacean Conference, Liège Belgium, A76.

11. Wheatly, M. G. 1996. Crustacean models for studying calcium transport: the journey from whole organisms to molecular mechanisms. Symposium "The Biology of Crustacea" Plymouth, U. K.

12. Wheatly, M. G. 1994. An overview of calcium balance in crustaceans. APS (Intersociety) Symposium "Calcium Regulation: Mechanisms and Control in Crustaceans and Lower Vertebrates." San Diego.

13. Wheatly, M. G., and A. T. Gannon. 1993. Ion regulation in crayfish: Fresh water adaptations and the problem of molting. ASZ Symposium "Crayfish and Physiological Adaptation." Los Angeles.

14. Wheatly, M. G. 1992. Physiological constraints in postmoult freshwater crayfish: ion balance. IX International Symposium of the International Association of Astacology. Reading, U.K.

15. Wheatly, M. G. 1990. Extracellular and intracellular acid-base regulation in crustaceans. APS Symposium "Intracellular and extracellular acid-base regulation in animals." Orlando, Florida.

16. Wheatly, M. G. 1990. The physiology of molting in the freshwater crayfish: an update on ionregulation. VIII International Symposium of the International Association of Astacology. Baton Rouge, LA.

17. Taylor, E. W., and M. G. Wheatly. 1988. Control and co-ordination of gas exchange in invertebrates. Joint Symposium of CSZ and SEB. "Interactions between gas exchange, metabolism and ion transport in animals." Dalhousie, Canada.

18. Wheatly, M. G. 1987. Physiological responses of the crayfish *Pacifastacus leniusculus* to environmental hyperoxia: acid-base and ionoregulation. VII International Symposium of the International Association of Astacology. Lausanne, Switzerland.

19. Wheatly, M. G. 1985. Integrated responses to salinity fluctuation. ASZ Symposium "Mechanisms of Physiological Compensation in Intertidal Animals." Baltimore, MD.

20. Wood, C. M., H. Hôbe, and M. G. Wheatly. 1982. Relationship between H^+ and ion exchanges at the gills and kidneys of the rainbow trout (*Salmo gairdneri*) under normoxia and hyperoxia. Symposium: "Gas exchange, gas transport and acid-base regulation in lower vertebrates." Göttingen, Germany.

21. Wood, C. M., H. Hôbe, and M. G. Wheatly. 1982. Relationships between branchial acid and ion exchange during hyperoxia in fish. Symposium: "Fish Gills: the Relationship between Ion and Gas Transfer." Taormina, Sicily.

22. Wheatly, M. G., and B. R. McMahon. 1981. Respiration and ionoregulation in the euryhaline crayfish *Pacifastacus leniusculus* on exposure to high salinity: An overview. V International Symposium of the International Association of Astacology. Davis, California.

Non Refereed Abstracts

Scientific Domain

1. Wheatly, M. G., Y. Gao, C. M. Gillen, and B. D. Foy. 2009. Putting Humpty together again: the logic of epithelial calcium transport. Comparative Endocrinology of Calcium Regulation, 2nd Joint Mtg of the International Bone and Mineralization Society and the Australian Bone and Mineral Society, 0-1. P 7.

2. Gillen, C. M., A. J. White, Y. Gao, M. J. Northcutt, and M. G. Wheatly. 2009. Effect of cold acclimation on the expression of sarcoplasmic calcium binding protein (pcSCP1) variants in the freshwater crayfish, *Procambarus clarkii*. Proceedings of the Society for Integrative and Comparative Biology.

3. Gao, Y., Y. Gao, and M. G. Wheatly. 2008. Cloning and expression of aquaporin in the antennal gland of crayfish *Procambarus clarkii*. Proceedings of the Ohio Physiological Society, November.

4. Wheatly, M. G., Y. Gao, and C. M. Gillen. 2008. Extreme makeover aquatic (crayfish) edition: taking on water and remodeling the hull. Proc. Lake Cumberland Transport Meeting, Jun 16.

5. Jamal, Z., and M. G. Wheatly. 2008. Sarco-endoplasmic reticulum calcium ATPase (SERCA) mRNA and protein expression in cardiac muscle of *Procambarus clarkii*: the effect of molting stage and cold acclimation. Proc. Lake Cumberland Transport Meeting, June 16.

6. Gao, Y., and M. G. Wheatly. 2008. Discovery of aquaporins in a crustacean: importance and possible role. Proc. Lake Cumberland Transport Meeting, June 16.

7. Jamal, Z., Y. Gao, and M. G. Wheatly. 2008. Relative expression of sarcoplasmic-endoplasmic reticulum calcium ATPase protein in crayfish, *Procambarus clarkii* during molting and in response to cold temperature. Experimental Biology, 1239.19.

8. Gao, Y., C. M. Gillen, and M. G. Wheatly. 2007. Localization and regulation of calcium/sodium exchanger (NCX) expression in crayfish *Procambarus clarkii* during molting and cold acclimation. Experimental Biology.

9. Gao, Y., C. M. Gillen, and M. G. Wheatly. 2007. Cloning and characterization of a novel calmodulin-like gene (CaM) from crayfish *Procambarus clarkii*. Experimental Biology.

10. Wheatly, M. G., Y. Gao, L. M. Stiner, D. Whalen, M. Nade, F. Vigo, and A. Golshani. 2007. Roles of NCX and PMCA in basolateral calcium export associated with mineralization cycles and low temperature acclimation in crayfish. Proceedings of the Society for Integrative and Comparative Biology, P1.88.

11. Gillen, C. M., Y. Gao, M. Niehaus-Sauter, M. Wylde, and M. G. Wheatly. 2007. Gene expression and hemolymph cations in the freshwater crayfish *Procambarus clarkii* during cold acclimation. Proceedings of the Society for Integrative and Comparative Biology, P1.79.

12. Niehaus-Sauter, M., C. M. Gillen, Y. Gao, and M. G. Wheatly. 2006. The effect of cold acclimation on gene expression in the crayfish *Procambarus clarkii*. Proceedings of the Ohio Physiological Society, November.

13. Jamal, Z., Y. Gao, and M. G. Wheatly. 2006. Localization and relative expression of SERCA mRNA in cardiac muscle of crayfish *Procambarus clarkii* during molting and cold acclimation. Proceedings of the Ohio Physiological Society, November.

14. Gao, Y., Y. Gao, and M. G. Wheatly. 2006. Expression of aquaporin in the kidney of crayfish during molting. Proceedings of the Ohio Physiological Society, November.

15. Tumburu, L., Y. Gao, and M. G. Wheatly. 2006. Expression of SERCA protein in epithelial and non-epithelial tissues of crayfish *Procambarus clarkii* during molting. Proceedings of the Ohio Physiological Society, November.

16. Wheatly, M. G. 2006. Complexity and physiological changes of state. Physiologist, 49, C1-24.

17. Wheatly, M. G., Y. Gao, L. M. Stiner, D. Whalen, M. Nade, F. Vigo, and A. Golshani. 2006. Roles of NCX and PMCA in basolateral calcium export associated with mineralization cycles and low temperature acclimation in crayfish. Proceedings of the 5th International Conference on Na/Ca exchanger.

18. Gao, Y., C. M. Gillen, and M. G. Wheatly. 2006. The role of sarcoplasmic calcium-binding protein (SCP) in cellular calcium homeostasis in the crayfish *Procambarus clarkii*. Proceedings Lake Cumberland Transport Meeting.

19. Gillen, C. M., Y. Gao, and M G. Wheatly. 2006. Cloning and expression pattern of *Procambarus clarkii* elongation factor 1 gamma. Proceedings of the Society for Integrative and Comparative Biology.

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21. Gao, Y., D. R. Whalen, M. G. Wheatly, C. M. Gillen, and A. Golshani. 2005. Left out in the cold: low temperature induced Ca dyshomeostasis alters expression of calcium transporting proteins in crayfish tissues. Comparative Endocrinology of Calcium Regulation, 2nd Joint Mtg of the European Calcified Tissue Society and the International Bone and Mineral Society, 1-1. A 11.

22. Gao, Y., C. M. Gillen, D. Whalen, and M. G. Wheatly. 2005. Expression of Ca transporting genes in the freshwater crayfish *Procambarus clarkii* during cold acclimation. The FASEB Journal, 19, A 671.60.

23. Gao, Y., M. Nade, M. G. Wheatly, and M. Morris. 2005. Localization and relative expression of mRNA of plasma membrane calcium ATPases in the antennal gland (kidney) of crayfish during molting. The FASEB Journal, 19, A # 671.9.

24. Gao, Y., M. Nade, and M. G. Wheatly. 2004. Expression of plasma membrane Ca ATPase in crayfish *Procambarus clarkii*. The FASEB Journal, 18, A # 239.5.

25. Stiner, L. M., Y. Gao, and M. G. Wheatly. 2004. Upregulation of NCX mRNA in kidney and liver of freshwater crayfish *Procambarus clarkii*. The FASEB Journal, 18, A # 458.11.

26. Gao, Y., and M. G. Wheatly. 2004. Molecular cloning and tissue distribution of an epithelial Ca channel (ECaC) like gene from crayfish. The FASEB Journal, 18, A # 239.2.

27. Wheatly, M. G., and Y. Gao. 2004. The molecular biology of ion motive enzymes: lessons learned from comparative models. Proceedings of the Society for Integrative and Comparative Biology, A 19.4.

28. Zanotto, F. P., M. G. Wheatly, and G. A. Ahearn. 2003. The use of fluorescent markers for measurement of calcium transport in crustacean cells. Proceedings of XXI Congresso da Associação Latino-Americana de Ciências Fisiológicas, 1-4 de setembro de 2003, Ribeirão Preto – SP.

29. Stiner, L. M, Y. Gao, and M. G. Wheatly. 2003. Upregulation of NCX mRNA in antennal gland and hepatopancreas of freshwater crayfish *Procambarus clarkii*. Proceedings of the 3rd International Symposium on Cell Volume and Signaling, A 56.

30. Gao, Y., and M. G. Wheatly. 2003. Molecular cloning and tissue distribution of an epithelial Ca channel (ECaC) like gene from crayfish. Proceedings of the 3rd International Symposium on Cell Volume and Signaling, A. 45.

31. Gao, Y., and M. G. Wheatly. 2003. Regulation of plasma membrane Ca ATPase (PMCA) and Na/Ca exchanger (NCX) gene expression in fresh water crayfish by environmental stress. Proceedings of the 3rd International Symposium on Cell Volume and Signaling, A 46.

32. Gao, Y., M. Nade, and M. G. Wheatly. 2003. Expression and localization of plasma membrane calcium ATPase (PMCA3) in epithelial tissue of crayfish during molting. Proceedings of the 3rd International Symposium on Cell Volume and Signaling, A 44.

33. Whalen, D., Y. Gao, and M. G. Wheatly. 2003. Effects of human growth hormone on the crayfish *Procambarus clarkii* molting cycle, growth rate, and expression of calcium transporting proteins. Proceedings of the 3rd International Symposium on Cell Volume and Signaling, A 57.

34. Wheatly, M. G., S. Narayanan, R. Koubek, C. Harvey, L. Rothrock, P. Smith, M. Haas, and W. Nanry. 2003. Biologically inspired analysis of complex systems: Back to nature. Proceedings of HCI International.

35. Wheatly, M. G., and Y. Gao. 2003. And now for something completely different.....ECaC! Epithelial calcium channels and crayfish moulting. Proceedings of the Lake Cumberland Transport Meeting, June.

36. Gao, Y., and M. G. Wheatly. 2003. Molecular cloning and tissue distribution of an epithelial Ca channel (ECaC) like gene from crayfish. 4th CECR Satellite Meeting, International Bone and Mineral Society Meeting.

37. Wheatly, M. G., and Y. Gao. 2003. Pumping calcium: the key to building stronger shells. Comparative Biochemistry and Physiology, 134/A Suppl.1 S97.

38. Zanotto, F. P., M. G. Wheatly, P. Chavez-Crooker, and G.A. Ahearn. 2003. Calcium transport in crustacean antennal gland: dissimilar effects of known variable inhibitors at variable calcium concentrations. Comparative Biochemistry and Physiology, 134/A Suppl.1 S25.

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40. Gao, Y., L. Kelly, and M. G. Wheatly. 2002. Expression of the PMCA3 mRNA and protein in crustacean during molting. Physiologist, 45(4) 358.

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46. Gao, Y., Z. Zhang, and M. G. Wheatly. 2001. Characterization and expression of plasma membrane calcium ATPase (PMCA) genes during crayfish molting. Proceedings of the Ohio Physiological Society, November A18.

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50. Gao, Y., Z. Zhang, and M. G. Wheatly. 2001. Characterization and expression of plasma membrane calcium ATPase (PMCA) genes during crayfish molting. The FASEB Journal, 15 (4), A 445.

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52. Wheatly, M. G., Z. Zhang, and L. M. Stiner. 2001. Characterization and localization of crayfish Ca pump and exchanger. Proceedings of Society for Integrative and Comparative Biology, 426.

53. Wheatly, M. G., Z. Zhang, J. R. Weil, J. V. Rogers, and L. M. Stiner. 2000. Novel subcellular and molecular tools to study calcium transport mechanisms during the elusive molting stages of crustaceans. Proceedings of Lake Cumberland Transport Meeting, June.

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66. Hubbard, M. G., M. G. Wheatly, J. R. Weil, and A. Dolinar. 1998. Optimal freezing conditions to preserve ATPase activity in crayfish epithelial basolateral membrane vesicles. The FASEB Journal, A 5936.

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Education Domain

1. Wheatly, M. G., L. N. Reed, M. Garland and C. C Jackson. 2022. COVID-19 online pivot accelerates women in leadership faculty programming. Equity in STEM Community Convening.

2. Wheatly, M. G. 2022. Inclusion, diversity, equity and accessibility in STEM: a course to transform the STEM culture. American Association of Colleges and Universities Project Kaleidoscope Regional NC Network conference.

3. Koenig, K., M. Edwards, M. G. Wheatly, J. Wang, and D. Bradley-Hutchison. 2009. Developing scientific reasoning as a means of addressing student retention. American Association of Physics Teachers Conference.

4. Edwards, M., K. Koenig, M. Schen, S. Yeoman, and M. G. Wheatly, 2009. Targeting STEM student success and retention through development of scientific reasoning skills. 28th Annual Conference on the First-Year Experience. Feb 6-10.

5. Koenig, K., M. Schen, D. Bradley-Hutchinson, and M. G. Wheatly. 2008. Targeting student success and retention through development of scientific reasoning skills. Physics Education Research Conference, Edmonton, Canada. July.

6. Wheatly, M. G., N. Klingbeil, K. M. Koenig, G. Sehi, and R. Jones. 2008. Gateway into the first year STEM curricula: a community college/university collaboration promoting retention and articulation. Building Community NSF STEP grantees meeting, Washington DC March.

7. Wheatly, M. G., N. Klingbeil, K. Koenig, A. Bubulya, and N. Klingbeil. 2008. STEM students in transition: bridging the gap through reinforcing competency-based skills. 27th Annual Conference on the First-Year Experience. Feb 16-19.

8. Wheatly, M. G. 2007. Delivering on the promise of Plato's Academy: Accessible STEM curricula for the *universitas scholarium* of the 21st Century. Proceedings of the First Technology Based Learning with Disabilities Conference.

9. Wheatly, M. G., N. Klingbeil, B. Jang, G. Sehi, and R. Jones. 2007. Gateway into the first-year STEM curricula: a community college/university collaboration promoting retention and articulation. ASEE Southeastern Section Conference, Louisville KY, April.

10. Wheatly, M. G., and N. Klingbeil. 2007. Gateway into first-year STEM curricula: a community college/university collaboration promoting retention and articulation. 26th Annual Conference on the First-Year Experience. Feb 16-20, 65CT.

11. Cowan, H., M. E. Bargerhuff, and M. G. Wheatly. 2006. ORCLASS: Accommodations for inclusive classrooms. Proceedings of the NSF HRD (Joint Annual Meeting). March 15-17, DC. Page 7.

12. Wheatly, M. G. 2004. Science for all Americans: a universally accessible CLASS for the new millennium. Proceedings of an AAAS/NSF sponsored conference Invention and Impact: Building Excellence in Undergraduate STEM Education, April 16-18, page 17.

13. Wheatly, M. G., and H. L. Slack. 2004. Creating laboratory access for science students. Proceedings of a AAAS/NSF sponsored conference Invention and Impact: Building Excellence in Undergraduate STEM Education, April 16-18, page 28

14. Fall, N., D. L. Goldstein, M. G. Wheatly, and W. Jackson. 2002. Recruiting under-represented students into careers in environmental biology: the value of long-term research experiences. The Ohio Journal of Science, 102, A-14.

15. Wheatly, M. G., and T. Wood. 2001. DNA isolation: making an introductory biology lab universally accessible. American Zoologist, 41 (6), 1624.

16. Wheatly, M., K. Goldenberg, C. Beck, C. Taylor, L. Bailey, W. Jackson, and M. Morris. 2001. Layering it on thick: cultivating a diverse scientific community at Wright State University. Proceedings of National Conference on Race and Ethnicity, Seattle, June.

17. Stefanich, G., E. Keller, S. Burgstahler, M. G. Wheatly, and N. Lightbody. 2001. Special needs students in the science classroom: an overview of five NSF-supported projects. Proceedings of National Science Teachers Association Annual Meeting. St. Louis, March. Vol 3 pp 23.

18. Wheatly, M. G., T. Wood, P. Renick, J. Vernooy, L. Taschenberger, and M. Wendeln. 2001. Applying what you learned in CLASS: Transforming biological laboratory education so that it is universally accessible. Proceedings of Society for Integrative and Comparative Biology, 425.

19. Wheatly, M. G., T. Wood, P. Renick, J. Vernooy, L. Taschenberger, J. Weil, and C. Vance. 1999. What do biological educators get from attending CLASS? American Zoologist, 39 (5), A 311.

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21. Wheatly, M. G., P. Renick, J. Vernooy, M. Wendeln, and T. Wood. 1999. Creating laboratory access for science students: "CLASS" at Wright State University. Proceedings of Regional Association for Biology Laboratory Educators Meeting, Oct, University of Kentucky.

22. Wheatly, M. G., A. Hatch, L. Ramey, S. Simon, L. Taschenberger, B. Traub, J. Vernooy, M. Wendeln, and T. Wood. 1998. Creating Accessible Biology Laboratories. American Zoologist, 38 (5), A 527.

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Mentoring and Supervision

Graduate Supervision listed by name, degree (program with dates). Title. [Subsequent career path]

Wright State University

Laxminath Tumburu, Ph. D. (Environmental Sciences, 8/2010). Crustacean endocrine disruption through a pathway involving nuclear receptors, cyclic nucleotides and calcium transporters. [National Academies of Science postdoctoral fellowship at University of Oregon]

Yang Gao, M. S. (Bio. Sci., 6/2009). Role of aquaporins in volume regulation during crayfish molting cycle. [Ph. D. program University of Arizona]

Zeenat Jamal, M. S. (Anatomy, 6/2008). Sarco-endoplasmic reticulum calcium ATPase (SERCA) mRNA and protein expression in cardiac muscle of *Procambarus clarkii*: the effect of molting and cold acclimation. [Research Associate at Cincinnati Children's Hospital]

Susan Bibby, M. S. (Bio. Sci. 8/2005). A comparison of SERCA expression during the development of freshwater crayfish and marine lobster. [Faculty member Sinclair Community College].

Daniel Whalen, M. S. (Bio. Sci. 6/2004). Thermal acclimation affects the expression of calcium transporting proteins in the freshwater crayfish *Procambarus clarkii*. [Medical resident in MI]

La'Tonia Stiner, Ph. D. (BioMedical Sciences, 11/2004). Upregulation of NCX mRNA and protein associated with calcium flux in hepatopancreas and antennal gland of freshwater crayfish *Procambarus clarkii*. [Graduate Program Manager, Engineering College, The Ohio State University].

Minal Nade, M. S. (Bio. Sci. 6/2004). Localization and relative expression of mRNA of plasma membrane calcium ATPases ($PMCA_3$) in epithelial tissue of the antennal gland (kidney) of crayfish as a function of the molting cycle. [Clinical trials manager, Covance Pharmaceuticals, DC].

Eke Eme, M. S. (Bio. Sci., 4/2001, non-thesis). [Adjunct, Medger Evers College, CUNY].

Melinda Hubbard, M. S. (Bio. Sci., 2/2000). Physiological characterization of the Na^+/Ca^{2+} exchanger in Ca^{2+}-transporting epithelia isolated from the freshwater crayfish *Procambarus clarkii*. [Technician at Case Western Reserve University; employed at pharmaceutical biotech start-up in Boston].

Dongdong Chen, M. S. (Bio. Sci., 9/1997). Molecular cloning and quantification of sarco/endoplasmic reticulum Ca^{2+} ATPase during the molting cycle of crayfish *Procambarus clarkii*. [Pharmacist in MI].

James V. Rogers, M. S. (Bio. Sci., 7/1996). Calcium accumulation in the antennal gland during the molting cycle of the freshwater crayfish *Procambarus clarkii*. [Ph. D. at Wright State University; Manager for Chemical Agents & Toxicology, Battelle Biomedical Research Center, Columbus, OH].

University of Florida

Dazhong Xu, M. S. (Zoology, 8/1994). Calcium regulation in *Anodonta imbecilis*: calcification and the effects of

environmental acidification. [Ph. D. at Wright State University; Research Fellow at Massachusetts General Hospital, Harvard University].

Flavia P. Zanotto, M. S. (Zoology, 8/1991). Effects of ambient pH on ionoregulation during postmolt calcification in the freshwater crayfish *Procambarus clarkii* (Girard). [Ph. D. at Oxford University in U.K.; Professor at Cidade Universitaria in São Paulo, Brazil]

Marie-Thérèse Toop, M. S. (Zoology, 8/1990). Some behavioral and physiological responses of the ascidian, *Styela plicata* (Lesüeur, 1923), during acclimation to low salinity. [Ph. D. at University of Florida, faculty position at Deakin University in Australia].

Andrew T. Gannon, Ph. D. (Zoology, 11/1990). Host distribution and physiological effects of ectocommensal gill barnacle (*Octolasmis muelleri*) infestation on blue crabs (*Callinectes sapidus*). [Tenured professor at Birmingham Southern College in AL].

M. Catharine Cox , M.S.T. (Zoology, 5/1989). [Obtained Ph. D., academia]

Postdoctoral Supervision listed by date, name, subsequent career path

2000-2010	Dr. Yongping Gao	Lancaster Laboratories
1995-2000	Dr. Zhiping Zhang	Computer Science Industry
1992-1993	Dr. Carl L. Reiber	Vice Provost Academic Affairs, UNLV
1991	Dr. Silvia de Souza	Faculty at Universidade de São Paulo, Brazil

Technical Supervision listed by date, name, subsequent career path

1995-8	Jennifer Weil	MS in Rehab Counseling; Staff at RIT
1987-8	Leanne Yow	MD

Invited Seminars

Europe: University of Birmingham, Lancaster University and Cambridge University in U.K.; University of Aarhus, Denmark; Centre National de la Recherche Scientifique, France; University Düsseldorf, Germany.

Canada: University of Calgary; Bamfield Marine Station; University of Alberta; McMaster University;University of Ottawa.

United States: University of Maryland, Baltimore County; University of Florida; Auburn University; C.V. Whitney Lab; University of North Florida; University of Nevada Las Vegas; Philadelphia College of Pharmacy and Science; Wright State University; University of Texas at Arlington; Kansas State University; Wayne State; Indiana Univ-Purdue Univ Fort Wayne; University of Dayton; University of Kentucky; University of Akron; University of Wisconsin Milwaukee; University of North Texas, University Cincinnati.