

Douglas M. McElroy

Department of Biology
 Western Kentucky University
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PRESENT POSITIONS:

Professor, Department of Biology, Western Kentucky University 2004-
Research Interests: Impact of Interleaved Practice Teaching on Student Performance; Factors
 Influencing Cardiovascular Disease Outcomes; Multivariate Approaches to Documenting Student
 Learning; Wildlife Molecular Forensics; Morphometrics and Conservation of Desert Fishes;
 Genetics and Speciation in African Cichlid Fishes; Statistical Analysis of Population Genetic Data
 h-index: 12 Total Number of Research Citations: 1264
 Research Advisor, Western Kentucky Heart and Lung Research Foundation and Educational Trust 2019-

EDUCATION:

Ph.D., M.S., Zoology, University of Maine, Orono, ME 1992, 1988
 B.S., Marine Science, Southampton College of Long Island University, Southampton, NY 1984

ADMINISTRATIVE PROFESSIONAL EXPERIENCE:

Associate Vice President for Academic Affairs, Western Kentucky University 2011-2019
Primary Areas of Responsibility: Strategic Planning and Effectiveness, Learning Outcomes
 Assessment, Academic Program Review, SACSCOC Quality Enhancement Plan Development, Class
 Scheduling Analytics, Space Allocation, Direct Report of the Office of Institutional Research,
 Office of the Registrar, Vitale Clinical Education Complex, Kentucky Museum, Student Publications,
 and Forensics Program, SACSCOC Accreditation Liaison
 Interim Executive Director, Suzanne Vitale Clinical Education Complex, Western Kentucky University 2012-2013
Primary Areas of Responsibility: Strategic Planning, Fiscal Restructuring and Management, Oversight
 and Integration of Component Clinical Programs, Community and Donor Relations
 Assistant Vice President for Academic Affairs, Western Kentucky University 2008-2011
Primary Areas of Responsibility: Unit Action Planning and Learning Outcomes Assessment,
 SACSCOC Quality Enhancement Plan Implementation and Assessment, Academic Program Review,
 Community and Civic Engagement Initiatives, Institute for Citizenship and Social Responsibility,
 American Democracy Project, Provost's Initiatives for Excellence and Unit Productivity Award Programs
 Assistant to the Provost, Western Kentucky University (50% release-time appointment) 2005-2008
Primary Areas of Responsibility: SACSCOC Quality Enhancement Plan Implementation,
 Critical Thinking Scholars Faculty Professional Development Program, Regional Stewardship Plan
 Development, American Democracy Project, Carnegie Elective Classification in Community Engagement
 Director, University Honors Program, Western Kentucky University (50% release-time appointment) 1998-2005
Primary Areas of Responsibility: Student Recruitment, Course/Curriculum Development and
 Quality Assurance, Strategic Planning, Budget Oversight, Honors Development Grants
 Assistant Director, University Honors Program, Western Kentucky University (50% release-time appointment) 1997-1998
Primary Areas of Responsibility: Student Recruitment, Honors Thesis Quality Assurance

ACADEMIC PROFESSIONAL EXPERIENCE:

Adjunct Professor, Department of Veterinary Anatomy and Physiology, University of Nairobi 2004-2008
 Assistant/Associate Professor, Department of Biology, Western Kentucky University 1993-2004
 Postdoctoral Research Associate, Department of Zoology, Arizona State University 1992-1993
 Visiting Instructor, Department of Biology, Colby College 1991

STATEWIDE LEADERSHIP AND SERVICE:

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| Institutional Representative, Council on Postsecondary Education Committee on Academic Quality Development and coordination of statewide processes for academic program review | 2013-2019 |
| Institutional Representative, Council on Postsecondary Education Strategic Agenda Advisory Group Development of statewide strategic agenda, <i>Stronger by Degrees</i> , with associated metrics and targets | 2010-2019 |
| Institutional Representative, Council on Postsecondary Education College Level Learning Assessment Development and coordination of statewide processes for assessment of general education student learning outcomes | 2008-2019 |
| Institutional Representative, Council on Postsecondary Education Program Productivity Review Evaluation and submission of institutional responses regarding identified low-productivity programs | 2008-2012 |

UNIVERSITY, COLLEGE AND DEPARTMENT LEADERSHIP AND SERVICE (SELECTED):

| | |
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| Chair, Department of Biology Tenure and Promotion Committee | 2021- |
| Co-Chair, Department of Biology Program Review/Assessment Committee | 2020- |
| Chair, Ogden College Strategic Planning Committee | 2019- |
| Member, WKU ACUE Effective Practice Framework Program Evaluation Team | 2018- |
| Member, WKU Financial Conflicts of Interest Committee | 2017- |
| Member, University of Kentucky College of Medicine – Bowling Green Joint Executive Oversight Committee | 2016- |
| Member, University of Kentucky College of Medicine – Bowling Green Campus Interview Advisory Committee | 2017-2020 |
| Administrative Lead, WKU SACSCOC Quality Enhancement Plan Implementation | 2005-2019 |
| Academic Affairs Liaison, WKU University Senate Academic Quality Committee | 2010-2019 |
| Academic Affairs Liaison, WKU Institutional Strategic Planning and Assessment | 2009-2019 |
| Academic Affairs Liaison, WKU Academic Program Review Committee | 2008-2019 |
| <i>ex officio</i> Member, Suzanne Vitale Clinical Education Complex Board of Advisors | 2013-2019 |
| Co-Chair, WKU Registration Policies and Procedures Workgroup | 2017-2018 |
| Chief University Liaison and Academic Advisory Committee Chair, Navitas at WKU | 2010-2015 |
| Chief University Liaison, English as a Second Language International | 2011-2015 |
| Co-Chair, WKU Institutional Retention Task Force | 2011-2015 |
| Member, WKU SACSCOC Leadership Team | 2010-2015 |
| Academic Affairs Liaison, WKU Institute for Citizenship and Social Responsibility | 2009-2012 |
| Chair, WKU Provost's Initiatives for Excellence Review Committee | 2008-2013 |
| Academic Affairs Liaison, WKU General Education Review Task Force | 2008-2012 |
| Member, WKU College Readiness Working Group | 2008-2010 |
| Chair, WKU 120-Hour Degree Program Study Group | 2008 |
| Chair, WKU Outcomes Assessment Committee | 2008-2009 |
| Chair, WKU Critical Thinking Scholars Initiative | 2007-2010 |
| Coordinator, WKU American Democracy Project | 2006-2010 |
| Chair, University Honors Committee | 1998-2005 |
| Member, WKU Community Partnerships Incentive Award Program Review Committee | 2008-2010 |
| Member, WKU Regional Stewardship Plan Development Team | 2006-2008 |
| <i>ex officio</i> Member, WKU Regional Stewardship Advisory Council | 2007-2012 |
| Member, Institutional Quality Enhancement Plan Steering Committee | 2003-2005 |
| Member, Ogden College Dean's Advisory Council | 2002-2004 |
| Member, Department of Biology Scheduling and Load Committee | 2001-2008 |

MEMBERSHIPS AND AFFILIATIONS:

Association of American Colleges and Universities
 American Association of State Colleges and Universities
 Foundation for Critical Thinking
 Kentucky Academy of Science
 Western Kentucky Heart and Lung Research Foundation and Educational Trust

MAJOR STRATEGIC AND DEVELOPMENT INITIATIVES (EXTERNAL):

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| WKU Reaffirmation of Accreditation Compliance Certificate, Focused Report, Response to the Report of the Reaffirmation Committee, and Monitoring Report. Responsible for C.R. 2.5 and 2.12, C.S. 3.3.1.1, 3.3.1.2, 3.3.1.3, 3.3.1.4, 3.3.1.5, 3.3.2, and 3.5.1, and F.R. 4.1. Submission to the Southern Association of Colleges and Schools Commission on Colleges. Reaffirmed. | 2012-2015 |
| Evidence & Argument: A Quality Enhancement Plan for Western Kentucky University. D. McElroy, QEP Development Committee Chair. Submission to the Southern Association of Colleges and Schools Commission on Colleges. Approved with one recommendation. | 2012-2015 |
| WKU Fifth-Year Interim Report and QEP Impact Report. Submission to the Southern Association of Colleges and Schools Commission on Colleges. S. Gaiko and D. McElroy, SACSCOC Leadership Team Co-Chairs. Accepted with no recommendations. | 2011 |
| Learn and Serve America President's Higher Education Community Service Honor Roll. Proposal from Western Kentucky University (General Community Service and Special Focus Area). Recognized. | 2008 |
| Association of American Colleges and Universities General Education Institute. Application from Western Kentucky University. Accepted. | 2008 |
| Learn and Serve America President's Higher Education Community Service Honor Roll. Proposal from Western Kentucky University (General Community Service). Recognized with Distinction. | 2007 |
| Guide to Service Learning Colleges and Schools. Application from Western Kentucky University. Accepted. | 2007 |
| Carnegie Classification for Community Engagement. Proposal from Western Kentucky University. D. McElroy and D. George, primary authors. Awarded (Curricular Engagement and Outreach and Partnerships). | 2006 |
| Kentucky Council on Postsecondary Education Regional Stewardship Program. Infrastructure Plan for Western Kentucky University. D. George, K. Phelps and D. McElroy, primary authors. \$415,000. Approved and funded. | 2006 |
| AmeriCorps VISTA Program (via Kentucky Campus Compact). Proposal for two VISTA volunteers to support social responsibility and regional stewardship initiatives at Western Kentucky University. \$22,000 for each of three years. Awarded. | 2006 |
| Engaging Students for Success in a Global Society: a Quality Enhancement Plan for Western Kentucky University. D. McElroy, R. Bowker and K. Laves, primary authors. Submission to the Southern Association of Colleges and Schools. Approved with no recommendations. | 2005 |

MAJOR STRATEGIC AND DEVELOPMENT INITIATIVES (INTERNAL):

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| WKU Community Partnerships Incentive Award Program. Western Kentucky University Mastermind Conference. Samuel J. Hunt and D. McElroy, authors. \$12,178. Funded. | 2009 |
| Critical Thinking Scholars Initiative: a Three-Year Professional Development Program for Faculty at Western Kentucky University. \$70,000. Approved and implemented. | 2007 |
| Guidelines for Performance Appraisal, Continuance, Tenure, Promotion and Post-Tenure Review of Faculty. Department of Biology. D. McElroy, L. Alice, K. Crawford, K. Doerner and T.K. Philips, authors. Adopted and implemented. | 2000 |
| Center for Biodiversity Studies. Draft Proposal and Implementation Plan. D. McElroy and Z. Murrell, authors. Approved and established. | 1997 |

PUBLICATIONS RELATED TO HIGHER EDUCATION LEADERSHIP (ASTERISKS INDICATE STUDENT COAUTHORS):

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| Budziak, J., D. McElroy, T. Gross and D. Super. 2021. A state university's assessment of ACUE: feasible model for evaluating the impact of a faculty instruction quality program. Teacher-Scholar. in review. |
| McElroy, D. and K. McElroy*. 2017. An evolutionary perspective on increasing student success, and the (partial) fallacy of first-year retention. Teacher-Scholar 8:65-77. |
| McElroy, D. and R. Cobb. 2010. Demonstrating growth of a student engagement culture: a multivariate approach to assessing institutional goals at a public university. Planning and Changing 41:18-41. |

ORAL PRESENTATIONS RELATED TO HIGHER EDUCATION LEADERSHIP (ASTERISKS INDICATE PRESENTERS):

- Collins, S.*, D. McElroy*, and J. Steenbergen*. 2018. Using Platinum Analytics to reconceive the schedule at multiple scales: a study in self-similarity, patience, and pressure. AASCU Academic Affairs Summer Meeting, Bellevue, WA.
- Brown, D.*, T. Cheever, C. Elam, D. McElroy, M. Dobbs, and C. Griffith. 2018. Private-public partnerships: our very early experience opening the first four-year regional campus in Kentucky. Association of American Medical Colleges Group on Regional Medical Campuses Spring Meeting, Washington, DC.
- McElroy, D.*, and K. McElroy. 2017. An evolutionary perspective on increasing student success, and the (partial) fallacy of first-year retention. AASCU Academic Affairs Summer Meeting, Baltimore, MD.
- McElroy, D.*, J. Steenbergen*, and G. Emslie. 2016. Rarefaction and melt curves: objective approaches to identifying and managing Platinum Analytics watchlist courses. Ad Astra User's Conference, Kansas City, MO.
- Wilson, S.S.*, M.B. Kerby*, and D. McElroy. 2016. Implementing and assessing a Quality Enhancement Plan. IUPUI Assessment Institute, Indianapolis, IN.
- McElroy, D*. 2015. Applying critical thinking to academic strategic planning and leadership. 35th International Conference on Critical Thinking, Berkeley, CA.
- Helbig, T.* and D. McElroy*. 2012. Applying advanced data analytics to retention and student success. AASCU Academic Affairs Summer Meeting, San Francisco, CA.
- Burch, B.*, Dale, M.*, B. Cobb*, and D. McElroy*. 2010. Funding high-impact practices through a performance-based tuition-revenue model. AAC&U Annual Meeting, Washington, DC.
- Markham, P., D. McElroy*, J. Miller, D. George and B. Burch. 2009. Assessing community/public engagement at a public institution. Commission on Colleges Annual Meeting, Southern Association of Colleges and Schools, Atlanta, GA.
- McElroy, D.* and B. Cobb. 2009. Demonstrating statistically significant growth of a student engagement culture at WKU. AASCU American Democracy Project Annual Meeting, Baltimore, MD.
- Burch, B.*, Dale, M.*, B. Cobb, and D. McElroy*. 2009. Institutionalizing civic engagement through a performance-based tuition-revenue model. AASCU American Democracy Project Annual Meeting, Baltimore, MD.
- McElroy, D.*, J. Lewis*, A. Davis, and B. Burch*. 2008. Endemism and inertia vs. innovation: cautionary tales in civic engagement. AASCU American Democracy Project Annual Meeting, Snowbird, UT.
- Bruni, J.*, D. McElroy* and B. Burch*. 2008. Addressing the learning and scholarly dimensions of civic engagement. AASCU American Democracy Project Annual Meeting, Snowbird, UT.
- McElroy, D. and B. Burch*. 2007. Civic engagement and student learning: moving from involvement to impact. AASCU American Democracy Project Annual Meeting, Philadelphia, PA.
- Bruni, J.*, D. George* and D. McElroy*. 2007. The Engagement Research Fund Program. Western Kentucky University Engaging the Spirit Conference, Bowling Green, KY.
- McElroy, D. 2006. Linking NSSE, WKUSES and other acronyms in a multivariate assessment of WKU's QEP student learning outcomes. Kentucky Council on Postsecondary Education Faculty Development Conference, Lexington, KY.
- McElroy, D. 2005. Shaping QEP implementation for your students: a deconstructionist model for building program expectations around engagement. Western Kentucky University Engaging the Spirit Conference, Bowling Green, KY.
- McElroy, D. 2005. Neither Scylla nor Charybdis: exploring a common understanding of QEP goals and expectations. Western Kentucky University Engaging the Spirit Conference, Bowling Green, KY.

DISCIPLINARY PUBLICATIONS (ASTERISKS INDICATE STUDENT CO-AUTHORS):

- Haider, S., D. McElroy, A.R. Schneller, J.D. Nash, A. Singh, S. Saleem, M.S. Akbar, and M. Abdul-Waheed. 2021. Impact of patient characteristics, fluoroscopy dose, and procedural complexity on repeat cardiac catheterizations. *World Journal of Cardiology*. in review.
- Al Hemyari, B., A. Singh, N. Coffey, K. Pfirman, N. Mountjoy, D. McElroy, and S. Haider. 2021. Healthcare providers' experience using telehealth during the COVID-19 pandemic. *JMIR Formative Research*. in review.
- Sheth, P.*, T. Huffman, D. McElroy, H.F. Kazimuddin*, A. Matney, J. Dawson, S. Mittal, and A. Singh. 2021. In-hospital cardiac arrest outcomes during the COVID-19 pandemic. *World Journal of Cardiology*. in review.
- Nguyen, D., F.G. Young, D. McElroy, and A. Singh. 2021. Personal protective equipment and adverse dermatological reactions among healthcare workers: survey observations from the COVID-19 pandemic. *Medicine*. in review.

- Singh, A., M. Akbar, D. McElroy, M. McCurdy, F. Young, J. Thomas, C. Nguyen, and K.S. Pfirman. 2021. The electrocardiographic manifestations and derangements of 2019 novel coronavirus disease (COVID-19). *Indian Pacing and Electrophysiology Journal*. 21(3): 156-161. <https://doi.org/10.1016/j.ipej.2021.02.005>
- Smith, M.C., R. Pham, S. Mittal, D. McElroy, and A. Singh. 2021. Challenges in managing ST elevation myocardial infarction during COVID-19 pandemic. *World Journal of Cardiology* 13(4): 76-81. <https://dx.doi.org/10.4330/wjc.v13.i4.76>
- Singh, A., N. Mountjoy, D. McElroy, S. Mittal, B. Al Hemyari, N. Coffey*, K. Miller*, and K. Gaines. 2020. Patient perspectives with telehealth visits in cardiology: An online patient survey following the rapid switch due to COVID-19. *JMIR Cardio*. 5(1): e25074. <https://doi.org/10.2196/25074>
- Singh, A., N. Mountjoy, D. McElroy, N. Coffey*, and S. Mittal. 2020. Patient satisfaction with telehealth in cardiology: lessons and cautions from the response to COVID-19 restrictions. *European Heart Journal Supplements* 22(N): N136.
- Haider, S., A. Tatari, C.E. Galloway, M.T. Amjad, D.M. McElroy, O. Nwanguma, E. Darnell, B. Emery, A. Singh, and J. Dowe. 2020. Multi-variable analysis of echocardiographic variables in patients prior to and after gastric sleeve surgery. *JACC* 75 (11 Supplement 1): 1651. <https://www.jacc.org/doi/abs/10.1016/S0735-1097%2820%2932278-6>
- Haider, S., A. Doshi, A. Tatari, D.M. McElroy, E. Wallace, M. Joyce, N. Bennett, M. Kazimuddin, M.S. Akbar, M. Abdul-Waheed, and A. Singh. 2019. Impact of fluoroscopy dose utilized during coronary angiography on major adverse cardiac events. *J. Invasive Cardiology* 31(11).
- Kimwele, C.N., B.K. Karisa*, M. Stokes, J.O. Junga, O. Hanotte, R.A. Skilton and D. McElroy. 2012. DNA species surveillance: monitoring bushmeat poaching and trading in Kenya using partial cytochrome b gene. *African J. Biotechnology* 11: 14276-14286. <https://doi.org/10.5897/AJB11.2813>
- Marcus, J.M., T.M. Hughes, D. McElroy, and R.E. Wyatt. 2010. Engaging first year undergraduates in hands-on research experiences: the Upper Green River Barcode of Life Project. *Journal of College Science Teaching* 39:39-45.
- Marcus, J.M., D.D. Bell*, A.N. Bryant*, E.C. Burden*, M.E. Carter*, T.J. Cataldo*, K.R. Clark*, H.E. Compton*, L.S. DeJarnette*, V.B. Faulkner*, R.W. Gregory*, J.R. Hall*, L.N. Houchin*, M.E. Hudson*, P.F. Jenkins*, J.M. Jordan*, B.K. Logan*, N.R. Long*, H.F. Maupin*, S.R. McIntyre*, J.K. Mitchell*, J.K. Mobley*, A.N. Nehus*, B.N. Potts*, C.R. Read*, K.N. Slinker*, C.E. Thompson*, T.M. Hughes, D. McElroy, and R.E. Wyatt. 2009. The Upper Green River Barcode of Life Project. *Journal of the Kentucky Academy of Science*. 70: 75-83. <https://doi.org/10.3101/1098-7096-70.1.75>
- Doerner, K.C., W. Braden*, J. Cork*, T. Cunningham*, A. Rice*, B.J. Furman and D.M. McElroy. 2005. Population genetics of resurgence: white-tailed deer in Kentucky. *J. Wildlife Mgmt.* 69: 345-355. [https://doi.org/10.2193/0022-541X\(2005\)069%3C0345:PGORWD%3E2.0.CO;2](https://doi.org/10.2193/0022-541X(2005)069%3C0345:PGORWD%3E2.0.CO;2)
- Garner, L.M.*, C. Anderson*, D. McElroy and J. Bilotta. 2003. Differences in spectral sensitivity of ERG b- and d-waves in three African cichlid fish species. *Investigative Ophthalmology and Visual Science* 44: 4169.
- Douglas, M.E., M.R. Douglas, J.M. Lynch and D.M. McElroy. 2001. Use of geometric morphometrics to differentiate *Gila* (Cyprinidae) within the upper Colorado River basin. *Copeia* 2001: 390-401. [https://doi.org/10.1643/0045-8511\(2001\)001\[0389:UOGMTD\]2.0.CO;2](https://doi.org/10.1643/0045-8511(2001)001[0389:UOGMTD]2.0.CO;2)
- Hoyt, R.D., D. McElroy and D. Stiles. 2001. Spatio-temporal assessment of stream fish communities adjacent to an agricultural best-management practices operation. pp. 101-114 in Chester, E.W. and A.F. Scott (eds.), *Proceedings of the Ninth Symposium on the Natural History of the Lower Tennessee and Cumberland River Valleys*. Center for Field Biology, Austin Peay State University, Clarksville, TN.
- Seyoum, S., M.D. Tringali, T.M. Bert, D. McElroy and R. Stokes. 2000. Analysis of genetic population structure in red drum, *Sciaenops ocellatus*, based on mtDNA control region sequences. *Fishery Bull.* 98: 127-138.
- Bilotta, J., J. Cassidy*, D. McElroy, I. Kornfield and E.C. Davis*. 2000. Spectral sensitivity of the ERG b- and d-waves of an African cichlid species. *Investigative Ophthalmology and Visual Science* 42: S440.
- McElroy, D. 1999. Evolutionary biology: overview. pp. 195-202 in Knight, J. (ed.), *Encyclopedia of Genetics: Basics and Applications*. Salem Press, Pasadena, CA.
- Stuck, J.* and D. McElroy. 1999. Genetic counseling. pp. 239-244 in Knight, J. (ed.), *Encyclopedia of Genetics: Basics and Applications*. Salem Press, Pasadena, CA.
- Davis, C.D., L. Brooks*, C. Calisi*, B.J. Bennett* and D.M. McElroy. 1998. Beneficial effect of selenium supplementation during murine infection with *Trypanosoma cruzi*. *J. Parasit.* 84: 1274-1277. <https://doi.org/10.2307/3284689>
- McElroy, D.M., J.A. Shoemaker* and M.E. Douglas. 1997. Discriminating *Gila robusta* and *Gila cypha*: risk assessment and the Endangered Species Act. *Ecol. Appl.* 7: 958-967. [https://doi.org/10.1890/1051-0761\(1997\)007\[0958:DGRAGC\]2.0.CO;2](https://doi.org/10.1890/1051-0761(1997)007[0958:DGRAGC]2.0.CO;2)

- Ore, S.G.* , D.M. McElroy and R.D. Hoyt. 1997. Acute low pH impairs chemoreception and feeding performance in larval fathead minnows (*Pimephales promelas*). Mar. Fresh. Behav. Physiol. 30: 1-17. <https://doi.org/10.1080/10236249709379012>
- McElroy, D.M. and M.E. Douglas. 1995. Patterns of morphological variation among endangered populations of *Gila robusta* and *G. cypha* (Teleostei: Cyprinidae) in the upper Colorado River basin. Copeia 1995: 636-649. <https://doi.org/10.2307/1446760>
- McElroy, D.M. and I. Kornfield. 1993. Novel jaw morphology in hybrids between *Pseudotropheus zebra* and *Labeotropheus fuelleborni* (Teleostei: Cichlidae) from Lake Malawi, Africa. Copeia 1993: 933-945. <https://doi.org/10.2307/1447071>
- Dunnigan, B.* , D.M. McElroy and M.E. Douglas. 1993. Sexual dimorphism and morphological variation in *Cichlasoma minckleyi* from Cuatro Ciénegas basin, Mexico. Proc. Des. Fish. Council XXV: 45-46.
- McElroy, D., P. Moran, E. Bermingham and I. Kornfield. 1992. REAP: an integrated environment for the manipulation and phylogenetic analysis of restriction data. J. Hered. 83: 157-158. <https://doi.org/10.1093/oxfordjournals.jhered.a111180>
- McElroy, D.M., I. Kornfield and J. Everett*. 1991. Coloration in African cichlids: diversity and its constraints in Lake Malawi endemics. Neth. J. Zool. 41: 250-268. <https://doi.org/10.1163/156854291X00180>
- McElroy, D., P. Moran, E. Bermingham and I. Kornfield. 1991. REAP: The Restriction Enzyme Analysis Package. Version 4.0. Department of Zoology, University of Maine. 40 pp. + diskette.
- McElroy, D.M. and I. Kornfield. 1990. Sexual selection, reproductive behavior, and speciation in the mbuna species flock of Lake Malawi (Pisces: Cichlidae). Envir. Biol. Fishes 28: 273-284.
- Kornfield, I., S.M. Bogdanowicz and D.M. McElroy. 1987. Inheritance of adenosine deaminase in Malawi cichlids. Iso. Bull.20:10.
- Shiroya, T., D. McElroy and B.M. Sutherland. 1984. An action spectrum for photoreactivating enzyme in sea urchin eggs. Photochem. Photobiol. 40: 749-751. <https://doi.org/10.1111/j.1751-1097.1984.tb04647.x>

DISCIPLINARY ORAL AND POSTER PRESENTATIONS (ASTERISKS INDICATE PRESENTERS):

- McElroy, D.* 2021. Fundamental and Powerful Concepts as an organizing principle in teaching a high-enrollment, general education biology course. 41st International Conference on Critical Thinking, Virtual.
- Crosser, B.* , D. Brown, H. Do, T. Wiersen, A. Chambers, D. Passer, D. Davis, O. Nwanguma, N. Danapai, S. O'Keeffe, and D. McElroy. 2021. Assessing pressure ulcer staging abilities and subjective comfort level among healthcare professionals. General Surgery Symposium, Bowling Green, KY.
- McElroy, D.* 2020. Interleaved practice, F&P concepts, and student success in a high-enrollment, general education biology course. AAC&U Transforming STEM Education Conference, Virtual.
- Pfirman, K.* , M. Akbar, D. McElroy, M. McCurdy, F. Young, C. Nguyen, J. Thomas, and A. Singh. 2020. Electrocardiographic manifestations and derangements of the 2019 novel coronavirus disease (COVID 19). American College of Cardiology, Kentucky Chapter, Lexington, KY.
- Coffey, N.* , D. Sanford*, K. Miller*, F. Kazimuddin, D. McElroy, N. Mountjoy, K. Pfirman, B. Al Hemyari, S. Mittal MD, J. Dawson, S. Akbar, and A. Singh. 2020. Patient experience with tele health: tale of an academic cardiology clinic in Kentucky. American College of Cardiology, Kentucky Chapter, Lexington, KY.
- Sheth, P.* , H.F. Kazimuddin, D. McElroy, and A. Singh. 2020. Outcomes for patients receiving cardiopulmonary resuscitation during novel coronavirus outbreak in the United States. AHA Resuscitation Science Symposium, Dallas, TX.
- Al Hemyari, B.* , P. Jones, N. Coffey, M. Kazimuddin, N. Mountjoy, D. McElroy, and A. Singh. 2020. Healthcare providers' experience with telemedicine during COVID-19 pandemic. American College of Cardiology, Kentucky Chapter, Lexington, KY.
- Smith, M.C.* , R. Pham*, S. Mittal, P. Jones*, M. McCurdy*, H.F. Kazimuddin, D. McElroy, and A. Singh. 2020. Challenges in managing ST elevation myocardial infarction during COVID-19 pandemic. American College of Cardiology, Kentucky Chapter, Lexington, KY.
- Haider, S.* , A. Tatari, C.E. Galloway, M.T. Amjad, B. Emery, D.M. McElroy, O. Nwanguma, A. Singh, and J. Dawson Dowe. 2020. Multi-variable analysis of echocardiographic variables in patients prior to and after gastric sleeve surgery. American College of Cardiology World Congress of Cardiology, Chicago, IL.
- Pfirman, K.* , A. Singh, D. McElroy, S. Banga, M. Kazimuddin, M. Joyce, J. Stork, D. Chaney, P. Jones, and T. Donley. 2019. Periodontal disease influencing acute coronary syndrome. American College of Cardiology Kentucky Chapter, Lexington, KY.
- Haider, S., A. Doshi, A. Tatari, D.M. McElroy, E. Wallace, M. Joyce, N. Bennett, M. Kazimuddin, M.S. Akbar, M. Abdul-Waheed, and A. Singh. 2019. Impact of fluoroscopy dose utilized during coronary angiography on major adverse cardiac events. Complex Cardiac Catheter Therapeutics, Orlando, FL.

- Cohen, J.*, A. Tatari, D. McElroy, C. Morrow, M. Abdul-Waheed, M. Akbar, J. Dawson Dowe, M. Lavu, A. Singh, and M. Kazimuddin. 2017. Retrospective outcome analysis after left main coronary artery percutaneous coronary revascularization. American College of Cardiology Kentucky Chapter, Louisville, KY.
- Jones [Mountjoy], N., B. Smith, B. Sutton, C. Kimwele, D. McElroy, and M. Stokes*. 2007. Assessment of the bushmeat trade in southeastern Kenya. International conference of the Society for Conservation Biology, Port Elizabeth, South Africa.
- Jones [Mountjoy], N.*, B. Smith, B. Sutton, C. Kimwele, D. McElroy, and M. Stokes. Assessing bushmeat availability in Kenya's rural and urban markets. American Society of Mammalogists, Amherst, MA.
- Kimwele, C.N., E. Wambwa, M. Stokes and D. McElroy*. 2005. Molecular forensic identification of East African game species. Society for Integrative and Comparative Biology, San Diego, CA.
- Olson, C.*, L.M. Garner, J. Bilotta and D. McElroy*. 2004. Spectral sensitivity of ERG b- and d-waves in African cichlid fishes: comparisons with habitat, ecology and phylogeny. Society for Integrative and Comparative Biology, New Orleans, LA.
- McElroy, D.*, L.M. Garner, C. Anderson and J. Bilotta. 2003. Spectral sensitivity of ERG b- and d-waves in African cichlid fishes: early comparisons. Kentucky Academy of Sciences, Bowling Green, KY.
- Garner, L.M.*, C. Anderson, D. McElroy and J. Bilotta. 2003. Differences in spectral sensitivity of ERG b- and d-waves in three African cichlid fish species. Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.
- Doerner, K.C., W. Braden, J. Cork, T. Cunningham, A. Rice, B.J. Furman and D. McElroy*. 2002. Population genetics of resurgent white-tailed deer (*Odocoileus virginianus*) in Kentucky. Western Kentucky University Center for Biodiversity Studies, Bowling Green, KY.
- Doerner, K.C., W. Braden*, J. Cork, T. Cunningham*, A. Rice*, B.J. Furman and D. McElroy. 2001. Microsatellite DNA allele frequencies and population structure in Kentucky white-tailed deer (*Odocoileus virginianus*). Society for the Study of Evolution, Knoxville, TN.
- Cork, J.* and D. McElroy. 2001. Type I error rates in Monte Carlo randomization tests of population structure from microsatellite data. Society for the Study of Evolution, Knoxville, TN.
- Hoyt, R.D.*, D. McElroy and D. Stiles. 2001. Long-term assessment of stream fish communities adjacent to an agricultural best-management practices operation. Symp. Nat. Hist. Lower Tenn. Cumb. River Valleys, Clarksville, TN.
- McElroy, D.*, P. Reneau and I. Kornfield. 2000. Inheritance and evolution of dorsal fin coloration in Lake Malawi cichlid fishes. Society for the Study of Evolution, Bloomington, IN.
- Bilotta, J.*, J. Cassidy, D. McElroy, I. Kornfield and E.C. Davis. 2000. Spectral sensitivity of the ERG b- and d-waves of an African cichlid species. Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.
- Chandler, K.A., D.M. McElroy*, R.D. Hoyt and D. Stiles. 1998. Biomass vs. abundance measures of stream fish community structure. American Society of Ichthyologists and Herpetologists, Guelph, ON.
- Hoyt, R.D., D.M. McElroy* and D. Stiles. 1997. Spatial and temporal variation in stream fish communities adjacent to an agrarian enterprise. American Society of Ichthyologists and Herpetologists, Seattle, WA.
- McElroy, D.M.*, J.A. Shoemaker and M.E. Douglas. 1996. Discrimination of *Gila robusta* and *Gila cypha*: a classic 'producer's vs. consumer's risk' gambit. American Society of Ichthyologists and Herpetologists, New Orleans, LA.
- Ore, S.G., R.D. Hoyt* and D.M. McElroy. 1996. Acute low pH impacts chemoreception and feeding performance in larval fathead minnows *Pimephales promelas*. American Society of Ichthyologists and Herpetologists, New Orleans, LA.
- McElroy, D.M.* and I. Kornfield. 1994. Coloration and ecological niche complementarity in African cichlid fish communities. American Society of Ichthyologists and Herpetologists, Los Angeles, CA.
- Lynch, J.M.*, D.M. McElroy, and M.E. Douglas. 1994. 'Every picture tells a story': geometric morphometrics and variation in upper Colorado River chub. American Society of Ichthyologists and Herpetologists, Los Angeles, CA.
- McElroy, D.M.* and M.E. Douglas. 1993. Morphological variation among populations of endangered Colorado basin *Gila robusta* and *G. cypha*: are there forests amid the trees? Conservation Biology of Western Fishes. Society for Conservation Biology, Tempe, AZ. (Invited Symposium Presentation)
- McElroy, D.M.* and M.E. Douglas. 1993. Morphological variation among populations of endangered Colorado basin *Gila robusta* and *G. cypha*: are there forests amid the trees? American Society of Ichthyologists and Herpetologists, Austin, TX.
- Dunnigan, B., D.M. McElroy and M.E. Douglas*. 1993. Sexual dimorphism and morphological variation in *Cichlasoma minckleyi* from Cuatro Ciénegas basin, Mexico. Desert Fishes Council, Monterrey, MX.
- McElroy, D.M.* and I. Kornfield. 1991. Genetic control of morphology in cichlid fishes: does a little go a long way? Labroid Evolution. American Society of Ichthyologists and Herpetologists, New York, NY. (Invited Symposium Presentation)

CURRENT RESEARCH PROJECTS:

Impact of interleaved teaching on student performance and persistence a high-enrollment non-majors biology course
 Side effects of a COVID-19 vaccine rollout: comparison to clinical trials
 Multivariate predictive modelling of National Baseball Hall of Fame worthiness based on counting stats

STUDENT MENTORSHIP AND SCHOLARLY COLLABORATION:

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| Chair/Member, 34 M.S. committees within the Department of Biology 42.8% (27 of 63) during the period 1996-2008 Committees chaired by 19 different faculty within the Department of Biology | 1996- |
| Chair/Member, 8 undergraduate honors thesis committees within the Department of Biology | 1995- |
| Honors Program Reader, approximately 20 additional undergraduate honors thesis committees | 1997-2005 |
| Member, 2 Ed.D. committees at Western Kentucky University | 2014-2015 |
| External Member, 1 M.Sc. committee at the University of Nairobi | 2008 |
| Coauthor, peer-reviewed papers and abstracts with 11 different WKU faculty and staff colleagues | 1997- |
| Coauthor, 14 peer-reviewed papers and abstracts that include 48 different student coauthors (41 from WKU) | 1991- |

RESEARCH GRANTS, AWARDS AND PROPOSALS (EXTERNAL):

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| NIH U01 Program. A multi-modal, light technology intervention to reduce alcohol use and depression, enhance quality of life and provide social support to underserved rural communities. Multi-site clinical trial. J. Teeters, WKU Lead, D. McElroy and A. Singh, Local Collaborators. \$1,792,108. Not discussed. | 2021 |
| Kentucky Academy of Science Special Research Program. Impact of intensive treatment for periodontal disease on the incidence of recurrent acute coronary syndrome (ACS) events. D. McElroy and K. Pfirman, co-PIs. \$4,956. <u>Funded</u> . | 2020 |
| Robert Wood Johnson Foundation Evidence for Action Program. Evaluating alternatives to standard opioid treatment approaches for acute-injury and post-operative pain management. D. McElroy PI, and A. Singh and M. Joyce, co-PIs. \$316,854. Not funded. | 2019 |
| Kentucky Biomedical Infrastructure Network Course-Based Undergraduate Research Experiences Program. Virtual reality applications in biomedical sciences. D. McElroy PI, and F. Ashrafzadeh and K. Williams, Co-PIs. \$81,957. Not Funded. | 2019 |
| US EPA P3 Program (National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet). Sustainable Development of Wildlife Resources in a Rural Community in Kenya. M. Stokes and D. McElroy, co-PIs. \$21,650. <u>Funded</u> , but P3 Program cancelled by EPA. | 2005 |
| NSF EPSCoR Summer Research Program. Impact of Bushmeat Utilization on Conservation of Tropical African Game. D. McElroy and M. Stokes, co-PIs. \$23,455. Not funded. | 2004 |
| NSF EPSCoR Research Start-Up Fund Program. Functional Morphologist – Department of Biology, Western Kentucky University. D. McElroy, proposal author. \$75,000. <u>Funded</u> . | 2002 |
| NSF EPSCoR Research Enhancement Grant Program. Spectral Sensitivity and Tuning of the ERG b- and d-waves in Lake Malawi Cichlid Fishes: Associations with Coloration, Habitat and Trophic Differences among Species. D. McElroy and J. Bilotta, co-PIs. 40,738. <u>Funded</u> . | 2002 |
| NSF EPSCoR Research Enhancement Grant Program. Development of PCR-Based Standards for Identification of Kentucky White-Tailed Deer (<i>Odocoileus virginianus</i>) for Law Enforcement. D. McElroy, K.C. Doerner, B.J. Furman and D. Perkins, co-PIs. \$36,779. <u>Funded</u> . | 2000 |
| Kentucky Justice Cabinet Edward Byrne Memorial Fund Program. Developing New Alliances. L. Sudkamp, J. Warnecke, K.C. Doerner and D. McElroy, co-PIs. \$786,362. Not funded. | 2003 |
| NSF Research Infrastructure Improvement Grant Program. Science- and Technology-Based Natural Resource Management. M. Stokes, A. Meier, S. Grubbs, D. McElroy and R. Mahmood, co-PIs. \$2,800,000. Not funded. | 2003 |
| Legislative Funding Request. Resurgence of Black Bear in Kentucky: Feasibility and Genetic Monitoring of Populations. B.J. Furman, D. McElroy and K.C. Doerner, co-PIs. \$1,500,000. Not funded. | 2000 |
| National Geographic Society Grants for Research. Subterranean Biogeography: Population Structure and Environmental Vulnerability of Amblyopsid Cavefishes. D. McElroy, PI. \$26,220. Not funded. | 1997 |

RESEARCH GRANTS, AWARDS AND PROPOSALS (INTERNAL):

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| WKU Quick Turn-Around Grant Program. Periodontal Disease Influencing Acute Coronary Syndrome Study. K. Pfirman, T. Donley, and D. McElroy, co-PIs. \$3,000. <u>Funded</u> . | 2019 |
| WKU Community Partnerships Incentive Award Program. Western Kentucky University Mastermind Conference. Samuel J. Hunt and D. McElroy, co-PIs. \$12,178. <u>Funded</u> . | 2009 |
| Western Kentucky University Faculty Scholarship Fund. \$1,000. <u>Funded</u> . | 2002 |
| Western Kentucky University Summer Research Fellowships (2). \$5,000 each. <u>Funded</u> . | 1995, 1996 |
| Western Kentucky University Academic Excellence Fund. With Z. Murrell. \$5,000. <u>Funded</u> . | 1995 |
| Western Kentucky University President's Special Grant Fund (3). \$2,750, \$1,600, \$2,229. <u>Funded</u> . | 1995-1997 |

COURSES AND LABORATORIES TAUGHT (ASTERISKS INDICATE NEW COURSES DEVELOPED):

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| BIOL 397 | Scientific Process: Clinical Research (w/ N. Mountjoy) | 2021- |
| BIOL 369 | Patient Coordinators: Medical Center Research Internship (w/ N. Mountjoy)* | 2021- |
| BIOL 489 | Professional Aspects of Biology | 2020- |
| BIOL 113 | General Biology | 2019- |
| BIOL 283/382 | Introductory Biostatistics* | 1995- |
| BIOL 483/483G | Multivariate Methods in Biology* | 1994- |
| BIOL 475 | Biology of Galapagos* | 2012 |
| BIOL 334 | Animal Behavior* | 2004-2008 |
| BIOL 430/430G | Evolution: Theory and Process* | 1994-2008 |
| BIOL 524 | Evolutionary and Ecological Genetics* | 1999-2007 |
| BIOL 475 | Biology in a Social Context: Galapagos and Ecuador (w/ K.C. Doerner)* | 2007 |
| BIOL 475 | Wildlife, Cultural and Economic Diversity of Kenya (w/ M. Stokes)* | 2005 |
| BIOL 327 | Genetics (1 three-week module: Forensic DNA Analysis and QTL Mapping) | 2003 |
| BIOL 501 | DNA Forensics for Teachers* | 2002 |
| BIOL 522 | Systematics and Evolution (w/ M. Stokes and C. Rinehart) | 1998 |
| BIOL 503 | Contemporary Research in Biology | 1998 |
| BIOL 501 | Perspectives in Biology: Development and Evolution (w/ K. Balak)* | 1997 |
| BIOL 675 | Seminar: Molecular Markers in Evolution* | 1995 |
| BIOL 398 | Senior Undergraduate Seminar | 1995 |
| BIOL 115 | Introduction to Biology (Non-Majors) | 1994-1996 |
| BIOL 120 | Biological Concepts (Majors; includes Honors Sections) | 1994-2004 |
| BIOL 225 | General Zoology Laboratory | 1994-1997 |
| BIOL 131 | Human Anatomy and Physiology with Laboratory (Non-Majors) | 1993-1994 |
| Honors BIOL 175 | University Experience in Biology | 2006-2007 |
| Honors COLL 201 | Pseudoscience of Intellectual Racism* | 1998 |
| Honors COLL 201 | Creation Science and Evolution* | 1997 |