

9-24-2021

## A Love of Science and the Excitement of Discovery

Ryan W. McEwan  
*University of Dayton*, [rmcewan1@udayton.edu](mailto:rmcewan1@udayton.edu)

Follow this and additional works at: [https://ecommons.udayton.edu/ul\\_blog](https://ecommons.udayton.edu/ul_blog)

---

### eCommons Citation

McEwan, Ryan W., "A Love of Science and the Excitement of Discovery" (2021). *University Libraries Blog Archive*. 413.  
[https://ecommons.udayton.edu/ul\\_blog/413](https://ecommons.udayton.edu/ul_blog/413)

This Blog is brought to you for free and open access by the University Libraries at eCommons. It has been accepted for inclusion in University Libraries Blog Archive by an authorized administrator of eCommons. For more information, please contact [mschlangen1@udayton.edu](mailto:mschlangen1@udayton.edu), [ecommons@udayton.edu](mailto:ecommons@udayton.edu).

# University Libraries

[Blogs at UD](#) / [University of Dayton Libraries](#) / [A Love of Science and the Excitement of Discovery](#)



[Blogs at UD](#) →

[University  
Libraries Blog](#) →

[University  
Libraries Website](#) →

[Marian Library  
Blog](#) →

[Get RSS Feed](#) →

[Subscribe to  
UD Newsletter](#) →

**FRIDAY SEPTEMBER 24, 2021**

# A Love of Science and the Excitement of Discovery

By Ryan W. McEwan

---

*Ryan W. McEwan is a professor in the Department of Biology and will be installed Oct. 21 as the Dr. Robert J. Schuellein Chair in Biological Sciences.*

---

In the Spring of 2022, Professor Albert J. Burky will retire from a career of nearly 50 years of tireless devotion to the University of Dayton mission.

Professor Burky came to the University of Dayton in 1973 as an assistant professor of aquatic biology. Since that time, he has been a model of excellence in every facet of faculty life: research, teaching and service.

## RESEARCH: RICH EXPERIENCES ON CAMPUS AND IN THE FIELD

Professor Burky has shepherded a research program that has deeply engaged UD undergraduates and graduate students in fieldwork, lab work, data analysis and publishing. For example, undergraduate students have been contributors on more than 100 combined publications and meeting presentations, and Professor Burky has published 45 peer-reviewed research papers and dozens of other works in books and conference proceedings; many of them are archived in [eCommons](#) (browse the list below).

Professor Burky's research (photos in gallery below) has been focused on ecology and evolution, and he is particularly motivated to introduce students to the excitement of scientific discovery. As a graduate student adviser, Professor Burky has been exemplary. His devotion and passion for his chosen subject is infectious. His mentorship of master's and doctoral students has contributed to the development of an ever widening cadre

## PREVIOUS POST

**Their Voice, Their Vocation: Religious Sisters in Health Care**

In a new oral history collection, women religious share their thoughts on the past, present and future of Catholic health care.

[Read More](#)

---

## NEXT POST

**Parsing and Paring Pandemic Pedagogy: What Should Stay, What Should Go?**

The *Basic Communication Course Annual* asks college-level communication

of scientific professionals who continue to contribute to the scientific community through their own careers.

One monumental aspect of Professor Burky's time at UD has been a series of research efforts focused on freshwater streams in the mountains of Hawaii. Over the decades, Professor Burky has made more than 100 trips to the Hawaiian Islands, often with UD undergraduate and graduate students as part of the teams. These projects have focused on the biology of stream organisms and routinely addressed environmental sustainability because some of these streams faced the loss of flow due to diversion for tourist development. With funding from the Earth Watch Institute and other sources, Professor Burky has been committed to translating his science into action, working with regional professionals to protect these streams and the local people who relied on them.

## TEACHING: CREATIVITY, ENTHUSIASM, INNOVATION

As a teacher, Professor Burky has brought enthusiasm and creativity to nearly 50 years of UD students. Of particular note is the development of a set of undergraduate laboratories using hands-on experiments and observations of organisms, often from his personal collection. His exuberant dedication to his invertebrate zoology lab has created an unforgettable experience for students, many of whom have marked that lab as the best learning opportunity of their time at the University. Professor Burky also has created opportunities for students to travel and experience remote ecosystems and unique cultures. For example, he developed the course Island Environmental Biology and taught it in Palau and the Hawaiian Islands, and he took students into the field in Costa Rica for the course Culture, Biodiversity and Resource Management. All of these efforts earned him the College of Arts and Sciences' Faculty Award for Excellence in Teaching in 1993 and the University Award for Faculty Teaching in 1994.

faculty and graduate students to share what pandemic teaching innovations did and didn't work for which audiences, for what reasons, and whether they should stay or go. The deadline for short essays is Oct. 20.

[Read More](#)

## SERVICE: PERSONAL, PROFESSIONAL, DEPARTMENTAL

In the realm of service, Professor Burky contributes daily to the operation and function of the Department of Biology and the University as a whole. He advises undergraduate students with patience, precision and wise counsel; indeed, at times, Professor Burky has been a de facto walk-in clinic for students needing help selecting classes. He also has been an ardent advocate and mentor for new faculty at UD. Besides serving others at the individual level, Professor Burky has been a model of commitment to “the work of the department” in service to students and the University. His deep engagement in professional service — including leadership activities for professional scientific societies, organization of professional meetings, peer review of emerging research and communication of science to stakeholders — has advanced knowledge, developed new leaders and elevated the research profession.

## A MODEL, A MENTOR, AN ADVISER, A FRIEND

Professor Burky has been a role model and mentor for me; an empathetic ear when I face frustrations; and a heartening champion when things go well. In short, he is a selfless example of the aspirational totality of the title “professor.”

## SELECTED PUBLICATIONS BY ALBERT J. BURKY

The following scholarly works by Professor Burky are archived in eCommons, UD's institutional repository for faculty scholarship; if you'd like your research to be added, contact [Maureen Schlagen](#) in the University Libraries when your new works are accepted for publication.

- ["Edge Effects, Invasion, and the Spatial Pattern of Herb-Layer Biodiversity in an Old-Growth Deciduous Forest Fragment"](#) (2015), *Natural Areas Journal*
- ["Benthic Community Responses to Water Removal in](#)

"Tropical Mountain Streams" (2014), *River Research and Applications*

- "Dispersal and Upstream Migration of an Amphidromous Neritid Snail: Implications for Restoring Migratory Pathways in Tropical Streams" (2012), *Freshwater Biology*
- "Cascade Macroinvertebrate Assemblages for In-Stream Flow Criteria and Biomonitoring of Tropical Mountain Streams" (2012), *River Research and Applications*
- "Structural and Functional Changes of Tropical Riffle Macroinvertebrate Communities Associated with Stream Flow Withdrawal" (2008), *River Research and Applications*
- "The Influence of Stream Flow Reduction on the Energetics of Endemic Hawaiian Torrenticolous Aquatic Insects, *Telmatogeton Schiner* and *Procanace Hendel*" (2005), *Journal of Insect Conservation*
- "A History of Hawaiian Freshwater Resources" (2005), *Water Encyclopedia*
- "Two Modified Breder Traps for Quantitative Studies of Tropical Amphidromous Migration" (2005), *Hydrobiologia*
- "The Use of Two Modified Breder Traps to Quantitatively Study Amphidromous Upstream Migration" (2004), *Hydrobiologia*
- "Morphological Characteristics and Species Separation of Hawaiian Postlarval Amphidromous Fishes" (2004), *Micronesica*
- "Life Cycle of a Torrenticolous Hawaiian Chironomid (*Telmatogeton torrenticola*): Stream Flow and Microhabitat Effects" (2003), *Annales de Limnologie - International Journal of Limnology*
- "Life Cycle of a Torrenticolous Hawaiian Chironomid (*Telmatogeton Torrenticola*): Stream Flow and Microhabitat Effects" (2003), *Annales de Limnologie - International Journal of Limnology*

- "Effect of Water Removal On Introduced Caddisflies from a Tropical Mountain Stream" (2003), *Annales de Limnologie - International Journal of Limnology*
- "Effects of Stream Diversion on Riffle Macroinvertebrate Communities in a Maui, Hawaii, Stream" (2002), *River Research and Applications*
- "A Note on Cascade Climbing of Migrating Goby and Shrimp Postlarvae in Two Maui Streams" (2002), *Micronesica*
- "Hawaiian Freshwater Polychaeta: A Potentially Substantial Trophic Component of Stream Depositional Habitats" (2001), *Micronesica*
- "The Occurrence of the Freshwater Clams, *Musculium partumeium* (Say) and *Pisidium casertanum* (Poli) (Bivalvia: Sphaeriidae), in the Hawaiian Islands" (2000), *Micronesica*
- "Habitat Preferences of the Rainbow Darter, *Etheostoma Caeruleum*, with Regard to Microhabitat Velocity Shelters" (1998), *Copeia*
- "Reproductive Biology of the Endemic Goby, *Lentipes Concolor*, from Makamaka'ole Stream, Maui and Waikolu Stream, Moloka'i" (1998), *Environmental Biology of Fishes*
- "Migration Patterns of Native Indigenous Freshwater Goby Postlarvae and the Use of Artificial Corridors for Stream Mitigation and Restoration Projects" (1998), *USDA Natural Resources Conservation Service*
- "New Records of Namanereidinae (Polychaeta: Nereididae) from Hawaii" (1998), *Records of the Hawaii Biological Survey Part 2, Bishop Museum Occasional Papers*
- "Larval Habitat Preference of the Endemic Hawaiian Midge, *Telmatogeton Torrenticola* Terry (Telmatogetoninae)" (1997), *Hydrobiologia*
- "Substrate Roughness, Velocity Refuges, and Macroinvertebrate Abundance on Artificial Substrates

in the Lower Mississippi River" (1995), *Journal of the North American Benthological Society*

- "Development and Application of a Thermistor Current Meter" (1994), *U.S. Army Corps of Engineers*
- "The Relationship Between Shell Morphology and Microhabitat Flow in the Endemic Hawaiian Stream Limpet (Hihiwai), *Neritina Granosa* (Prosobranchia: Neritidae)" (1993), *Pacific Science*
- "Application of a Thermistor-Based Current Meter for Measuring Flow in the Habitat of the Endemic Hawaiian Limpet (Hihiwai), *Neritina granosa*" (1991), *New Directions in Research, Management and*

*Conservation of Hawaiian Freshwater Stream Ecosystems: Proceedings of the 1990 Symposium on Freshwater Stream Biology and Fisheries Management*

- "Preliminary Characterization of Habitat of an Endemic Goby (O'opu Alamo'o), *Lentipes Concolor* (Gill), in Relation to Water Column and Benthic Flow in Hawaiian Streams" (1991), *New Directions in Research,*

*Management and Conservation of Hawaiian Freshwater Stream Ecosystems: Proceedings of the 1990 Symposium on Freshwater Stream Biology and Fisheries Management*

- "A Preliminary Survey of Macroinvertebrates and a Preliminary Assessment of the Diet of the Endemic Hawaiian Goby (O'opu Alamo'o), *Lentipes Concolor* (Gill)" (1991), *New Directions in Research, Management*

*and Conservation of Hawaiian Freshwater Stream Ecosystems: Proceedings of the 1990 Symposium on Freshwater Stream Biology and Fisheries Management*

- "Comparative Bioenergetics of Permanent and Temporary Pond Populations of the Freshwater Clam, *Musculium Partumeium* (Say)" (1985), *Hydrobiologia*
- "Seasonal Responses of Filtration Rates to Temperature, Oxygen Availability, and Particle Concentration of the Freshwater Clam, *Musculium*



## Concentration of the Freshwater Clam, *Musculium*

*partumeium* (Say)" (1985), *American Malacological Bulletin*

- "Energy Budget for a Stream Population of the Freshwater Clam, *Sphaerium striatinum* Lamarck (Bivalvia: Pisidiidae)." (1984), *Canadian Journal of Zoology*
- "Effects of Particle Concentration and Season on the Filtration Rates of the Freshwater Clam, *Sphaerium striatinum* Lamarck (Bivalvia: Pisidiidae)" (1984), *Hydrobiologia*
- "Seasonal Variation in the Metabolic Rates and Q10-Values of the Fingernail Clam, *Sphaerium striatinum* Lamarck" (1983), *Comparative Biochemistry and Physiology -- Part A: Physiology*
- "Life-History Characteristics of a Stream Population of the Freshwater Clam, *Sphaerium striatinum* Lamarck (Bivalvia: Pisidiidae)" (1982), *Canadian Journal of Zoology*
- "Growth of *Pisidium casertanum* (Poli) in West Central Ohio" (1981), *Ohio Journal of Science*
- "Seasonal Metabolism of the Sphaeriid Clam, *Musculium partumeium* (Say), from a Permanent and a Temporary Pond" (1981), *The Nautilus*
- "Interpopulation Variation in Calcareous and Proteinaceous Shell Components in the Stream Limpet, *Ferrissia rivularis*" (1981), *Malacologia*
- "Environmental Heterogeneity, Genetic-Polymorphism, and Reproductive Strategies" (1981), *American Naturalist*
- "Comparative Life History Tactics of the Sphaeriid Clam, *Musculium partumeium* (Say), from a Permanent and a Temporary Pond" (1980), *The American Midland Naturalist*
- "Reproductive Strategies in the Freshwater Sphaeriid

Clam, *Musculium Partumeium* (Say), from a Permanent and a Temporary Pond" (1980), *Oecologia*

- "Comparison of Carbon and Nitrogen Content of Infected and Uninfected Snails, *Succinea ovalis*, and the Trematode *Leucochloridium variae*" (1979), *Journal of Parasitology*
- "An Accurate Microassay for Measuring Filtration Rates of Small Invertebrates Using Latex Beads" (1979), *Comparative Biochemistry and Physiology -- Part A: Physiology*
- "The Ratio of Calcareous and Organic Shell Components of Freshwater Sphaeriid Clams in Relation to Water Hardness and Trophic Conditions" (1979), *Journal of Molluscan Studies*
- "Buoyancy Changes as Related to Respiratory Behavior in an Amphibious Snail, *Pomacea Urceus* (Müller), from Venezuela" (1977), *The Nautilus*
- "Respiratory Chambers for Measuring Oxygen Consumption of Small Aquatic Molluscs with Clark-Type Polarographic Electrodes" (1977), *Malacological Review*
- "Seasonal Respiratory Variation and Acclimation in the Pea Clam, *Pisidium Walkeri* Sterki" (1976), *Comparative Biochemistry and Physiology -- Part A: Physiology*
- "Growth and Biomass Production of An Amphibious Snail, *Pomacea Urceus* (Müller), from the Venezuelan Savannah" (1974), *Journal of Molluscan Studies*
- "Temperature, Water, and Respiratory Regimes of an Amphibious Snail, *Pomacea Urceus* (Müller), from the Venezuelan Savannah" (1972), *The Biological bulletin*
- "Biomass Turnover, Respiration, and Interpopulation Variation in the Stream Limpet, *Ferrissia rivularis* (Say)" (1971), *Ecological Monographs*
- "On the Use of a 'Wet-Oxidation' Method for Estimates of Total Organic Carbon in Mollusc Growth Studies" (1968), *Proceedings of the Malacological Society of London and the Journal of Molluscan Studies*

- "Interpopulation Variations in Calcium Metabolism in the Stream Limpet, *Ferrissia rivularis* (Say)" (1967), *Science*



## Costa Rica, 2006

1/5

Albert Burky is at the far left in the second row on this 2006 field expedition to the Poás Volcano in Costa Rica.



### Share



### Topics

- ♥ Libraries
- ♥ Experiential Learning
- ♥ Research
- ♥ Sciences
- ♥ Libraries
- ♥ Students
- ♥ Campus and Community

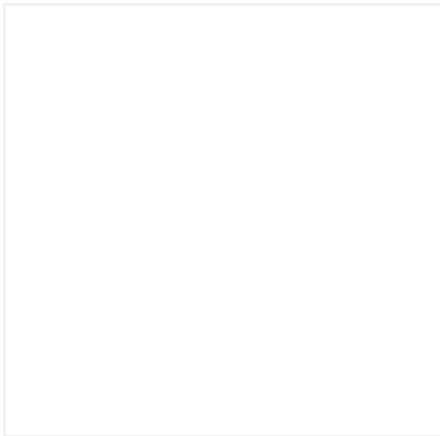
## What's Trending



**UD in the News Feb. 11-18**



**Ready for the Front Line**



**Students courtside**



**Student success**

Powered by



Apply →

Careers

Contact

300 College Park  
Dayton, Ohio  
45469  
937-229-1000

[info@udayton.edu](mailto:info@udayton.edu)

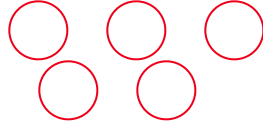
[Directions](#)

---

[Visit](#) →

[Request Info](#) →

[Give](#) →



[Contact](#)

---

[Academic Calendar](#)

---

[Alumni](#)

---

[Libraries](#)

---



---

[PORCHES](#) [POLICIES](#) [REPORT A CONCERN](#) [PRIVACY & TERMS](#) [NONDISCRIMINATION](#) [DIVERSITY](#)