

WESTERN UNIVERSITY BIOLOGY

ALUMNI NEWSLETTER

SPRING 2024



Seals at Green's Point, New Brunswick
Photo credit: J.F. Staples

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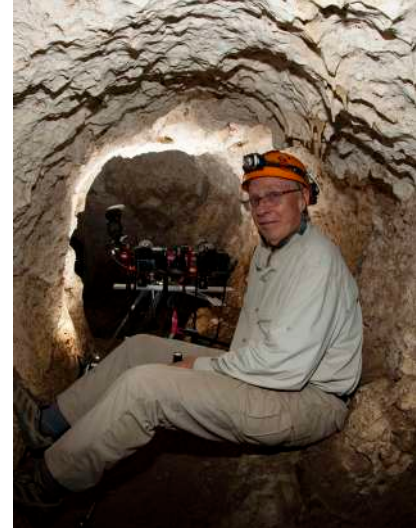
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CHAIR'S REPORT

A MESSAGE FROM DAVID COLTMAN



It is my great pleasure to share the Spring 2024 Newsletter with you. The cover photo for this issue really grabbed my attention for two reasons. First, I am a native Maritimer (roots in Nova Scotia and Newfoundland), and second, the sex lives of harbour seals was the topic of my PhD dissertation.

The cover highlights this issue's theme of **Learning Through Experience**, which is a critical element of our department and faculty's strategic plans and one of four priority areas in our nascent Western Biology Academic Plan. We are committed to supporting experiential learning by offering authentic field courses – such as the environmental studies in marine biology course offered at the Huntsman Marine Sciences Centre (page 16). Experiences in the field like that when I was a student, right down to the beer in stubby bottles, inspired me to pursue biology.

Check out the profile of the remarkable and inspirational life journey of Kathleen Holland (BSc '87) which highlights her formative experience gained on a field course on bat ecology taught by Professor Brock Fenton in the 1980s (page 4). If you are curious about what Brock is doing now, look no further than page 14.

This issue also touches two other priority areas in the Biology Academic Plan. One is **Building a Community** where our investment in new people paves the way for impactful teaching, learning and discovery in the future. Recently recruited faculty members Michael Pyne (page 9) and Raymond Thomas (page 10) bring their expertise to bear on new avenues of inquiry in synthetic biology and lipidomics, respectively, to the Department of Biology. The recruitment of these talented new additions ensures that we continue **Advancing Research Excellence** – the second priority area.

Finally, this issue touches on a key theme of any well thought out academic strategic plan, and the fourth cornerstone of the Biology Academic Plan, which is **Promoting Student Success**. Pages 12 and 13 celebrate the 2023 Convocation award winners, and profile a few of our highly successful graduates. Congratulations to all of you, and welcome to the community of Western Biology alumni!

I hope you enjoy this issue!

David Coltmán

Professor and Chair,
Department of Biology
Western University

Biology Alumni Profile

KATHLEEN HOLLAND BSC '87

By Louise Milligan, Professor Emerita

Kathleen Holland, a woman of diverse talents and passions, has woven a unique tapestry in her life journey, connecting the realms of science, finance, and community service. Holland's story is a testament to her resilience, adaptability and unwavering commitment to making a positive impact on the world.

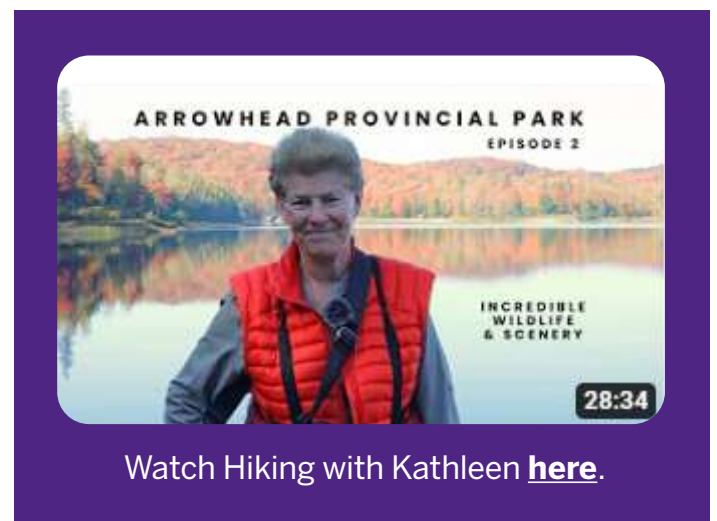
Holland's academic journey commenced at Western University, where she earned a Bachelor of Science in Biology in 1987. During her undergraduate years, a pivotal experience in a field course on bat ecology taught by Professor Brock Fenton (Professor Emeritus, Biology) ignited her fascination with the natural world and ecology. This transformative encounter set the stage for Holland's early career trajectory.

Post-graduation, Holland embraced her passion for nature by becoming a naturalist, and later, a park warden at Pinery Provincial Park. Her role involved not only preserving and protecting the environment but also engaging with the public, sharing her knowledge and fostering an appreciation for the ecological wonders surrounding them.

Seeking to broaden her impact and share her love for the environment on a larger scale, Holland became the naturalist at the Environment Center within the former London Board of Education, (now called Thames Valley District School Board). Here, she played a pivotal role in teaching and leading field courses, enriching the educational experiences of students in London.

However, concerns over a potential shift in government funding altered Holland's career path. She adapted to the change and embarked on a 22-year career as a financial planner. This new path allowed Holland to provide financial guidance to others, showcasing her versatility and resilience.

Despite her focus on finance, Holland never abandoned her passion for the natural world. In a digital age, she found innovative ways to share her outdoor experiences. Following her retirement, Holland launched "Hiking with Kathleen," a YouTube channel (where its content



Watch Hiking with Kathleen [here](#).

has been made into a television show by the same name, on Rogers TV), inviting virtual audiences to join her as she hikes, kayaks and canoes in and around London, Ontario. Through this storytelling she brings the beauty of local nature to a global audience, fostering a virtual community of nature enthusiasts.

In addition to sharing her love for the outdoors, Holland is a tireless advocate for the LGBTQ+ community. Her commitment to inclusivity and empowerment earned her the prestigious YMCA Women of Excellence Award in 2023, reflecting her belief in creating a more inclusive and compassionate society.

Holland's journey from a field biologist to a financial planner and community advocate underscores the possibilities that unfold when one remains true to their passions and values. Holland's story serves as an inspiration, reminding us of the profound impact one person can have on multiple facets of society, leaving a lasting legacy of connection, education and empowerment.



Faculty Profiles

PROFESSOR DAVID COLTMAN

By Justin To, MSc Candidate

There are many sides to Biology's Professor David Coltman: esteemed scientist, engaging lecturer, department chair.

His journey began at Queen's University, where he was exposed to critiques in evolutionary theory by Professor Allen Keast in his undergraduate studies. This piqued his interest in questions of comparative anatomy and evolutionary processes, inspiring his pursuit of research in graduate studies.

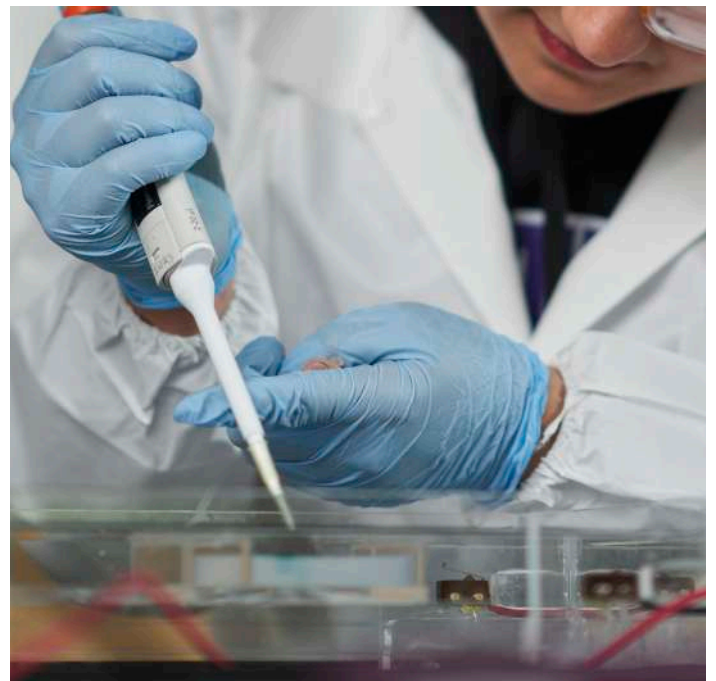
Next, it was his love for aquatic life that brought him to Dalhousie University for his PhD, where he achieved mastery in the, at the time, novel techniques of DNA fingerprinting and microsatellite analysis. He built upon this research as a post-doctoral fellow at the University of Edinburgh, working to understand animal parentage based on genetic data. This established Professor Coltman as a population geneticist, which he thoroughly enjoyed and continued to pursue at the University of Sheffield before establishing his lab at the University of Alberta for 17 years. In 2021, he moved to Ontario to take on the role of chair for the Department of Biology here at Western.

Currently, Professor Coltman strives to bridge the gap between whole genome sequence information and phenotypic trait information. Whilst this has challenges that remain, despite

advancements in technology, he notes the huge progress and achievements we have made in applying genomics in the context of human disease and advancing our understanding of the natural world.

“Keep your eye out for opportunities, you never know what will come up, get as much experiential learning as possible and take part in lab and field courses wherever possible.”

As department chair, Professor Coltman is not able to teach students as much as he would like. However, he does have words of wisdom for all aspiring scientists. Keep your eye out for opportunities, you never know what will come up, get as much experiential learning as possible and take part in lab and field courses wherever possible.









PROFESSOR MICHAEL PYNE

By Jorden Maglov, PhD Candidate

Western Biology would like to welcome new faculty member Michael Pyne to the department!

Michael Pyne has a passion for teaching and a history of academic excellence. He joins Western, coming from his role as a Research Associate at the Centre for Applied Synthetic Biology at Concordia University.

His academic career began by studying biotechnology as an undergraduate student, then transitioned to chemical engineering for his PhD. He ultimately combined these two interests when synthetic biology emerged as a new and promising field in Canada. It is therefore no surprise that Pyne will be pivotal in the development of Western Biology's undergraduate module in synthetic biology.

“Because microbes grow much faster than plants I am optimistic that I will be able to use microbial systems to overproduce plant natural products and discover new metabolic routes.”

Currently, Pyne is developing an exciting research program that focuses on the applied side of biology and chemistry. His research uses microbes to engineer biochemical pathways and synthesize new-to-nature chemical compounds. This can be achieved by modifying and optimizing pre-existing plant metabolic pathways. “Because microbes grow much faster than plants I am optimistic that I will be able to use microbial systems to overproduce plant natural products and discover new metabolic routes,” shares Pyne. He also hopes his research will help engineer more robust microbial strains contributing to the discovery of new plant-derived pharmaceuticals.

Pyne's exciting cutting-edge research program and passion for teaching will make him an asset to the department and the synthetic biology module at Western. We are excited to see him reach his full potential as both a researcher and mentor in his new role as Assistant Professor!

PROFESSOR RAYMOND THOMAS

By Jessica Sinka, PhD Candidate

There is no place like home! Well, that might be overstated, but the Department of Biology is very excited to welcome back Professor Raymond Thomas!

Thomas is a current Western Research Chair, recognized for his exceptional research leadership. His accomplishments are wide ranging: One of his publications is ranked among the Top 100 Chemistry papers in Scientific Reports for 2019 and he – quite impressively – held a division 2 soccer scholarship during his bachelor's degree at Lincoln University, Jefferson City, Missouri. It was at Lincoln University where he was motivated by his faculty mentors and Department Chair to pursue graduate studies.

Thomas's early education, which was agriculture focused, rain or shine, seven days a week, culminated in his arrival at Western where he did a PhD in plant biochemistry and physiology. He continued his career at Western through a Post-Doctorate in Molecular Biology and afterwards became the project manager for Western's Advanced Facility for Avian Research (AFAR) and completed a second Post Doc in Chris Guglielmo's lab.

After a near-decade long term as a professor at Memorial University, Newfoundland, Thomas has returned as a Western Research Chair, Scientific Director of the Biotron, and Professor in the Department of Biology.

Currently, Thomas is focused on applying multi-disciplinary lipidomics techniques to assess how a variety of biological systems respond to environmental stressors. His use of specialized chromatographic and mass spectrometric technology allows for him to address questions about how the lipidome, and other specialized metabolisms, converge to mediate environmental stress. His research can be applied to plant science, agriculture, neurobiology, food science, boreal forest reclamation and human health assessment.

So, to bring this article full circle... Professor Raymond Thomas, welcome back to the Western Biology family! We hope that the campus geese, familiar faces and bright purple make you feel like you have made it back home!



Congratulations, New Alumni

CELEBRATING THE 2023 CONVOCATION AWARD WINNERS

Western Biology is proud of our class of 2023 and is excited to see the incredible accomplishments they continue to achieve. We caught up with a few of our Award Winners to see where they are now.



Josephine Marks
Western Gold Medal - Honours Specialization in Genetics

"I am currently applying to schools for my Master's in Genetic Counselling as well as planning a backpacking trip through New Zealand and Australia in 2024!"



Alyssa Vander Zee
Western Gold Medal - Honours Specialization in Genetics and Biochemistry

"I moved to Toronto and began a Master's in Biochemistry at the University of Toronto. I am currently rotating through labs before making my final choice about where my Master's will take place in 2024!"



Amy Heathcote
Western Gold Medal - Honours Specialization in Synthetic Biology

"In September 2023, I started my Master of Applied Science at UofT under the faculty of chemical engineering. I am designing CRISPR based diagnostics to detect fungal pathogens and anti-microbial resistance mutations to improve infection control and anti-microbial stewardship."



Ashley Vos
Helen I. Battle Medal and Scholarship in Zoology

"I am currently completing my Master's degree in Environment and Sustainability here at Western. I decided I wasn't done learning, and Western was the perfect place to gain a holistic perspective on the many complex environmental challenges that the world faces before I get out there and work towards creating positive change!"

Western Gold Medal – Honours Specialization in Animal Behaviour: Madeleine Wong

Western Gold Medal – Honours Specialization in Biodiversity and Conservation: Ashley Wilkins

Western Gold Medal - Honours Major in Biology: Aaron Herlick

Western Gold Medal - Honours Major in Genetics: Micah Evans

Western Gold Medal - Honours Major in Psychology: Micah Evans

The Terence Lavery Memorial Gold Medal - Honours Specialization in Biology: Willow Weiler

Donald B. McMillan Honours Thesis Award in Biology: Ryan Weiner



Lance Javier

US and Canada

Regional Global

Undergraduate Award

Lance's BSc honours thesis "Growing concerns: the interactive effects of soil copper and microplastics on soybeans" (Supervisor: Professor Sheila Macfie) won first place in the Earth & Environmental Science category.

"I am piecing together the different parts of my MSc research project at University of Guelph, in anticipation of the upcoming field season. I'm working towards identifying germination and emergence issues among corn/soybean fields with lots of surface crop residues. I am thrilled that I can pursue a career related to biology, which is my favorite discipline ever. I've been thinking of volunteering for organizations that provide scientific outreach, as I would like to spread my enthusiasm for science to the next generation (after all, we need more bright minds in STEM!)."





Where are they now?

**SPOTLIGHT ON RETIRED BIOLOGY PROFESSOR BROCK FENTON
FACULTY MEMBER AND DEPARTMENT CHAIR, 2003-2010**

Memories

I vividly remember a visit to a bat hibernation site that I made with Jack Millar, Jim Staples, Suzanne Kohalmi and some others not long after I had arrived at Western. The old mine we visited harboured quite a few hibernating bats, some of them covered with droplets of condensation. Meeting animals and other organisms on their home turf was an important

part of our fascination with biology. The three of us all taught field courses to introduce students to the natural world and the organisms we studied. We convened field courses from the Sonoran desert (Paul Handford), Kananaskis in Alberta, Kruger National Park in South Africa to the Queen's Biology Station in southeastern Ontario. For us and the students, these were life-changing experiences. For Ontario universities,

Courses Taught

- Biology 022 - Introductory Biology
- Biology 029 - The Nature of Biological Things
- Biology 271a - Vertebrate Biology
- Biology 2471 - Vertebrate Biology (distance lectures, hands-on labs)
- Biology 3224 - Biology of Bats, (distance education)
- Biology 3224F - Writing about Biology
- Biology 342b - Conservation Biology
- Biology 499E- Honours Thesis Project
- Field Course - Ecology and Behaviour of Bats
- Graduate course in acoustic communication



the joint field program, which began in 1969, added another enrichment, namely meeting and working with colleagues intrigued by different organisms and systems, a common ground for us spread across different universities in Ontario.

What am I up to these days?

My wife Sherri and I continue this fascination with the natural world. Now we use photography to explore sights and species in as many different

settings as time and money allow. The challenge of trying to get the 'right' pictures is engaging and enlightening.

Field Course Memories

HUNTSMAN MARINE BIOLOGY

Did you know that the [longest standing field course](#) in Western Biology is the Huntsman Marine Biology Field Course?

Dating back to 1969, this course takes eager students to the Huntsman Marine Sciences Centre in St. Andrews, New Brunswick. Over 12 full days in the field, a small group of students embark on an experiential learning adventure in the Quoddy Region of the Bay of Fundy.

The course is no easy feat. But students see organisms they have never seen before, and in their natural habitats. Marine fish, birds, mammals, flora and fauna - there is no shortage of species to observe. It really brings what they have learned in lecture to life!

Memories are also made during the down time, where students socialize and friendships are made. We asked a few previous students to share their memories with us. Enjoy the photos and anecdotes!

Do you have memories of a field course experience you would like to share? Email milligan@uwo.ca.

"It was a thirsty group. I clearly remember Roger Green making a desperate drive across the border into Maine to restock the beer supplies. We had been notified that the beer stores in New Brunswick were on strike, but obviously too much of what had been purchased before departure was consumed on the long drive out. On a bus. Without a bathroom.

On a more serious note, the experience at the Huntsman Lab cemented my love of the sea. My career took a different path, first in occupational health and then in pharmaceuticals, but I was always drawn to water. I learned to scuba dive and sail.

Always a zoology student at heart, in retirement I've been visiting the places I could only dream about then: The Galapagos, The Serengeti, Canada's Arctic, and am looking forward to the Amazon and Antarctica this year. And maybe even St. Andrews one of these days. It was a very special experience that our class had the privilege of sharing."

**- Yolanda Henry
BSc'78**





"I decided to enroll for a field course in marine biology after 3rd year. It was a complete eye opener for me. I had taken invertebrate biology as part of my second year zoology course, but it was quite boring until I got into the intertidal zone. Then I was looking at invertebrates, molluscs, annelids and worms on the seashore and suddenly everything took on a very exciting new meaning. Invertebrate biology comes to life when you are at the seaside.



The field course was the first time I was in charge of my own scientific experiment. I set up a hypothesis and tested it. It gave me that thrill of discovery and I began thinking that this could be something that I would like to do further. " - **Holly Shiels, BSc'94**

Sure enough, Shiels pursued graduate studies in fish physiology at Simon Fraser University and is now a Professor, Division of Cardiovascular Sciences at the University of Manchester in the UK. She continues to work and teach in the field.



Make a Difference

ALUMNI, YOU CAN SUPPORT THE GREAT WORK HAPPENING IN BIOLOGY

Memories are important aspects of our lives. They can allow us to relive positive moments that shaped us into the people we are today.

Throughout this issue, our contributors shared their memories of Western Biology and the impact memorable experiences had on their trajectories.

Western Biology is home for thousands of students and alumni. It is where they forged lifelong friendships, gained valuable knowledge, and embarked on paths that shaped their careers and lives.

As you think back on what Western Biology means to you, consider giving back to ensure that future generations of students have access to the same opportunities, regardless of their background or circumstances.

The Bursary in Science for Equity, Diversity, and Inclusion is a vital initiative aimed at fostering a more inclusive and equitable environment within our Faculty of Science. By providing financial assistance to students in financial need who are members of equity deserving groups, we can help break down barriers to education and create a more diverse community of scholars.

What would the Department of Biology look like without diversity? By ensuring that students from all walks of life have equal access to education and resources, we can cultivate a more dynamic and innovative scientific community.

I welcome you to consider making a gift to this bursary, or any of our other priority areas, to make a difference for young students and allow them to create memories just like you have of Western Science.

If you'd like to give to any of Western Science's funding priorities, [please visit our website](#). Or, feel free to reach out to me any time to discuss your personal alumni engagement or support.

Warm regards,



Paula L. Luchak

Director of Alumni
Relations & Development,
Western Science

Paula.Luchak@uwo.ca



Photo credit: J.F. Staples



I Spy...

ZOOLOGY MYSTERY SOLVED

We asked, and you delivered. Thank you to everyone who contributed to our quest to identify the individuals in this historical photo.

Front Row (left to right): David Ogilvie, Michael Locke, Miles Keenleyside, Donald McMillian, Roger Green, Rob Dean

Second Row (left to right): John Steele, Ron Podesta, Marge Moulton, Yong Tam, Martin Kavaliers, Gerry Kidder, Dick Shivers, Dave Scott, Paul Handford, Michael Owen, Rosemary Scott, Shiva Singh, Burr Atkinson, Ken Bourns, Rene Roth



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