Department of Biomedical Sciences

College of liberal arts and sciences

Advancing Understanding of Human Biology in Health and Disease

NEWSLETTER

January, 2020

www.gvsu.edu/bms

Inside this Issue:

GRAND VALLEY STATE UNIVERSITY
BIOMEDICAL SCIENCES DEPARTMENT

Department Leadership:

Dan Bergman,

Department Chair

Debra Burg,

Assistant Chair

David Kurjiaka,

Assistant Chair

Chris Pearl,

Graduate Program

Director

OPENING MESSAGE:

Dear Alumni, Students and Friends,

As chair of the Department of Biomedical Sciences, I am pleased to have you all as supporters and members (both former and current) of our program. Our goal in the Biomedical Sciences is to provide our students with a comprehensive education in biomedicine in the areas of anatomy, physiology, microbiology and nutrition through inspired and innovative learning experiences.

Our department plays a significant role in the educational experience of almost all GVSU students. We typically have one of the, if not the largest population of undergraduate students enrolled in our program, with over 1100 students seeking B.S. degrees in Biomedical Sciences. We also have students pursuing M.H.S. degrees that recently has new leadership with Dr. Chris Pearl appointed as the Graduate Director. The contribution of Biomedical Sciences to the learning experience of GVSU students, both in STEM-specific programs as well as in the general education of non-science majors, is evidenced by our class enrollments. This Winter, we have over 6000 students enrolled in our courses! These numbers are only possible due to the quality of our programs and the commitment of our great faculty.

The national and international recognition of our research programs and scholarly activities is one of the key elements of our success. Over the years, our research programs have become essential sources for high-impact experiential learning and research experiences for our undergraduates, and the foundation of our graduate program. Furthermore, our research foci on anatomy (e.g. comparative, evolutionary, functional and plastination) physiology (e.g. cardiovascular, endocrinology, molecular, neuroscience, reproductive and thermoregulatory) microbiology (e.g. bacteriology, fungal, infectious disease, immunology and parasitology), and nutrition (e.g. aging, food design, and public health food access), support a new generation of GVSU graduates committed to the public good. Our research programs have direct implications on societal issues associated with global environmental problems, health issues, agricultural impacts, and the future of college education, further demonstrating our commitment to the public good.

A final note of thanks goes to all of you, alumni and friends of the department, who in many ways support our department, but in particular our students. We have multiple undergraduate and graduate scholarships that have been established by people like you, who are committed to GVSU Biomedical Sciences and the education of our future generations. We have 4 BMS specific undergraduate scholarships that support students. If you would like to continue supporting our programs, visit https://www.gvsu.edu/giving/ and click find funds, and enter "biomedical" to see our various fund options currently being developed for further student scholarships.

We are glad that you keep up to date with our faculty and students' achievements, and hope you come back for a visit with us soon.

Lakers for a Lifetime!

Dan Bergman, Ph.D.

Chair and associate professor, Biomedical Sciences

NEW FACULTY AND STAFF

FACULTY APPOINTMENT CHANGES:

JENNIFER BOURBINA-Affiliate

Jennifer Bourbina has been appointed as an affiliate faculty member of the Biomedical Sciences Department, having previously served as a BMS visiting instructor. With a Bachelor of Science from Muskingum College (Magna Cum Laude) and a Master of Health Sciences from Grand Valley State University, Jennifer has taught Human Health and Disease (BMS 100), Anatomy and Physiology (BMS 202) Anatomy and Physiology I and II, (BMS 250 and 251, lectures and labs) and Human Physiology Lab (BMS 291) for GVSU's BMS Department. Additionally, from 2012-present, Jennifer has both created and presented tri-annually (in August, December and April) the "Human Anatomy and Physiology Review" for the *Nursing Jumpstart Program* hosted by Grand Rapids Community College's Health Sciences Resource and Tutorial Lab. Jennifer has also been a professional tutor, an assistant athletic director, a softball coach at Grand Rapids Community College, and a volunteer for camp **sHaPe** (Summer Health Activities and Professions Exploration). Jennifer enjoys playing softball, reading, painting, and spending time with her husband, Brad, and her two children, Madilynn and Lawrence.

CHRIS PEARL-Graduate Program Director

Chris Pearl, the new Biomedical Sciences Graduate Program Director, has ten years of experience as a faculty member of Grand Valley State University and Western Michigan University. Chris has a Bachelor of Science in Biology from Saint Mary's College of California, a Master of Science in Biological Sciences from University of the Pacific, CA, and a Ph.D. in Physiology with a Designated Emphasis in Reproductive Biology from the University of California, Davis. He has taught courses in physiology, endocrinology, and comparative reproduction and has served as supervisor and mentor for many students. He is currently a research supervisor for undergraduate students in his research lab, and he mentors honors students' theses/projects, serves as mentor and committee chair for masters students' thesis/projects and is a member of thesis and dissertation committees. His own research investigates the role of estrogen signaling in the male reproductive tract with the goal of better understanding male fertility and infertility. Additionally, Chris has 21 peer-reviewed publications and has done fifteen research conference presentations with student co-authors since 2011. His professional affiliations include the American Physiological Society, the Society for the Study of Reproduction, the Endocrine Society and the Michigan Alliance for Reproductive Technologies and Science. Chris has also done volunteer work with IACUC (Institutional Animal Care and Use Committee), student conduct boards, by-laws committees for professional societies, and curriculum development in the areas of endocrinology and physiology. In his free time Chris enjoys spending time with his wife, Renee, and pursuing a variety of hobbies including golf, theatre, fiction, (especially horror books and movies), wine tasting, and kayaking.

NEW FACULTY AND STAFF CONTINUED...

WELCOME ABOARD! The Biomedical Sciences Department welcomes the following new faculty and staff for the academic year fall 2019 and/or winter 2020.

NATALIE LAUDICINA-Visitor

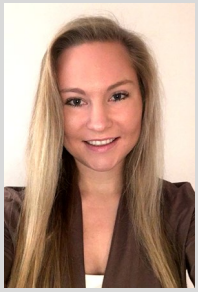
Natalie Laudicina comes to the Biomedical Sciences Department with a Bachelor of Science in Evolutionary Anthropology from the University of Michigan (2012) and a Ph.D. in Biological Anthropology from Boston University (2019). Before coming to GVSU, Natalie was an instructor and graduate fellow. She taught a wide range of courses at Boston University including functional morphology, biomechanics, female reproduction and biological anthropology. Additionally, as an Anatomy Fellow at High Point University, Natalie taught cadaver-based gross anatomy to physical therapy and physician assistant students. Natalie's research interests lie in analyzing how relaxing evolutionary constraints (e.g. Cesarean sections) impacts pelvic morphology and the rate of dystocic birth. Her most recent peer-reviewed publication (Laudicina, Rodriguez, DeSilva, *Reconstructing Birth in Australopithecus sediba*) was published 2019 in *PloS ONE*. At GVSU, you may find Natalie teaching Anatomy and Physiology courses (BMS 202 and BMS 250), Human Anatomy (BMS 208), Human Anatomy Cadaver Lab (BMS 309) or Regional Human Anatomy (BMS 460).

CODY MORRISON-Adjunct

Cody Morrison is an adjunct instructor with the BMS Department for 2019-2020. He holds a Bachelor of Science in Biomedical Science (2018) from Central Michigan University, and is currently pursuing a Master of Health Science in Biomedical Sciences at GVSU. This winter, 2020, he is teaching BMS 213 Lab. Cody is also a part-time instructor for general chemistry labs at Grand Valley State University, and teaches CHM 115, 116, and 109 labs. During his undergraduate studies, Cody became a published co-author in a scientific journal. He has also presented an oral presentation and poster on "The Impact of Microbial Exposure on the Murine Innate Immune Response" in 2019 at the Autumn Immunology Conference in Chicago, Illinois. Cody is currently working on his master's thesis with Dr. Kristin Renkema on "The Impact of Microbial Exposure on the Murine Innate Immune Response."

KRISTI RUVINA-Adjunct

Kristi Ruvina is an adjunct instructor with the BMS department for Winter 2020. He holds a Bachelor of Science degree in Biomedical Sciences and Biochemistry (2016) and is currently pursuing a Master of Health Sciences at GVSU. He worked in various tutoring centers, mainly the Chemistry Success Center and the Science Success Center during his undergraduate years. He then became a TA for BMS 550 (histology lab) for several semesters and is currently teaching BMS 202 lab. During sophomore year, he joined the crayfish neuroscience lab to investigate various chemicals that modulate aggression in crustacean species and has continued researching with this lab since. His efforts to breaking ground in the field of crustaceans led to winning the Student Summer Scholar and Presidential Grant award. He has presented many posters at nationwide conferences, including a talk at the Society for Integrative and Comparative Biology Conference to experts in the field. In his free time, he enjoys outdoor activities such as camping and fishing Michigan tributaries for trout. He remains involved in giving back to the community through volunteering at Kids Food Basket.



HILARY SKALSKI-Adjunct

Hilary Skalski is an adjunct instructor with the BMS Department for 2019-2020. Having previously been a BMS 250, Anatomy and Physiology teacher's assistant, she is now teaching BMS 250 Lab. She holds a Bachelor of Science in Diagnostic Medical Sonography (2016), is pursuing a Master of Health Science in Biomedical Sciences at GVSU, and is currently working on her master's thesis with Dr. Pearl on the "Contribution of the Efferent Ducts to Reproductive Dysfunction in Obese Mice." Hilary is also an ultrasound technologist (RDVMS, RVT) at Metro Health Hospital where she helps instruct ultrasound clinical students. During her undergraduate studies, Hilary was a teacher's assistant for BMS 309, Laboratory in Human Anatomy, she presented a talk for the Frederick Meijer Honors College on "Holocaust Awareness in Service Learning Projects" at the Michigan Honors Association Conference, 2013, and she presented a poster on "The Effect of Transducer Angle on the Accuracy of Ultrasound Depth and Tissue Thickness Measurements" at the Society of Diagnostic Medical Sonography Conference, 2015.

GLEN STAMPS-Visitor

Glenn Stamps has a Bachelor of Science from Central Michigan University in Conservation Biology and Philosophy and a Ph.D. from Cornell University's Department of Neurobiology and Behavior. While at Cornell, Glenn investigated how pheromone communication in Hawaiian swordtail crickets (genus *Laupala)* leads to the generation of new species, a topic on which he has recently published in the journal *Animal Behaviour*. Glen has presented at national conferences on the topics of evolution and animal behavior and his prior teaching experiences include teaching Introduction to Animal Behavior, Comparative Physiology, Evolution and Diversity, Principles of Neurophysiology and Human Anatomy and Physiology. He received the Cornell College of Agriculture and Life Sciences Outstanding Teaching Assistant Award. More recently, he taught Human Anatomy and Physiology at Ferris State University. This semester at GVSU, Glen is teaching BMS 250 Lecture and BMS 250 Lab sections. Glenn enjoys spending time with his wife and daughter and has started a burgeoning mushroom business, Mad Scientist Mushrooms.

CHRIS TIMMER-Adjunct

Chris Timmer is a lab instructor for BMS 250 for the winter semester of 2020. He holds a bachelor of biomedical sciences from GVSU and is currently pursuing his Masters in Health Science here at GVSU. During his undergraduate he was a teaching assistant for BMS 291, and in 2017 Fall semester he was the instructor for a BMS 250 lab. His master thesis involves crayfish and Cannabidiol (cannabis derivative) as related to serotonin receptors. Presentation for this work includes the 3-Minute thesis at GVSU, and the International Conference for the Society of Integrative and Comparative Biology in 2019. His current employment involves medication testing for Perrigo Pharmaceuticals. On top of this, he has three children ages 8, 5 and 1 with his wife Sarah.

PHILIP VANDER KOOY-Visitor

Philip Vanderkooy received his bachelor of science in biochemistry from Calvin College in 2013 and his doctorate of osteopathic medicine from Michigan State in 2019. While obtaining his medical degree, he taught anatomy and physiology labs at Grand Valley. Philip's primary interest is in Psychiatry begrudgingly earning himself the nickname "Dr. Phil"; he helped author a case study on kratom induced psychosis during his time in medical school. Currently, he teaches BMS 250 and 251. Philip has been involved in Family Promise (a program for the homeless in Muskegon) and the Holland Rescue Mission. In addition to medicine, Philip also has interests in philosophy, board games, card games, and fishing.

New Bachelors Degree in Microbiology

Beginning in the fall of 2019, the BMS Department is offering a new degree in Microbiology. The field of microbiology encompasses the study of viruses, bacteria, fungi, and parasitic protozoa: organisms that inhabit every corner of our biosphere, and whose impact on human affairs, both positive and negative, is immense. Understanding the biology of microbes has important applications in biotechnology, medicine, public health, and ecology. To this end, the B.S. in Microbiology will provide strong foundational preparation (genetics, biochemistry, physics, mathematics) as well as specialized training in a variety of upper level courses that focus on critical thinking, research methods, and hands-on laboratory experience, all with the necessary rigor to allow students to be competitive in the field upon graduation. Completion of the degree will open opportunities for careers in agriculture, clinical microbiology, governmental positions, industrial microbiology, immunology, public health and education. The microbiology degree will provide students with the foundational tools necessary to progress into subsequent graduate academic programs at the Masters and Doctorate levels in a variety of disciplines including microbiology, cell and molecular biology, genetics, and biochemistry. Additionally, the degree can be tailored to meet the needs of students planning on entering professional programs (medical, dental, or other health professions) after completion of their undergraduate degree.

BMS professors doing research in microbiology include Aaron Baxter, Ian Cleary, Doug Graham, Kathryn Haley, Anthony Nieuwkoop, Kristin Renkema, and Derek Thomas. Above is a depiction of bacteriophage that Professor Graham uses to investigate how the competitive dynamics between two bacterial species are impacted by the presence of a common enemy.

BMS Degrees

- B.S. in Biomedical Sciences
- B.S. in Microbiology
- Master of Health Sciences

B.S. in Microbiology Coursework

- Bacteriology
- Chemistry
- Genetics
- Immunology
- Mathematics
- Mycology
- Parasitology
- Physics
- Physiology
- Virology

Emeritus Status

On June 12, 2019, Grand Valley State University's Board of Trustees granted Steven Hecht emeritus status, (Posthumous Associate Professor Emeritus Biomedical Sciences). Steven Hecht served as a professor for the Biomedical Sciences Department from 1999 to 2017.

STEVEN HECHT MEMORIAL ENDOWED SCHOLARSHIP

Steve Hecht's legacy of exceptional teaching and scientific contribution will continue with the Steve Hecht Memorial Endowed Scholarship, created to support students pursuing a degree in the Biomedical Sciences. When speaking about Steve, Daniel Bergman, associate professor and chair of biomedical sciences said: "He was always working to improve his craft and he truly cared about his students and their success…"

Fundraising to support the endowment for the Steven Hecht Memorial Endowed Scholarship is ongoing.

TO DONATE, VISIT:
Laker Effect Campaign website,
gvsu.edu/giving/give-online2.htm?fundId=31784

or

BMS website (bottom of the page), gvsu.edu/bms/

PLEASE CONSIDER MAKING A DONATION!

MARK W. WILKENS AND CARMEN L. NOCHERA-WILKENS ENDOWED SCHOLARSHIP

The purpose of the Wilkens Scholarship is to support students in the College of Liberal Arts and Sciences pursuing degrees in Fine Arts and/or Biomedical Sciences with demonstrated background in art. Carmen Nochera is a professor for the BMS department. Carmen's husband Mark, who passed away in 2017, was an artist who worked primarily in watercolor and oil paint. During fall semester, 2019, GVSU's West Wall Gallery, Eberhard Center, Grand Rapids Campus hosted a posthumous exhibition of Mark's paintings, "Mark Wilkens: A Life In Paint". Artworks sold were in direct support of the Wilkens Scholarship.

Mark Wilkens, *Cold Stream* (detail), 2000, watercolor on paper

Fundraising to support the Mark W. Wilkens and Carmen L. Nochera-Wilkens Endowed Scholarship is ongoing. **TO DONATE, VISIT:** gvsu.edu/giving/wilkens

Increasing Course Accessibility

The Biomedical Sciences Department is increasing opportunities for students to enroll in BMS classes by 1) offering online courses, 2) increasing seat capacity in specific sections, and 3) improving course accessibility for adult students. To that end, Professor Kurjiaka taught an online section of BMS 310 (Basic Pathophysiology) in the Fall 2019 semester. While the decision to offer BMS 310 online was initially to address continued requests to offer BMS classes at the Traverse City campus, the department is looking to expand those offerings to other service classes and a general education class. Currently, requests to offer online sections of BMS 100 and 311 are working their way through the curricular process. This philosophy of increased enrollment opportunities carried over in the 2020-21 BMS class schedule. The department will be offering more seats in sections students prefer (2-day classes in the late morning and early afternoon). In addition, to improve accessibility for returning adult students who work or are otherwise engaged during the day, evening sections of all 200 level core classes will be offered.

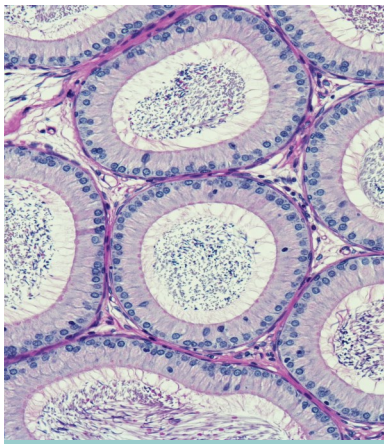
Professor David Kurjiaka is teaching the online BMS 310, Basic Pathophysiology. He commented: "Adjusting to the online format has been a learning experience. The online platform ensuring the enrolled students are the ones taking quizzes and exams did not always communicate well with Blackboard but IT (Information Technology) was extremely helpful in developing work-arounds."

The BMS Department reaches more students by improving course access and expanding course offerings!

New BMS Course in Endocrinology

Most people think first of the nervous system for how the human body is controlled, but the endocrine system (hormones) and other chemical signals are equally important. The Biomedical Sciences Department offers both an undergraduate and a graduate level three-credit course in Endocrinology, BMS 409 and BMS 509. These endocrinology courses introduce the field of endocrinology including general properties of endocrine systems and how hormones regulate physiological processes in the human body. Normal functioning is emphasized, but clinical conditions and comparative endocrinology are included where appropriate. BMS 409's prerequisite is BMS 290, and BMS 509 requires graduate standing.

Professors Dan Bergman, Babasola Fateye, and Chris Pearl conduct research in Endocrinology. This image from Professor Pearl's research shows androgen receptor expression in the initial segment of the rat epididymis .



Suture Clinic

Bright and early on a Saturday morning, 43 students waited patiently outside the labs in Padnos. Inside, five students from Michigan State University College of Human Medicine were busily setting up for the Suture Clinic. This event is sponsored by the Surgery Interest Group at MSU CHM in collaboration with the Biomedical Science Department and the pre-professional advisors in the CLAS Academic Advising Center. The medical students bring pig's feet and suture kits for each participant, and teach the students how to do five or six different suturing techniques.

In addition to the excitement of learning how to suture, the event also provides an entire morning of opportunity to speak with the medical students about their medical school experiences or to ask questions about the medical school application and interview process. This event is offered in both the fall and winter semesters and is open to students in any major with an interest in medicine or veterinary science. Our thanks to the MSU students who shared their time with us during the 2019 fall semester: Grace Yu (M2), Holly Willekes (M1, GVSU alum), Erica Lydey (M1), Jake Bauds (M1) and Alp Karaboga (M1).

Suture Clinic participants Haley Ryba (SR) and Marlee Busalacchi (JR) are both Biomedical Science majors with pre-professional interests.

BMS Student Highlights

Alana Bergeron has been accepted at the University of North Carolina's School of Pharmacy.

Sofia Hessler was awarded the Kindschi Fellowship from the Office of Undergraduate Research for the 2019-2020 year.

Vivian Godoy, a graduate student working in Professor Theodore Towse's lab, won the Presidential Research Grant, Fall of 2019. Presidential Research Grants are awarded to support the research and scholarly projects of graduate students.

Events and Conferences

GVSU 14th Art & Science of Aging Conference on Friday, February 22, 2019 - Sidney Weaver, Paige Matusiak, Yousif Slim, and Cally Gooch, who work in Professor Capodilupo's research laboratory, presented a poster entitled "Investigation into the cellular processes of GAP-43 protein and association with learning and memory in Alzheimer's disease."

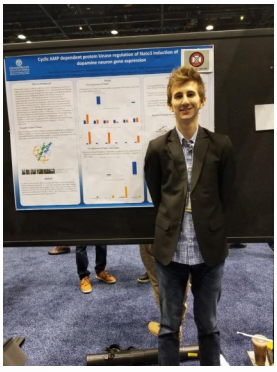
GVSU Student Scholars Day on April 10, 2019- Professor Capodilupo's students presented two posters. **Yousif Slim and Sidney Weaver** presented "Improving Resolution of GAP-43 Isoforms: A Potential Biomarker for Alzheimer's Disease" (pictured) and **Tiana Aden** presented "Alzheimer's Disease: A Promising Future."

Grand Challenges in Parkinson's Disease, August 21-22, 2019 - Professor John Capodilupo attended this conference at the Van Andel Institute in Grand Rapids.

Mercy Health Hauenstein Neurosciences 7th Annual Symposium, Friday, September 7, 2019- John Capodilupo, along with GVSU student Rebecca DeBaar, attended the symposium. DeBaar is currently working in Capodilupo's research laboratory.

Society for Neuroscience , Oct.19-23, 2019

Max Okros, a student of Delano-Taylor's, presented at Society for Neuroscience in Chicago on Cyclic AMP dependent protein kinase regulation of Nato3 induction of dopamine neuron gene expression.



Events and Conferences Continued….

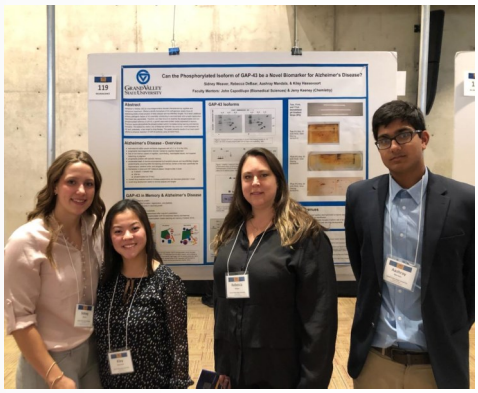
West Michigan Regional Undergraduate Science Research Conference (WMRUGS), November 9, 2019

Erin Reasoner

Erin Reasoner, from Professor Shkelzen Shabani's lab, gave the GVSU undergraduate abstract presentation entitled "Dopamine D2 receptor activation regulates aversive effects of methamphetamine," co-authored by **Kalyn Peterson, Leo Gallagher,** and **Shkelzen Shabani, PhD**

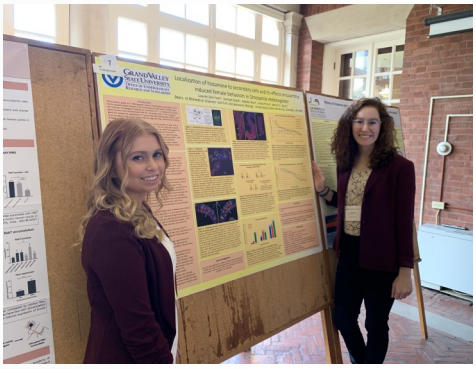
49th *North American Symposium on Bat Research* in Kalamazoo on October 23-26th, 2019. Tim Strickler attended the symposium and served as a judge for student oral presentations.

2019 West Michigan Regional Undergraduate Science Research Conference, Nov. 9, 2019-



John Capodilupo's students presented three posters on Saturday, November 9, 2019 at Van Andel Institute. Students **Sidney Weaver, Rebecca DeBaar, Aashray Mandala,** and **Kiley Hassevoort (pictured)** presented "Can the Phosphorylated Isoform of GAP-43 be a Novel Biomarker for Alzheimer's Disease?", **Hannah Long** presented "Historical and Current Views on Integration of a Vision Therapy Program into treatment of Autism", and **Alexandra Gemmen** presented "Analysis of Insulin-Dependent Diabetes Mellitus."

Midwest Drosophila Conference, November 2-3, 2019



Martin Burg and his students co-authored 2 poster presentations. At the conference, **Jakob Berg** presented "Effects of histamine deficiency on the pH gradient in larval gut of Drosophila melanogaster," and **Lauren Gerritsen and Georgie Blake (pictured)** presented "Localization of histamine to secondary cells and its effects on courtship-induced female behaviors in Drosophila melanogaster."

Society for Redox Biology and Medicine on November 20-23, 2019, in Las Vegas, NV, USA

John Capodilupo recently formed a collaboration with Dr. Jerry Keeney, a colleague in Chemistry. They are presenting the abstract: "Reappearance of, changes in, and oxidative changes to neuromodulin."
GVSU faculty: **Jeriel Keeney, John Capodilupo**
Students: **Michael Hudson, Paige Matusiak, Sidney Weaver, Rebecca DeBaar, Aashray Mandala**

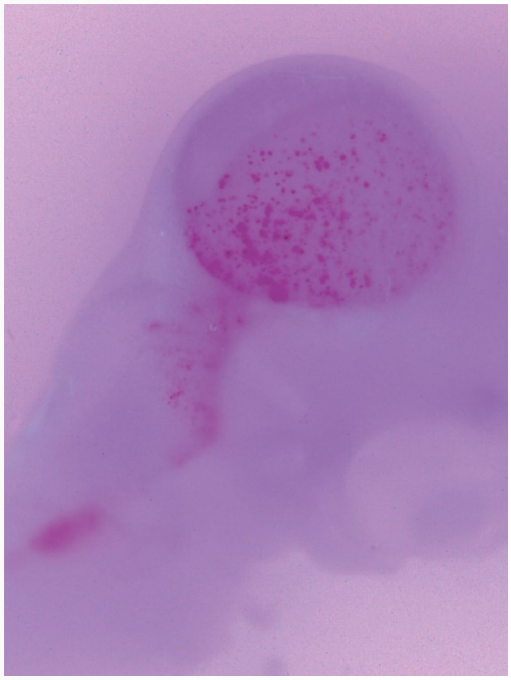
Faculty News:

Merritt Delano-Taylor

In November 2019, Merritt Delano-Taylor, along with Doug J. Peterson, Darcy N. Marckini. Jordan L. Straight, Elizabeth M. King, William Johnson, Sarala S. Sarah, and Puneet K. Chowdhary published the article: The Basic Helix-loop-helix Gene Nato3 Drives Expression of Dopaminergic Neuron Transcription Factors In Neural Progenitors. *Neuroscience*, 2019;421 ():176-191. *The co-authors are students working in Delano-Taylor's lab.*

Cultivating future scientific leaders who will make a difference in human health.

Neuroscience chose this image (pictured right) from Delano-Taylor's research as the cover photo for the November 21, 2019 issue.



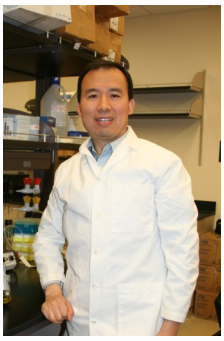
Merritt Delano-Taylor's article is available at the following direct object identifier (DOI):

https://doi.org/10.1016/j.neuroscience.2019.09.003

Additionally, News RX published an overview of the article on Dec 16, 2019.

Faculty News:

R.J. Liu



In February 2019, Professor Liu published an article entitled "Differential localizations of protein phosphatase 1 isoforms determine their physiological function in the heart". Following publication, on May 6, 2019, a news reporter/news editor highlighted Liu's article in NewsRX Cardiovascular Daily.

On-line Article: Ruijie Liu, Christian Miller, Christiana D'Annibale, Kimberly Vo, Ashley Jacobs, *Acta Biochim Biophys Sinica*(Shanghai) 2019 Mar; 51(3): 323–330. Published online 2019 Feb 5. doi: 10.1093/abbs/gmy171

https://academic.oup.com/abbs/article/51/3/323/5306570

Natalie Laudicina

Natalie recently published an article in *Plos One* examining birth process mechanisms in the early hominin*, Australopithecus sediba*. Subsequently, the BBC wrote an article highlighting her *Plos One* publication. Natalie will also be chairing and presenting at an invitational symposium, the annual *American Association of Biological Anthropologists*, April 2020 in Los Angeles.

Journal Article: Laudicina, Natalie M., Rodriguez, F., & DeSilva, J.M. et al. "Reconstructing Birth in Australopithecus Sediba." *Plos One*, vol. 14, no. 9, 2019, e0221871.

Sarah Mullins:

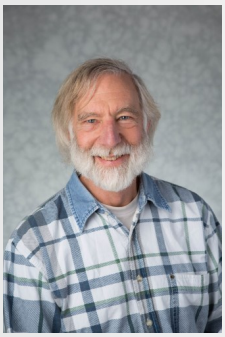
Following a blind peer-review process, Sarah's proposal for "A STEM Faculty Learning Community" was accepted as a round table discussion presentation at the Lilly Conference on Advancing College and University Teaching and Learning held in Traverse City, MI. The conference took place on October 17-19, 2019.

Faculty News Continued:

Carmen Nochera

The *Samoa Observer* published an article "Samoan Breadfruit Variety used for Successful New Pasta Trial". The article summarizes research by Nochera and the Bread Fruit Institute researchers. It states that bread-fruit pasta is gluten-free, inexpensive, nutritious, and approximately 80% of taste-testers like the pasta.

On-line Article: https://www.samoaobserver.ws/category/samoa/39636



Tim Strickler

Tim is supervising 15 student dissectors in the GVSU Plastination Lab and prepared a series of plastinated mouse embryos for display in the University of Michigan's Museum of Natural History, opening Nov. 10, 2019.

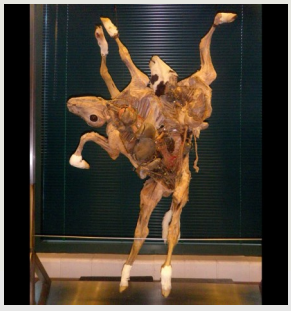
Melissa Tallman

Melissa Tallman, along with co-authors Serfio Alme'cija, Hessham M. Sallam, John G. Fleagle, Ashley S. Hammond, and Erik R. Seiffert published the article "Early anthropoid femora reveal divergent adaptive trajectories in catarrhine hind-limb evolution" on November 7th in ***Nature Communications.***

https://www.nature.com/articles/s41467-019-12742-0

Plastination Lab Director

Tim Strickler was instrumental in initiating the formation of GVSU's Plastination Lab and he has been the director since its inception in 2013. He gave up his classroom teaching after the winter 2019 semester and now devotes his energies to the continued direction of the lab. Under his direction, the lab has produced over 275 plastinated specimens for use in courses taught by GVSU's Biomedical Sciences, Biology and Art departments, as well as for use by non-human anatomy courses taught by outside institutions such as the Michigan State University School of Veterinary Medicine. The lab recently completed a plastinate of conjoined Holstein calves, Tessie and Bessie, which can be viewed in the Kindschi Hall of Science Biology Museum.



Plastinated Conjoined Holstein Calves Kinschi Hall Of Science Biology Museum

Employee Spotlight-Tim Strickler

Professor Tim Strickler is a zoologist and anatomist with a B.S. in Zoology from Pennsylvania State University and a Ph.D. in Anatomy from the University of Chicago. Tim taught anatomy at Duke University Medical Center for seven years before joining Grand Valley's School of Health Sciences as its only anatomist in 1980. While at Duke, Tim developed a passion for teaching, and at Grand Valley State College, Tim taught all the department's anatomy courses until 1983 when a second anatomist was hired. His courses included Human Anatomy with Lab, SHS 208; Anatomy of Joints, SHS 355; Regional Human Anatomy, SHS 460/560 and Human Histology, SHS 450/550. He was the GVSU Premedical Advisor from 1982 until 1996, and as such also taught the Preprofessional Seminar, SHS 480. After the Department of Biomedical Sciences was formed, Tim taught Freshman Seminar, FS 100; Neuroanatomy, BMS 427; Prosected Human Anatomy, BMS 461 and the BMS Capstone, BMS 495. In addition, Tim taught Comparative Anatomy of Vertebrates, BIO 302, for the biology department from 1998 to 2019.

Tim has developed two GVSU memorial student scholarships, one in memory of a graduate school colleague, the Duke Tanaka Jr. Anatomy Scholarship, and the other in memory of his stepson, the Scott Bleiler Memorial Physics Scholarship.

Since 2002 Tim has volunteered weekly to assist residents in the bowling alley at the Grand Rapids Home for Veterans, and he has participated in three Team in Training 100-mile bike rides to raise funds for the Leukemia and Lymphoma Society. Two rides were with his wife on their tandem recumbent, and one was on his single recumbent bike.

Tim likes to grow things, and has an orchard of old-fashioned apples on his old farm in Virginia, a donated giant "corpse plant" in the GVSU greenhouse and a variety of flowers and vines festooning his office window.

Tim is married to Judy, a 1988 GVSU Physical Therapy graduate, and has a son, two step-daughters & associated sons-in-law, and 4 grandchildren ranging in age from 3-27.

Tim Strickler's Research:

Prior to working for GVSU, Tim's research was concerned with various aspects of the anatomy of bats and whales. His teaching schedule at GVSU left little time to continue this work. However, he maintained his interest in bats, and from 1994 to 2000 participated in fieldwork with several colleagues to study the behavior and ecology of bats in Australia and Papua New Guinea, and shared his experiences with a variety of local groups. While advising Consumers Power Co. about bat house construction and use, he became aware of a large hibernating colony of bats beneath Tippy Dam, the only hibernaculum in the lower peninsula. Tim shared the information with colleagues at EMU who have been studying the colony for several decades since. Tim continues to attend the yearly NASBR- North American Symposium on Bat Research which he first attended in 1971.

Alumni Highlights:

Karen DeYoung, DO

Karen DeYoung joined the team of providers at Upper Great Lakes Family Health Center in Houghton, Michigan in September 2019. Karen earned a Bachelor of Science in Biomedical Sciences from GVSU and a Doctor of Osteopathic Medicine from Michigan State University. Karen's professional goals include focusing on preventative care for patients with acute or chronic issues. Her practice incorporates osteopathic manipulation, a hands-on method for diagnosis, treatment and prevention.

Logan Conner, a 2018 graduate with a BMS degree, is currently attending his first year of medical school at Central Michigan University

Judith Ann Ingles

Judith Ann Ingles accepted her first postdoctoral fellowship with Dr. David Cornfield in the Pediatrics Department at Stanford University School of Medicine in 2018. In March, 2019, Judith won a Pfizer Presidential Award at the *Society of Reproductive Investigation Conference* in Paris, France. Awarded to approximately the top twenty abstracts submitted for the conference, the award consists of an award ceremony, monetary prize and oral presentation. Her current research focuses on molecular mechanisms responsible for the transition of the uterus from quiescent to contractile in the context of term and preterm labor.

Michael Hudson

Michael received a summer research CMED grant for summer 2019. He worked in a lab with neuroblastoma cell lines, differentiating them into neurons, and then testing there oxidative phosphorylation. The lab works mainly with Infantile Bilateral Striatal Necrosis and is working to develop a neuroblastoma cell line model to study. Michael also job-shadowed a neurosurgeon during the summer observing surgeries such as a transsphenoidal pituitary adenoma removal and aneurysm clippings.

Alumni Highlights:

Jennifer Pedersen, PA-C

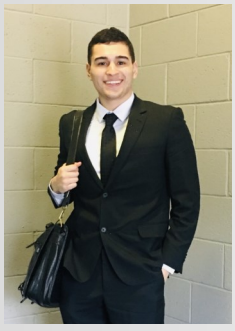
In October of 2019, Intervene MD, an interventional pain management facility in South Carolina, announced that Jennifer Pederson has joined their practice. She completed her Bachelor of Science in Biomedical Sciences from GVSU and earned her master's degree in Physician Assistant Studies from North Greenville University. She is a member of the National Commission of Certified Physician Assistants and the South Carolina Academy of Physician Assistants.

Paige Matusiak

Paige moved to Spain in September 2019, to begin her work at a foundation, the Fundación Canis Majoris working in the Elena Pessino Neuroscience Laboratory of Mental Illnesses. The foundation has a research lab, an animal-assisted therapy program for people with functional diversity, and community outreach program which includes seminar series taught by professionals. She is training to be a lab technician. In 2020, she plans to start her master's degree in Cognitive Neuroscience.

Moriah Muscaro

Moriah graduated May 10, 2019 as co-valedictorian at University of Toledo School of Medicine. She is now an Internal Medicine resident at North Carolina at Chapel Hill with plans to become a Hematologist/Oncologist. Moriah commented, " So much of my success in medical school is from my great foundation at GVSU-including my time in the cadaver lab! That made medical school anatomy so easy and really gave me such strong fundamentals…" She graduated from GVSU with a Bachelor of Science in Biomedical Sciences in 2015.



Yousif Slim is currently an M.D. candidate at Ross University School of Medicine. Notably, during his senior year at GVSU, he received the GVSU Undergraduate Research Scholar Designation for 2019.

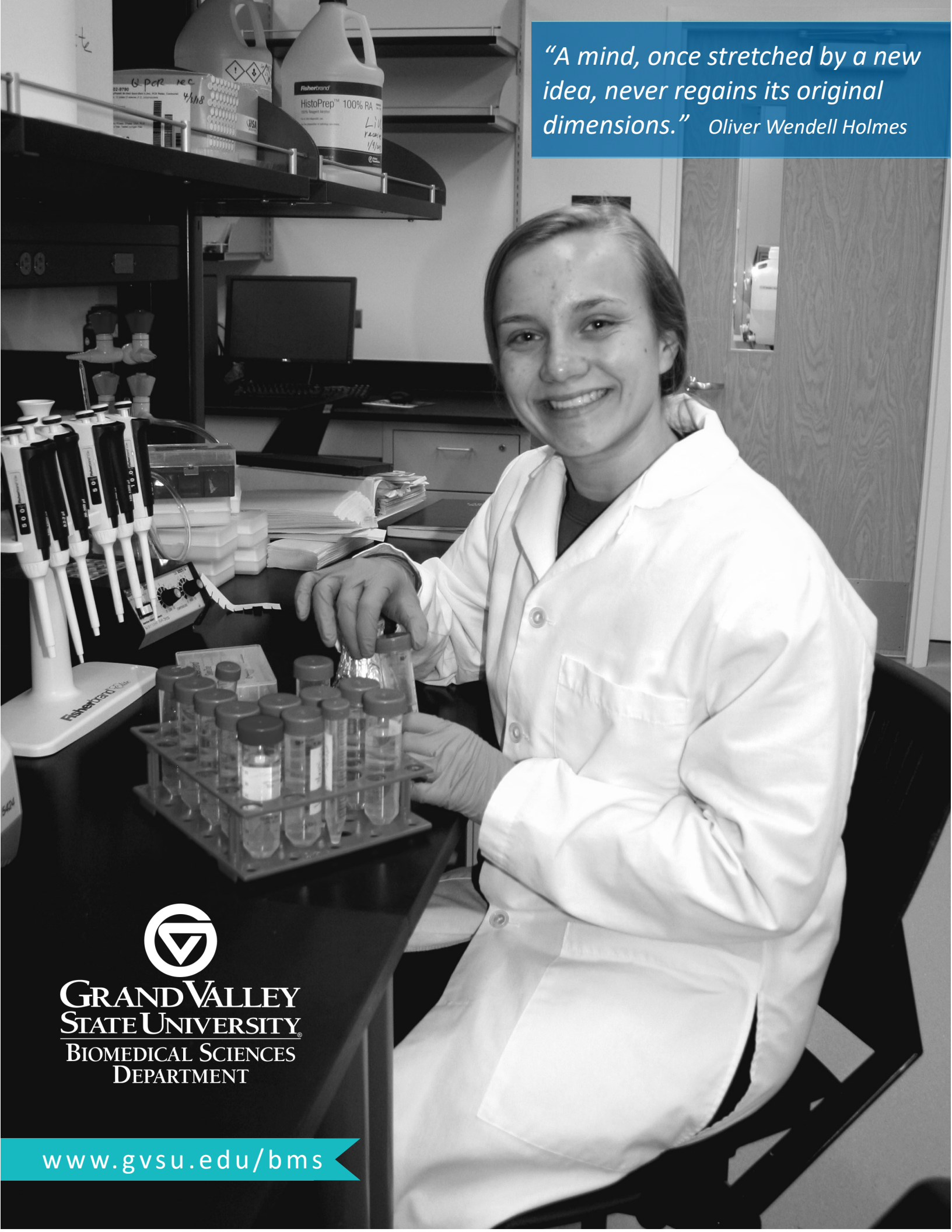
Biomedical Sciences Event Calendar:

BMS SEMINAR SERIES:
The BMS seminar series brings a variety of speakers to campus to share their research with the GVSU community. Please see the BMS website home page for a link with up-to-date information on Seminar locations.

Presentations scheduled from January through April:
(All presentations are Fridays from 12:00 p.m.- 1:00 p.m.)

January 31, 2020- Dr. Jason Cannon, Purdue University
February 14, 2020- Dr Kevin Maupin, VAI
February 28, 2020- Dr. Lukai Zhai, VI
March 13, 2020- Dr. Michael Wilson, MSU
March 27, 2020- Dr. Barbara Thompson, MSU
April 10, 2020- Rachel Tapp, Charles River Laboratories

BMS SCIENCE ON TAP:
Science on Tap is an opportunity for conversation, debate and interaction between scientists and the public. A knowledgeable expert hosts a discussion about a current scientific topic.
Location: SpeakEZlounge, 500 Monroe Ave. NW 49503
Time: Second Thursday of every month at 8 p.m.


"A mind, once stretched by a new idea, never regains its original dimensions." Oliver Wendell Holmes
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BIOMEDICAL SCIENCES DEPARTMENT
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