

Ajay Srivastava, PhD, MBA

Professor of Genetics, Cell, and Developmental Biology

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Web: <https://sites.google.com/view/srivastavalab-at-wku/welcome-to-srivastava-lab>

My Bibliography:

<http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/45290837/?sort=date&direction=descending>

POSITIONS AND EMPLOYMENT

- 2021 - **Founding Director**, Southern Kentucky Center for Advanced Microscopy (SKYCAM), Western Kentucky University, Bowling Green, KY, USA
- 2021 - 2024 **Adjunct Professor (Gratis)**, Department of Biology, University of Louisville, Louisville, KY
- 2020 - **Professor**, Western Kentucky University, Bowling Green, KY, USA
- 2017 - **Associate Director**, *Applied Research and Technology Program*, Western Kentucky University, Bowling Green, KY, USA
- 2016 - 2020 **Associate Professor with tenure**, Western Kentucky University, Bowling Green, KY, USA
- 2010 - 2016 **Assistant Professor in the tenure track**, Western Kentucky University, Bowling Green, KY, USA
- 2010 - **Member of the Graduate Faculty** at Western Kentucky University, Bowling Green, KY, USA
- 2010 **Associate Research Scientist**, Yale University School of Medicine, New Haven, CT, USA
- 2004 - 2009 **Manager** of the Xu Lab Confocal Microscopy Facility at Yale University, New Haven, CT
- 2003 - 2010 **Post-Doctoral Fellow** in the Department of Genetics, HHMI at Yale University School of Medicine, New Haven, CT, USA
- 1998 - 2002 **Graduate Research Assistant**, Department of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada
- 1997 - 2002 **Graduate Teaching Assistant**, Department of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada

EDUCATION AND TRAINING

- 2012 - 2013 **Master of Business Administration with Distinction**, University of Louisville, Louisville, KY, USA
Capstone Project: Development of a Strategic Marketing Plan for the product launch of Ultimate Concrete Waterproofing Company.
- 2010 **Associate Research Scientist**, Department of Cell Biology, Yale University School of Medicine, New Haven, CT, USA
- 2003 - 2010 **Post-Doctoral Fellow**, Department of Genetics, HHMI at Yale University School of Medicine, New Haven, CT, USA
Project: 1) A genetic screen for metastatic behavior in *Drosophila melanogaster*.
Project: 2) Understanding the role of Matrix Metalloproteases in development and tumor invasion.
Project Advisor: Dr. Tian Xu
- 1997 - 2003 **Doctor of Philosophy** (Ph.D. in Molecular Biology and Genetics), Department of Biological Sciences, University of Alberta, Edmonton, Alberta, Canada
Thesis: Understanding the Roles of *scalloped* and *vestigial* during wing development in *Drosophila melanogaster*.
Thesis Advisor: Dr. John Bell
- 1991 - 1993 **Master of Science** (Zoology, Specialization in Genetics and Molecular Biology), Center for Advanced Study in Zoology, Banaras Hindu University, Varanasi, India
Achieved a first division with second rank in the order of merit.
- 1988 - 1991 **Bachelor of Science (Honors in Zoology)**, Center for Advanced Study in Zoology, Banaras Hindu University, Varanasi, India

Achieved a first division.

COLLABORATIVE GRANT LEADERSHIP EXPERIENCE

- 2020, 2021,
2023 **Beckman Scholars Grant** – funded by the Arnold and Mabel Beckman Foundation.
This highly competitive grant funds the recruitment of 2-3 undergraduate students per year to outstanding research opportunities at an institution.
- I was the lead PI on this grant for acquisition of funds in support of undergraduate research activity.
 - Advanced to the finalist stage (a first for WKU). Selected in a national competition to be one of twenty-two finalists in the year 2020.
 - Advanced to the finalist stage and was selected to be one of twenty-one finalists in the year 2021
- 2019 - 2022 **National Science Foundation – Major Research Instrumentation Grant**
I am the lead PI on this ~\$380,000 NSF-MRI funded grant for acquisition of a confocal microscope. This funded grant was a collaborative effort with faculty members from several departments within Ogden College.
- Acquired, purchased, setup and manage a state-of-the art Confocal Microscope at WKU.

COMMUNITY LEADERSHIP EXPERIENCE

- 2018-2020 **Elected Member, Site Based Decision Making Council (SBDM), Greenwood High School, Bowling Green, KY**
The SBDM is a decision-making council made up of teachers, staff and elected parent representatives with oversight responsibilities for the annual budget, staff & teacher hires, operations and other critical policies. I was elected to this board for the 2018-2019 school year and then reelected for the 2019-2020 school year.
- Approved annual budget, safety plan, teacher, and staff hires.
 - Approved construction projects for this school.
 - Approved any curricular issues.

AWARDS AND HONORS

- 2023 **Invited to Serve as an External Member of the Department of Psychological Sciences Program Review Committee**
- 2023 **Nominated for the WKU Ogden College of Science and Engineering Faculty Teaching Award**
- 2023 Awarded an Ogden College of Science and Engineering “Award Star” award for being awarded five or more Awards over five years
- 2023 Awarded an Ogden College of Science and Engineering “Proposal Star” award for submitting six or more Awards over five years
- 2023 Awarded a Research Award (RA) Sponsored by the Ky NSF EPSCOR
- 2023 Awarded a Research Instrumentation and Equipment (RIE) Award Sponsored by the Ky NSF EPSCOR
- 2021, 2022 Nominated for CITL Teaching Honors at WKU
- 2021 One of twenty-four National Finalists at the Beckman Scholars Grant Competition
- 2020 One of twenty-two National Finalists at the Beckman Scholars Grant Competition
- 2019-2022 Awarded the NSF-MRI grant for acquisition of a Confocal Microscope.
- 2018-2019 Awarded the RCAP-1 grant. Sponsored by the WKU Office of Research.
- 2018-2019 Awarded the KBRIN – IDeA grant. Sponsored by the Kentucky Biomedical Research Infrastructure Network.
- 2017 Awarded the “Most Prolific Proposer” award sponsored by WKU Office of Research and Creative Activity.
- 2016 Awarded a Research and Creative Activities Category-1S grant. Sponsored by the WKU Office of Research.

- 2016 - 2018** Awarded the KBRIN – AREA grant. Sponsored by the Kentucky Biomedical Research Infrastructure Network.
- 2016** **Received the Ogden College of Science and Engineering “Faculty Advising Award” for excellence in advising**
- 2016** Received the “Most Prolific Proposer” award, sponsored by the WKU office of sponsored programs.
- 2015** Awarded a WKU RISE Fellowship for excellence in research. Sponsored by the WKU office of sponsored programs.
- 2014 - 2016** Awarded funds to recruit a postdoctoral fellow to my laboratory for two years. Sponsored by the WKU office of diversity.
- 2014** Awarded a Research and Creative Activities Category-1 grant. Sponsored by the WKU office of research.
- 2011 - 2014** Awarded the KBRIN – AREA grant. Sponsored by the Kentucky Biomedical Research Infrastructure Network.
- 2011** Received the “First Time Grant Awardee” award from the WKU office of sponsored programs.
- 2011** Elected Cell and Molecular Biology section **Chair**, Kentucky Academy of Science.
- 2011** Awarded a Research and Creative Activities Category-1 grant. Sponsored by the WKU office of research.
- 2010** Elected Cell and Molecular Biology section **Secretary**, Kentucky Academy of Science.
- 2004** Awarded the Anna Fuller Fund Postdoctoral Fellowship in Molecular Oncology at Yale University.
- 2002** Received the Pansy and George Strange Graduate Scholarship at the University of Alberta. Awarded to one graduate student in a university wide open competition.
- 2001** Awarded the “Development Travelling Fellowship”, sponsored by the Company of Biologists Limited, United Kingdom.
- 2001** Received Mary Louise Imrie graduate student award and the Department of Biological Sciences, University of Alberta travel award.
- 2001** Received the best poster award in Molecular Biology and Genetics category at the Annual Graduate Student Research Days, sponsored by the Department of Biological Sciences, University of Alberta, Edmonton, Canada.
- 1999 - 2002** Received graduate tuition supplements from the Department of Biological Sciences, University of Alberta, Edmonton, Canada.
- 1997 – 2002** Received graduate teaching assistantships from the Department of Biological Sciences, University of Alberta, Edmonton, Canada.
- 1993** Awarded a Junior Research Fellowship by the Department of Science and Technology, Government of India.
- 1993** Secured second position in the order of merit at the MSc examination, Banaras Hindu University, Varanasi, India

CURRENT RESEARCH INTERESTS

My training is in the field of Developmental Biology, Genetics and Molecular Oncology. My current research interests are reflective of my training and are provided below.

- Mechanisms of invasive behavior during normal development and tumor progression using *Drosophila* as a genetic model.
- Cathepsins, Protease Inhibitors, Matrix metalloproteases, Extracellular Matrix and their contributions to normal development and tumor progression.
- Inhibitory molecule suppression of invasive behavior.
- Wing, Air Sac Primordium, and general development in *Drosophila melanogaster*.

ACTIVE COLLABORATIONS

1. **Dr. Matthew Gentry** University of Kentucky/Florida Identification of Basement membrane associated proteins in *Drosophila melanogaster*.

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| 3. | Dr. Andrea Page-McCaw | Vanderbilt University | Exploring the relationship between MMPs and Cathepsins |
| 4. | Dr. Shaad Ahmad | Indiana State University | Heart Development and Cathepsin L in <i>Drosophila melanogaster</i> |

REFEREED PUBLICATIONS

*Denotes WKU Student Authors

§Denotes Corresponding Author

Publications From WKU

- 2022 16. Krupa Hegde*, **Ajay Srivastava§**. *Drosophila melanogaster* as a tool for Amyotrophic Lateral Sclerosis Research (*J. Dev. Biol.* **2022**, 10(3), 36; <https://doi.org/10.3390/jdb10030036> - 30 Aug 2022)
- 2019 15. Powers, N*, **Srivastava, A§**. JAK/STAT signaling is involved in air sac primordium development of *Drosophila melanogaster*. *FEBS Lett.* **2019 Mar 10**. doi: 10.1002/1873-3468.13355. [Epub ahead of print] PMID: 30854626 (Selected for “Editor’s Choice” and featured on the front cover)
- 2018 14. Sarkar, A, Gogia N, Glenn N, Singh A, Jones G*, Powers N*, **Srivastava A**, Kango-Singh M, Singh A. A soy protein Lunasin can ameliorate amyloid-beta 42 mediated neurodegeneration in *Drosophila* eye. *Sci Rep.* **2018 Sep 10**;8(1):13545. doi: 10.1038/s41598-018-31787-7. PMID:30202077
- 2018 13. Nathan Powers*, **Ajay Srivastava§**. The Air Sac Primordium of *Drosophila*: A Model for Invasive Development. *Int J Mol Sci.* **2018 Jul 17**;19(7). pii: E2074. doi: 10.3390/ijms19072074.PMID:30018198
- 2015 12. Qian Dong*, Breanna Breneman*, Christopher Fields*, **Ajay Srivastava§**. A Cathepsin-L is required for invasive behavior during Air Sac Primordium development in *Drosophila melanogaster*. *FEBS Lett.* **2015 Sep 2**. pii: S0014-5793(15)00736-X. doi: 10.1016/j.febslet.2015.08.036. [Epub ahead of print] PubMed PMID: 26341534
- 2015 11. **Srivastava, Ajay§**. A novel link between FMR gene and The JNK pathway provides clues to possible role in Malignant Pleural Mesothelioma. *FEBS Open Bio.* **2015 Aug 19**;5:705-11. doi: 10.1016/j.fob.2015.07.005. eCollection 2015. PubMed PMID: 26425438
- 2015 10. **Srivastava, Ajay§** and Qian Dong*. Regulation of a Serine Protease Homolog by the JNK pathway during thoracic development of *Drosophila melanogaster*. *FEBS Open Bio*, **2015 Feb 7**;5:117-23. doi: 10.1016/j.fob.2015.01.008. eCollection 2015
- 2014 9. Gillian E. Jones* and **Ajay Srivastava§**. Understanding Lunasin’s Biology and Potential as a Cancer Therapeutic by utilizing *Drosophila* Genetics. *Experimental Biology and Medicine* **2014**; *239*: 519–528. DOI: 10.1177/1535370214522180
- 2013 8. **Srivastava, Ajay§**. A Protocol for Genetic Induction and Visualization of Benign and Invasive Tumors in Cephalic Complexes of *Drosophila melanogaster*. *Journal of Visualized Experiments* **2013**. (79), e50624, doi:10.3791/50624

Publications Prior to WKU

- 2007 7. **Ajay Srivastava**, Jose Carlos Pastor-Pareja, Tatsushi Igaki, Raymond Pagliarini and Tian Xu§. Basement membrane remodeling is essential for *Drosophila* disc eversion and tumor invasion. *Proceedings of the National Academy of Sciences, USA.* **2007 Feb 20**; *104*(8):2721-6. Epub 2007 Feb 14
- 2007 6. Garg A, **Srivastava A**, Davis MM, O’Keefe S, Chow L, Bell JB§. Antagonizing Scalloped with a Novel Vestigial Construct Reveals an Important role for Scalloped in Leg, Eye and Optic Lobe Development of *Drosophila melanogaster*. *Genetics* **2007 Feb**; *175*(2):659-69. Epub 2006 Nov 16
- 2004 5. **Srivastava A**, Simmonds AJ, Garg A, Fossheim L, Campbell SD, Bell JB§. Molecular and functional analysis of scalloped lethal alleles in *Drosophila melanogaster*. *Genetics* **2004**, *166*(4):1833-43.

- 2003 4. MacKay JO, Soanes KH, **Srivastava A**, Simmonds AJ, Brook WJ, Bell JB§. An in vivo analysis of the vestigial gene in *Drosophila melanogaster* confirms domains required for VG function. *Genetics* 2003, 163-4: 1365-73.
- 2003 3. **Srivastava A**, Bell JB§. Further developmental roles of the vestigial / scalloped transcription complex during wing development in *Drosophila melanogaster*. *Mechanisms of Development* 2003, 120(5); 587-96.
- 2002 2. **Srivastava A**, Heise C, Garg A, Bell JB§. The relationship between the dominant Additional vein mutant in *Drosophila melanogaster* and engrailed. *Genome* 2002, 45;1077-1082.
- 2002 1. **Srivastava A**, MacKay JO, Bell JB§. A Vestigial:Scalloped TEA domain chimera rescues the wing phenotype of a scalloped mutation in *Drosophila melanogaster*. *Genesis* 2002, 33(1);40-47.

Published Abstracts:

- 2020 5. Elisha VanZant* and **Ajay Srivastava§**. A Screen for Protein Encoding Genes for Air Sac Primordium Invasion of the Wing Imaginal Disc in *Drosophila melanogaster*. *The FASEB Journal, Volume 34, Issue 1_supplement01 Apr 2020*
- 2020 4. Usman Salim*, Anas Gondal*, Hasan Salim* and **Ajay Srivastava§**. Investigating the role of a V-ATPase in the Development of the Air Sac Primordia. *The FASEB Journal, Volume 34, Issue 1_supplement01 Apr 2020*
- 2020 3. Camilla Lozano* and **Ajay Srivastava§**. Role of Apontic in ASP Development in *Drosophila melanogaster*. *The FASEB Journal, Volume 34, Issue 1_supplement01 Apr 2020*
- 2019 2. Anas Gondal*, Hasan Salim*, and **Ajay Srivastava§**. A Genetic Screen for Proteins Involved in ASP Invasion of the Wing Disc of *Drosophila melanogaster*. *The FASEB Journal, Volume 33, Issue 1_supplement01 Apr 2019*
- 2018 1. Hasan Salim*, and **Ajay Srivastava§**. Assessing the Role of the Gene, Pebbled, in *D. melanogaster* ASP Invasive Behavior. *The FASEB Journal, Volume 32, Issue 1_supplement01 Apr 2018*

MANUSCRIPTS IN REVIEW

*Denotes WKU Student Author
§Denotes Corresponding Author

1. None

MANUSCRIPTS IN PREPARATION

*Denotes WKU Student Author
§Denotes Corresponding Author

1. **Ajay Srivastava§**, Sayo Aromiwura*, Christopher Fields*, Qian Dong*. Functional analysis of a putative basement membrane degrader in *Drosophila melanogaster*.
2. **Ajay Srivastava§**, Dane Flinchum*, Sayo Aromiwura*, Qian Dong*, Breanna Brenneman*. A Cathepsin L is in regulatory relationship with JNK and Wingless signaling pathways.

CONFERENCE PRESENTATIONS

*Denotes Student Author
Presenting Student Authors Are Underlined

From WKU

- 2024 92. Poster Presented at the Annual Kentucky Academy of Science Meeting titled: Characterization of the Surfeit 4 gene in *Drosophila melanogaster*. Jada Scott*, **Ajay Srivastava§**.

- 2024 91. Talk Presented at the Annual Kentucky Academy of Science Meeting titled: V-type ATPase's role in *Drosophila melanogaster* air sac primordium development. Sydney Putnam*, **Ajay Srivastava§**.
- 2024 90. Talk/Poster presented at the WKU Student Scholar Showcase titled: An Analysis Of The Nuclear Pore Complex In *Drosophila melanogaster*. Emma Hyman*, **Ajay Srivastava§**.
- 2024 89. Talk presented at the WKU Student Scholar Showcase titled: Exploring the Contributions of V-type ATPase to *Drosophila melanogaster* Wing Development. Landon Carlton*, **Ajay Srivastava§**.
- 2024 88. Talk presented at the WKU Student Scholar Showcase titled: The Role of A Cathepsin L And MMP During *Drosophila* Development. Oguntoyinbo Oluwatobiloba, **Ajay Srivastava§**.
- 2024 87. Talk/Poster presented at the WKU Student Scholar Showcase titled: Investigation of the Function And Purpose Of The Surfeit 4 Gene In *Drosophila Melanogaster*. Jada Scott*, Mayank Kapadia, Nathan Powers, **Ajay Srivastava§**.
- 2024 86. Poster presented at the TAGC24 Conference, Washington DC titled: Preliminary Characterization of the Surfeit-4 gene in *Drosophila melanogaster*. Jada Scott*, Mayank Kapadia, Nathan Powers, **Ajay Srivastava§**.
- 2024 85. Poster presented at Ky-WV LSAMP Symposium titled: Investigation of the function and purpose of Surfeit-4 Gene in *Drosophila melanogaster*. Jada Scott*, Mayank Kapadia, Nathan Powers, **Ajay Srivastava§**.
- 2024 84. Selected to present a poster at the "Ky Posters at the Capitol" titled: Exploring the Contributions of V-type ATPase to *Drosophila melanogaster* Wing Development". Landon Carlton*, **Ajay Srivastava§**. **This poster was also selected as the only lightning talk from WKU.**
- 2023 83. Poster presented at the annual meeting of the Kentucky Academy of Science, Northern Kentucky University, KY titled: The Role of a Cathepsin L and MMP During *Drosophila* Development. Oluwatobiloba Oguntoyinbo *, **Ajay Srivastava§**.
- 2023 82. Poster presented at the annual meeting of the Kentucky Academy of Science, Northern Kentucky University, KY titled: Further Characterization of V-Type ATPase in the Air Sac Primordium of *Drosophila melanogaster*. Jacob Thomas*, Usman Salim*, **Ajay Srivastava§**.
- 2023 81. Poster presented at the annual meeting of the Kentucky Academy of Science, Northern Kentucky University, KY titled: Assessing the Involvement of Certain Neuronal Migration Genes During Tumor Metastasis in *Drosophila*. Annah Hopkins*, **Ajay Srivastava§**.
- 2023 80. Poster presented at the annual meeting of the Kentucky Academy of Science, Northern Kentucky University, KY titled: Exploring the Contributions of V-type ATPase in *Drosophila melanogaster* wing development. Landon Carlton*, **Ajay Srivastava§**.
- 2023 79. Poster presented at the WKU Student Scholar Showcase titled: Assessing the involvement of neuronal migration genes during tumor metastasis in *Drosophila melanogaster*. Annah Hopkins* and **Ajay Srivastava§**.
- 2022 78. Poster presented at the annual meeting of the Kentucky Academy of Science, Morehead, KY titled: SEM Analysis of V-ATPase Downregulation in the Development of the Air Sac Primordia. Siheon Im*, **Ajay Srivastava§**.
- 2022 77. Poster presented at the annual meeting of the Kentucky Academy of Science, Morehead, KY titled: Survey of WD40 containing genes in *Drosophila melanogaster*. Brennan McElfresh*, **Ajay Srivastava§**.
- 2022 76. Poster presented at the annual meeting of the Kentucky Academy of Science, Morehead, KY titled: Assessing the involvement of a Cathepsin in Tumorigenesis using *Drosophila melanogaster*. Lindsey Fannin*, **Ajay Srivastava§**.
- 2022 75. Poster presented at the WKU REACH Student Research Conference titled: Genetic Analysis of Cathepsin L in *Drosophila melanogaster* Wing Development. Lindsey Fannin* and **Ajay Srivastava§**.
- 2022 74. Poster presented at the WKU REACH Student Research Conference titled: The developmental effects of a V-Type ATPase down regulation in *Drosophila melanogaster*. Christina Tran* and **Ajay Srivastava§**.
- 2022 73. Poster presented at the WKU REACH Student Research Conference titled: A Survey of the WD40 Containing Genes in *Drosophila melanogaster*. Brennan McElfresh* and **Ajay Srivastava§**.

- 2020 72. Poster presented at the Louisville Regional Science and Engineering Fair titled: A screen for protein encoding genes for Air Sac Primordium invasion of the wing imaginal disc in *Drosophila melanogaster*. Elisha VanZant* and **Ajay Srivastava§**. **This poster won the second place award.**
- 2020 71. Poster presented at the WKU Student Research Virtual Conference titled: Investigating the Role of a V-ATPase in the development of the Air Sac Primordia. Usman Salim*, Hasan Salim*, Anas Gondal* and **Ajay Srivastava§**.
- 2020 70. Poster presented at the WKU Student Research Virtual Conference titled: A screen for protein encoding genes for Air Sac Primordium invasion of the wing imaginal disc in *Drosophila melanogaster*. Elisha VanZant* and **Ajay Srivastava§**.
- 2020 69. Poster presented at the WKU Student Research Virtual Conference titled: Role Of *apontic* In Asp Development. Camila Lozano*, Anas Gondal* and **Ajay Srivastava§**.
- 2020 68. Abstract accepted for poster presentation at the Experimental Biology 2020 meeting to be held in San Diego, CA titled: Role of Apontic in ASP Development in *Drosophila melanogaster*. Camila Lozano* and **Ajay Srivastava§**. (Conference cancelled due to COVID-19)
- 2020 67. Abstract accepted for poster presentation at the Experimental Biology 2020 meeting to be held in San Diego, CA titled: Investigating the role of a V-ATPase in the Development of the Air Sac Primordia. Usman Salim*, Hasan Salim*, Anas Gondal*, **Ajay Srivastava§**. (Conference cancelled due to COVID-19)
- 2020 66. Abstract accepted for poster presentation at the Experimental Biology 2020 meeting to be held in San Diego, CA titled: A Screen for Protein Encoding Genes for Air Sac Primordium Invasion of the Wing Imaginal Disc in *Drosophila melanogaster*. Elisha VanZant and **Ajay Srivastava§**. (Conference cancelled due to COVID-19)
- 2019 65. Poster presented at the annual meeting of the Kentucky Academy of Science, Berea, KY titled: Investigating the role of a V-ATPase in the Development of the Air Sac Primordia. Usman Salim*, Hasan Salim*, Anas Gondal*, **Ajay Srivastava§**.
- 2019 64. Poster presented at the annual meeting of the Kentucky Academy of Science, Berea, KY titled: Role of Apontic in ASP Development in *Drosophila melanogaster*. Camila Lozano* and **Ajay Srivastava§**.
- 2019 63. Poster presented at the annual meeting of the Kentucky Academy of Science, Berea, KY titled: A Protein Trap Screen for Genes Involved in ASP Development. Elisha VanZant* and **Ajay Srivastava§**.
- 2019 62. Talk presented at the annual meeting of the Kentucky Academy of Science, Berea, KY titled: Characterization of a basement membrane associated protein in endomembrane system of *Drosophila melanogaster*. Aref Ranjbar*, Mayank Kapadia* and **Ajay Srivastava§**.
- 2019 61. Poster presented at the SE Regional IDEA Meeting held in Louisville, KY titled: Characterization of a basement membrane associated protein in the endomembrane system of *Drosophila melanogaster*. Aref Ranjbar*, **Ajay Srivastava§**.
- 2019 60. Poster presented at the Experimental Biology 2019 meeting held in Orlando, Florida titled: A Genetic Screen for Proteins Involved in ASP Invasion. Anas Gondal*, Hasan Salim*, **Ajay Srivastava§**.
- 2019 59. Talk presented at the WKU REACH Student Research Conference titled: Characterization of a Basement Membrane Associated Protein Encoding Gene in *Drosophila melanogaster*. Aref Ranjbar*, Mayank Kapadia*, **Ajay Srivastava§**.
- 2019 58. Poster presented at the 18th Posters at the Capitol held in Frankfort, KY titled: Characterization of a Basement Membrane Associated Protein Encoding Gene in *Drosophila melanogaster*. Aref Ranjbar*, **Ajay Srivastava§**.
- 2019 57. Poster presented at the WKU REACH Student Research Conference titled: A Genetic Screen for Proteins Involved in ASP Invasion. Anas Gondal*, **Ajay Srivastava§**.
- 2018 56. Poster presented at the annual NISBRE meeting, Washington DC titled: Characterization of Antibodies Against Two Basement Membrane Degradors Reveal their Tissue Specific Expression in *Drosophila melanogaster*. Afolasayo Aromiwura*, **Ajay Srivastava§**.
- 2018 55. Poster presented at the annual NISBRE meeting, Washington DC titled: The Roles of JAK/STAT Signaling and a Basement Membrane Associated Protein During Air Sac Primordium Development in *Drosophila melanogaster*. Nathan Powers*, Mayank Kapadia*, **Ajay Srivastava§**.

- 2018 54. Talk Presented at the Annual Meeting of the Kentucky Academy of Science, WKU, Bowling Green, KY titled: Characterization of a Basement Membrane associated protein encoding gene in *Drosophila melanogaster*. Aref Ranjbar* and **Ajay Srivastava§**.
- 2018 53. Poster Presented at the Experimental Biology 2018 Meeting held in San Diego, California titled: Assessing the role of the gene, *pebbled*, in *D. melanogaster* ASP Invasive Behavior. Hasan Salim*, Joy Fan*, **Ajay Srivastava§**.
- 2018 52. Poster presented at the 59th Annual *Drosophila* Research Conference, Philadelphia, Pennsylvania titled: Characterization of Antibodies Developed against Two Basement Membrane Degradors in *Drosophila melanogaster*. Sayo Aromiwura* and **Ajay Srivastava§**.
- 2018 51. Poster presented at the WKU REACH Student Research Conference titled: Assessing the Role of the Gene, *pebbled*, in *Drosophila melanogaster* ASP Invasive Behavior. Hasan Salim*, Joy Fan*, **Ajay Srivastava§**. **(This poster won the best poster award in its category)**
- 2018 50. Poster presented at the WKU REACH Student Research Conference titled: Hemocyte Development in *Drosophila melanogaster* – assessing the role of Cathepsin L. Enes Atici* and **Ajay Srivastava§**.
- 2018 49. Talk presented at the WKU REACH Student Research Conference titled: Characterization of Two Basement Membrane Degradors in *Drosophila Melanogaster* Sayo Aromiwura*, Christopher Fields, **Ajay Srivastava§**.
- 2018 48. Talk presented at the WKU REACH Student Research Conference titled: Preliminary Characterization of a Basement Membrane-associated Protein in *Drosophila*. Nathan Powers*, Mayank Kapadia*, **Ajay Srivastava§**.
- 2017 47. Talk presented at the annual meeting of the Kentucky Academy of Science, Murray State University, Murray, KY titled: Characterization of Reagents Developed Against Two Basement Membrane Degradors in *Drosophila melanogaster*. Sayo Aromiwura*, **Ajay Srivastava§**. **(This Talk Won the 2nd Place Graduate Talk Award in Cell and Molecular Biology Category)**
- 2017 46. Poster presented at the annual meeting of the Kentucky Academy of Science, Murray State University, Murray, KY titled: Assessing the role of the gene, *pebbled*, in *D. melanogaster* ASP Invasive Behavior. Hasan Salim, Joy Fan, **Ajay Srivastava§**.
- 2017 45. Poster presented at the annual meeting of the Kentucky Academy of Science, Murray State University, Murray, KY titled: Characterizing the role of CP1 in *Drosophila melanogaster* and its effects on basement membrane degradation and signaling. Dane Flinchum, **Ajay Srivastava§**.
- 2017 44. Poster presented at the SE Regional IDEA Meeting held in Morgantown, WV titled: The Characterization of SNUTS, a Basement Membrane Degradator Gene, and its Role in the Development of *Drosophila melanogaster*. Sayo Aromiwura*, **Ajay Srivastava§**.
- 2017 43. Poster presented at the SE Regional IDEA Meeting held in Morgantown WV titled: Involvement of JAK-STAT pathway during air sac primordia development of *Drosophila melanogaster*. Nathan Powers*, **Ajay Srivastava§**.
- 2017 42. Poster presented at the SE Regional IDEA Meeting held in Morgantown WV titled: Characterizing the role of CP1 in *Drosophila melanogaster* and its effects on basement membrane degradation and signaling. Dane Flinchum*, Breanna Brenneman*, Qian Dong*, **Ajay Srivastava§**.
- 2017 41. Talk presented at the WKU REACH week titled: Characterizing the role of CP1 in *Drosophila melanogaster* and its effects on Basement Membrane Degradation and Signaling. Dane Flinchum*, **Ajay Srivastava§**.
- 2017 40. Talk presented at the WKU REACH week titled: Characterization of the SNUTS Protein and its Role in the Development of *Drosophila melanogaster*. Sayo Aromiwura*, **Ajay Srivastava§**.
- 2017 39. Talk presented at the WKU REACH week titled: Involvement of JAK/STAT pathway during air sac primordia development of *Drosophila melanogaster*. Nathan Powers*, **Ajay Srivastava§**.
- 2016 38. Poster presented at the annual meeting of the Kentucky Academy of Science, University of Louisville, Louisville, KY titled: Analysis of a Cathepsin-L in Hemocyte Development and Wound Healing in *Drosophila melanogaster*. Enes Atici*, **Ajay Srivastava**

- 2016 37. Talk presented at the annual meeting of the Kentucky Academy of Science, University of Louisville, Louisville, KY titled: Altering expression of JAK/STAT pathway components in air sac primordia of *Drosophila melanogaster*. Nathan Powers*, **Ajay Srivastava**
- 2016 36. Poster presented at the fly meeting and the Allied Genetics Conference, Orlando, FL titled: Role of a soy protein Lunasin in A β 42 mediated neurodegeneration in Alzheimer's Disease. N. Glenn*, A. Sarkar*, A. Giaquinto, M. Moran, G. Jones*, **A. Srivastava**, M. Kango-Singh, A. Singh
- 2016 35. Poster presented at the fly meeting and the Allied Genetics Conference, Orlando, FL titled: Altering Expression of JAK/STAT Pathway Components in Air Sac Primordia of *Drosophila melanogaster*. Nathan Powers*, **Ajay Srivastava**
- 2016 34. Poster presented at the fly meeting and the Allied Genetics Conference, Orlando, FL titled: Regulation of Air Sac Primordium Development by A Cathepsin L in *Drosophila melanogaster*. Christopher Fields*, Qian Dong, Breanna Brenneman, **Ajay Srivastava**
- 2016 33. Poster presented at the annual NISBRE meeting, Washington DC titled: Functional and Expression Analysis of a Putative Basement Membrane Degradar in *Drosophila melanogaster*. Christopher Fields*, Qian Dong, **Ajay Srivastava**
- 2016 32. Talk presented at the WKU REACH week titled: Investigating JAK/STAT Pathway Involvement in Developing Air Sacs of *Drosophila melanogaster*. Nathan Powers*, **Ajay Srivastava**
- 2016 31. Talk presented at the WKU REACH week titled: Identification of Collagen IV Associated Proteins Using *Drosophila* Genetics & Mass Spectrometry. Mayank Kapadia*, **Ajay Srivastava**
- 2016 30. Poster presented at the WKU REACH week titled: An Immunohistochemical Screen for Genes Expressed in Air Sac Primordium in *Drosophila*. Joy Fan* and **Ajay Srivastava**
- 2015 29. Talk presented at the 101st Annual Meeting of the Kentucky Academy of Science titled: Functional and expression analysis of a putative basement membrane degrader in *Drosophila melanogaster*. Christopher Fields*, Qian Dong*, Elizabeth Oates*, **Ajay Srivastava**
- 2015 28. Poster presented at 2015 Southeast Regional IDEA Meeting titled: Regulation of Air sac Primordium Development by a Cathepsin L in *Drosophila melanogaster*. **Ajay Srivastava**, Qian Dong*, Breanna Brenneman*, Christopher Fields*
- 2015 27. Poster presented at 8th Annual WKU BSURE Symposium titled: Investigating JAK/STAT Pathway Involvement in the Development of Air Sacs of *Drosophila melanogaster*. Nathan Powers* and **Ajay Srivastava**
- 2015 26. Poster presented at 8th Annual WKU BSURE Symposium titled: An Immunohistochemical Screen for Genes Expressed in the Air Sac Primordium in *Drosophila*. Joy Fan* and **Ajay Srivastava**
- 2015 25. Talk presented at the WKU REACH week titled: Involvement of a protease in the development of dorsal Air Sac Primordium (ASP) of *Drosophila melanogaster*. Qian Dong*, Breanna Brenneman*, Christopher Fields*, **Ajay Srivastava**
- 2015 24. Talk presented at the WKU REACH week titled: Genetic characterization of a basement membrane degrader in *Drosophila melanogaster*. Christopher Fields*, Qian Dong*, Elizabeth Oates*, **Ajay Srivastava**
- 2015 23. Poster presented at the WKU REACH week titled: A *Drosophila melanogaster* Model to Study Silver Nanoparticle Toxicity. Ananya Sharma* and **Ajay Srivastava**
- 2015 22. Poster presented at the 56th Annual *Drosophila* Research Conference, Chicago, Illinois titled: Evaluating Toxicity of Silver Nanoparticles in *Drosophila melanogaster*. Ananya Sharma* and **Ajay Srivastava**
- 2015 21. Poster presented at the 56th Annual *Drosophila* Research Conference, Chicago, Illinois titled: Role of a soy protein Lunasin in A β 42 mediated neurodegeneration in Alzheimer's disease. Angela Giaquinto, Michael Moran, Ankita Sarkar, Gillian Jones*, **Ajay Srivastava**, Maduri Kango-Singh, Amit Singh
- 2014 20. Poster presented at the 100th Kentucky Academy of Science Annual Meeting at University of Kentucky, Lexington, Kentucky titled: Evaluating toxicity of silver nanoparticles in *Drosophila melanogaster*. Ananya Sharma* and **Ajay Srivastava**

- 2014 19. Poster presented at the 7th Annual BSURE Symposium, Biology Department, WKU titled: Evaluating toxicity of silver nanoparticles in *Drosophila melanogaster*. Ananya Sharma* and **Ajay Srivastava**
- 2014 18. Poster presented at the 7th Annual BSURE Symposium, Biology Department, WKU titled: Creation of constructs capable of expressing different domains of a novel basement membrane degrader in *Drosophila melanogaster*. Elizabeth Oates* and **Ajay Srivastava**
- 2014 17. Poster presented at the 55th Annual Drosophila Research Conference in San Diego, CA titled: Functional and Expression Analysis of a Putative Basement Membrane degrader in *Drosophila melanogaster*. Christopher Fields* and **Ajay Srivastava**
- 2013 16. Poster Presented at the 99th KAS Annual Meeting at Morehead State University, Morehead, KY titled: Preliminary characterization of a novel gene identified in a genetic screen for basement membrane degraders in *Drosophila melanogaster*. Christopher Fields* and **Ajay Srivastava**
- 2013 15. Poster presented at the 6th Annual BSURE Symposium, Biology Department, WKU titled: Initial Characterization of a Novel Putative Basement Membrane Degradar in *Drosophila melanogaster*. Christopher Fields* and **Ajay Srivastava**
- 2013 14. Talk presented at the 43rd WKU Student Research Conference titled: Understanding the Effects of Lunasin Overexpression on Normal Development and Tumor Progression in *Drosophila melanogaster*. Gillian Jones* and **Ajay Srivastava**
- 2013 13. Talk presented at the 43rd WKU Student Research Conference titled: Creation of Transgenic UAS-NC1 *Drosophila melanogaster*. Jordan Olberding* and **Ajay Srivastava**. (This talk won the best talk award in its section)
- 2013 12. Talk presented at the 43rd WKU Student Research Conference titled: Functional and Expression Analysis of a Novel Basement Membrane Degradar in *Drosophila melanogaster*. Christopher Fields* and **Ajay Srivastava**.
- 2012 11. Poster presented at the Council for Undergraduate Research Conference titled: Functional analysis of a Cathepsin-L in *Drosophila melanogaster*. Breanna Brenneman* and **Ajay Srivastava**
- 2012 10. Poster presented at the 42nd WKU Undergraduate Research Conference titled: Identification of Genetic Suppressors of a scalloped wing mutation in *Drosophila*. Samantha Hawtrey* (Gatton Academy Student) and **Ajay Srivastava**
- 2011 9. Poster presented at the Kentucky Academy of Science annual meeting held at Murray State University, Murray, KY and titled: Identification of Basement Membrane degraders in *Drosophila*. Shannon Sean* and **Srivastava Ajay**. (This poster won the best poster award in its category)
- 2011 8. Poster presented at the 41st WKU Undergraduate Research Conference titled: Identification of Candidate Basement Membrane degraders using *Drosophila* Genetics. Sean Shannon* and **Ajay Srivastava**. (This poster won the best poster award in the category)
- 2010 7. Talk presented at the Annual meeting of the Kentucky Academy of Science held in Bowling Green, KY titled: A novel protease inhibitor regulates tumorigenesis by suppressing apoptosis in *Drosophila melanogaster*. **Ajay Srivastava**

Prior to WKU

- 2006 6. Presented a poster at the 47th Annual Drosophila Research Conference held in Houston Texas titled: A genetic screen for mutations that cause tumor progression and metastatic behaviour. Gaurang Daftary, Tatsushi Igaki, Rui Li, Jinyu (Jim) Lu, Ajay Srivastava, Congwu Chi, Xiangxiang Kong, Zhisheng Ye, Huanhu Zhu, Xiao-Hui Wu, Tian Xu.
- 2002 5. Presented a poster at the 43rd Annual Drosophila Research Conference held in San Diego, CA, titled: Molecular characterization of scalloped lethal alleles reveal domains important for its biological function. **Ajay Srivastava** and John Bell.
- 2001 4. Presented a talk at the Canadian Fly Meeting held in Canmore, Alberta, Canada titled: Analysis of scalloped and vestigial functions during *Drosophila* wing development. **Ajay Srivastava** and John Bell

- 2001 3. Presented a poster at the 42nd Annual Drosophila Research Conference held in Washington D.C. titled: Rescue of a scalloped wing mutation by a VG::SD TEA domain chimera. **Ajay Srivastava**, Julie McKay, John Bell
- 2001 2. Presented a poster at the Annual Student Research Day, Department of Biological Sciences, University of Alberta, Alberta, Canada titled: A VG::SD TEA domain chimera mimics the native transcription complex. **Ajay Srivastava**, Julie McKay, John Bell.
- 2000 1. Presented a poster at the VISION 2000 conference held in Vancouver, BC, Canada and organized by the Genetics Societies of America and Canada titled: Molecular Characterization of lethal alleles of scalloped. **Ajay Srivastava**, Shelagh Campbell, John Bell

INVITED TALKS

Since Joining WKU

| | | |
|------|----------------------------|---|
| 2019 | September 27 th | Department of Biology, University of Louisville, Louisville, KY |
| 2019 | April 26 th | Department of Biology, Western Kentucky University, Bowling Green, KY |
| 2016 | October 20 th | KBRIN-EAC Meeting, Lexington, KY |
| 2015 | August 19 th | Ogden College of Science and Engineering TED talk, WKU, Bowling Green, KY |
| 2014 | November 13 th | Department of Biological Sciences, University of Kentucky, Lexington, KY |
| 2014 | October 31 st | Department of Biological Sciences, Murray State University, Murray, KY |
| 2012 | April 8 th | STEM Academy, Greenville, KY |
| 2011 | October 10 th | KBRIN – EAC Meeting, Louisville, KY |
| 2010 | April 15 th | Department of Biology, Western Kentucky University, Bowling Green, KY |

Prior to WKU

| | | |
|------|------------------------|---|
| 2010 | March 26 th | Department of Biological Sciences, Vanderbilt University, Nashville, TN |
| 2010 | March 10 th | Department of Biological Sciences, Columbia University, New York City, NY |
| 2001 | June | Canadian Fly Meeting, Canmore, Alberta, Canada |

GRANTS AND CONTRACTS

FUSE – Faculty Undergraduate Student Engagement
 RCAP – Research and Creative Activities Program
 BSURE – Biology Summer Undergraduate Research Experience
 KBRIN – Kentucky Biomedical Infrastructure Network
 AREA – Academic Research Enhancement Awards
 QTAG – Quick Turn Around Grant

Funded Total: \$1,311,116

| Year | Description/Type | Internal/External | Amount | My Role |
|------|--|---|-----------|--------------------------------------|
| 2024 | Awarded a QTAG Grant | Internal , Ogden College of Science and Engineering | \$1,700 | Role – Principal Investigator |
| 2023 | Funds for Improvement of Postsecondary Education – FIPSE Grant | External , Department of Education | \$140,000 | Role – Principal Investigator |
| 2023 | Awarded a RCAPIS Grant | Internal , sponsored by WKU office of sponsored programs | \$16,000 | Role – Principal Investigator |
| 2023 | Awarded a Ky NSF EPSCOR RA grant | External , Kentucky National Science Foundation EPSCOR | \$66,101 | Role – Principal Investigator |
| 2023 | Awarded a Ky NSF EPSCOR RIE grant | External , Kentucky National Science Foundation EPSCOR | \$38,590 | Role – Principal Investigator |
| 2023 | Awarded a Ky NSF EPSCOR RIE grant | External , Kentucky National Science Foundation EPSCOR | \$74,850 | Role – Co Principal Investigator |
| 2022 | Awarded a FUSE Grant with my Honors College student Lindsey Fannin | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |

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|-----------|---|---|------------|--------------------------------------|
| 2022 | Awarded a FUSE Grant with my Honors College student Annah Hopkins | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2022 | Awarded a QTAG Grant | Internal , Ogden College of Science and Engineering | \$3,000 | Role – Principal Investigator |
| 2019-2022 | Awarded an NSF-MRI Grant for acquisition of a Confocal Microscope | External , sponsored by the National Science Foundation | \$377,259 | Role – Principal Investigator |
| 2019 | Awarded a QTAG Grant | Internal , Ogden College of Science and Engineering | \$2,550 | Role – Principal Investigator |
| 2019 | Awarded a FUSE Grant with my Gatton Academy student Usman Salim | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2019 | Awarded KBRIN/NIH Equipment Grant for purchase of a Confocal Microscope | External , sponsored by the KBRIN/NIH | ~\$115,000 | Role – Principal Investigator |
| 2019 | Awarded a FUSE Grant with my Gatton Academy student Anas Gondal | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2018-2019 | Awarded the KBRIN – IDeA Grant | External , sponsored by the KBRIN/NIH | ~\$56,800 | Role – Principal Investigator |
| 2018-2019 | Awarded a RCAP1S Grant | Internal , sponsored by WKU office of sponsored programs | \$16,000 | Role – Principal Investigator |
| 2018 | Awarded a QTAG Grant | Internal , Ogden College of Science and Engineering | \$3,000 | Role – Principal Investigator |
| 2018 | Awarded a FUSE Grant with my Undergraduate student Aref Ranjbar | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2018 | Awarded a FUSE Grant with my Gatton Academy student Hasan Salim | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2017 | Awarded a FUSE Grant with my Honors thesis student Enes Atici | Internal , sponsored by WKU office of sponsored programs | ~\$5,000 | Role – Principal Investigator/Mentor |
| 2016 | Awarded a RCAP1S Grant | Internal , sponsored by WKU office of sponsored programs | \$16,000 | Role – Principal Investigator |
| 2016-2018 | Awarded the KBRIN – IDeA Grant | External , sponsored by the KBRIN/NIH | \$112,000 | Role – Principal Investigator |
| 2016 | Awarded a QTAG Grant | Internal , Ogden College of Science and Engineering | \$3,000 | Role – Principal Investigator |
| 2016 | Awarded a FUSE Grant with my Honors thesis student Afolasayo Aromiwura | Internal , sponsored by WKU office of sponsored programs | ~\$5,000 | Role – Principal Investigator/Mentor |
| 2015 | Awarded Ky NSF EPSCOR RSP grant | External , Kentucky National Science Foundation EPSCOR | \$9,666 | Role – Principal Investigator |
| 2015 | Awarded BSURE grants with my students Nathan Powers and Joy Fan | Internal , sponsored by WKU Department of Biology | \$2,900 | Role – Principal Investigator/Mentor |
| 2015 | Awarded a FUSE Grant with my Honors thesis student Nathan Powers | Internal , sponsored by WKU office of sponsored programs | ~\$5,000 | Role – Principal Investigator/Mentor |
| 2015 | Awarded a FUSE Grant with my Gatton Academy student Ananya Sharma | Internal , sponsored by WKU office of sponsored programs | ~\$5,000 | Role – Principal Investigator/Mentor |

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|------------------|---|---|-----------|--------------------------------------|
| 2014-2016 | Awarded funds to recruit an Underrepresented Minority Postdoctoral Fellow to my Laboratory | Internal , sponsored by WKU office of diversity | \$90,000 | Role – Postdoctoral mentor |
| 2014 | Awarded BSURE grants with my Gatton Academy students Ananya Sharma, Paige Kington and my Honors student Elizabeth Oates | Internal , sponsored by WKU Department of Biology | \$2,700 | Role – Principal Investigator/Mentor |
| 2014 | Awarded a FUSE Grant with my Honors thesis student Elizabeth Oates | Internal , sponsored by WKU office of sponsored programs | ~\$5,000 | Role – Principal Investigator/Mentor |
| 2014-2015 | Awarded a RCAP1 Grant | Internal , sponsored by WKU office of research | ~\$15,000 | Role – Principal Investigator |
| 2013-2014 | Awarded the KBRIN – AREA Grant | External , sponsored by the KBRIN/NIH | \$26,000 | Role – Principal Investigator |
| 2013 | Awarded a FUSE grant along with my Honors thesis student Christopher Fields | Internal , sponsored by WKU office of sponsored programs | ~\$5,000 | Role – Principal Investigator/Mentor |
| 2012 | Awarded a FUSE grant along with my Honors thesis student Jordan Olberding | Internal , sponsored by WKU office of sponsored programs | ~\$5,000 | Role – Principal Investigator/Mentor |
| 2011-2013 | Awarded the KBRIN – AREA Grant | External , sponsored by the KBRIN/NIH | \$52,000 | Role – Principal Investigator |
| 2011 | Awarded a RCAP1 Grant | Internal , sponsored by WKU office of research | \$20,000 | Role – Principal Investigator |

Submitted Grants in Review

| Year | Description/Type | Internal/External | Amount Requested | My Role |
|-------------|-------------------------|--------------------------|-------------------------|----------------|
| None | | | | |

Submitted Grants with Outcome Undetermined due to COVID-19

| Year | Description/Type | Internal/External | Amount Requested | My Role |
|-------------|---|---|-------------------------|--------------------------------------|
| 2020 | Submitted a FUSE Grant with my Gatton Academy student Krupa Hegde | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |

Declined Grants

| Year | Description/Type | Internal/External | Amount Requested | My Role |
|-------------|--|---|-------------------------|--------------------------------------|
| 2024 | Submitted a FUSE Grant with my Gatton Academy student Landon Carlton | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2024 | Submitted a FUSE Grant with my Gatton Academy student Jacob Thomas | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2024 | Submitted a FUSE Grant with my student Jada Scott | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2023 | Beckman Scholars Program | External , Arnold and Mabel Beckman Foundation | \$104,000 | Role – Principal Investigator/Mentor |

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|------|--|---|-----------|--------------------------------------|
| 2022 | RCAP-1 | Internal , sponsored by WKU office of sponsored programs | \$16,000 | Role – Principal Investigator |
| 2021 | Beckman Scholars Program | External , Arnold and Mabel Beckman Foundation | \$104,000 | Role – Principal Investigator/Mentor |
| 2020 | Beckman Scholars Program | External , Arnold and Mabel Beckman Foundation | \$104,000 | Role – Principal Investigator/Mentor |
| 2020 | RCAP-1 | Internal , sponsored by WKU office of sponsored programs | \$16,000 | Role – Principal Investigator |
| 2019 | Beckman Scholars Program | External , Arnold and Mabel Beckman Foundation | \$104,000 | Role – Principal Investigator/Mentor |
| 2019 | Submitted a NIH – R15 Grant titled: Elucidation of a Cathepsin L's developmental role and regulation in <i>Drosophila melanogaster</i> | External , National Institutes of Health | \$426,000 | Role – Principal Investigator |
| 2019 | Submitted a FUSE Grant with my Gatton Academy student Elisha VanZant | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2019 | Submitted a FUSE Grant with my Gatton Academy student Camila Lozano | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2018 | Submitted a FUSE Grant with my Gatton Academy student Hannah Watkins | Internal , sponsored by WKU office of sponsored programs | ~\$3,500 | Role – Principal Investigator/Mentor |
| 2017 | Submitted a NIH – R15 Grant titled: Functional Analysis of a Cathepsin L in <i>Drosophila melanogaster</i> | External , National Institutes of Health | \$411,269 | Role – Principal Investigator |
| 2017 | Submitted a NSF-MRI grant for acquisition of a Confocal Microscope | External , National Science Foundation | \$391,110 | Role – Principal Investigator |
| 2017 | Submitted a Kentucky NSF – EPSCOR Research Enhancement Grant | External , Kentucky National Science Foundation EPSCOR | \$35,500 | Role – Principal Investigator |
| 2017 | Submitted a Kentucky NSF – EPSCOR Research Scholars Program Grant | External , Kentucky National Science Foundation EPSCOR | \$9,545 | Role – Principal Investigator |
| 2016 | Submitted a NIH – R15 Grant titled: Functional Analysis of a Cathepsin L in <i>Drosophila melanogaster</i> | External , National Institutes of Health | \$501,644 | Role – Principal Investigator |
| 2016 | Submitted a FUSE Grant with my Gatton Academy student Joy Fan | Internal , sponsored by WKU office of sponsored programs | ~\$5,000 | Role – Principal Investigator/Mentor |
| 2016 | Submitted a Kentucky NSF – EPSCOR Research Enhancement Grant | External , Kentucky National Science Foundation EPSCOR | \$25,000 | Role – Principal Investigator |
| 2015 | Submitted a NIH – R15 Grant titled: Functional Analysis of a Cathepsin L in <i>Drosophila melanogaster</i> | External , National Institutes of Health | \$454,659 | Role – Principal Investigator |
| 2015 | Submitted a Kentucky NSF – EPSCOR Research Enhancement Grant | External , Kentucky National Science Foundation EPSCOR | \$25,000 | Role – Principal Investigator |

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|------|--|---|-----------|-------------------------------|
| 2015 | Submitted a NIH – R21 Grant titled: Developmental Profiling of Basement Membrane Associated Proteins in <i>Drosophila melanogaster</i> | External , National Institutes of Health | \$375,800 | Role – Principal Investigator |
| 2015 | Submitted a NSF-MRI grant for Acquisition of a Confocal Microscope | External , National Science Foundation, Major Research Instrumentation | \$375,270 | Role – Principal Investigator |
| 2015 | Submitted a RCAPIS grant for Creation of reagents for characterization of SNUTS. | Internal , sponsored by WKU office of research | \$16,000 | Role – Principal Investigator |
| 2015 | Submitted a KBRIN-IDEA grant for Identification of Basement Membrane associated proteins. | External , sponsored by the KBRIN/NIH | \$113,600 | Role – Principal Investigator |
| 2014 | Submitted a Special Research Grant for creation of antibodies against a novel Basement Membrane degrader. | External , sponsored by the Kentucky Academy of Science | \$5,000 | Role – Principal Investigator |
| 2014 | Submitted a KBRIN-IDEA Grant. | External , sponsored by the KBRIN/NIH | \$40,000 | Role – Principal Investigator |
| 2014 | Submitted a RCAPII Grant. | Internal , sponsored by WKU office of research | \$8,000 | Role – Principal Investigator |
| 2013 | Submitted a NSF-MRI grant for Acquisition of a Confocal Microscope | External , National Science Foundation, Major Research Instrumentation | \$378,132 | Role – Principal Investigator |
| 2012 | Submitted a NIH-R15 grant for identification and characterization of putative Basement Membrane degraders in <i>Drosophila</i> . | External , National Institutes of Health | \$425,995 | Role – Principal Investigator |
| 2012 | Submitted a RCAP I Grant for identification of Basement Membrane associated proteins. | Internal , sponsored by WKU office of research | \$19,696 | Role – Principal Investigator |
| 2012 | Submitted a RCAP II Grant for understanding the <i>in vivo</i> effects of Canstatin. | Internal , sponsored by WKU office of research | \$7,978 | Role – Principal Investigator |
| 2012 | Submitted a RCAP II Grant for understanding the <i>in vivo</i> effects of Lunasin. | Internal , sponsored by WKU office of research | \$5,240 | Role – Principal Investigator |
| 2012 | Submitted a NSF-MRI grant for Acquisition of a Confocal Microscope | External , National Science Foundation, Major Research Instrumentation | \$425,205 | Role – Principal Investigator |
| 2011 | Submitted a NSF-MRI grant for Acquisition of a Confocal Microscope | External , National Science Foundation, Major Research Instrumentation | \$501,400 | Role – Principal Investigator |

Declined Collaborative Grants

| Year | Description/Type | Internal/External | Amount Requested | My Role |
|------|--|---|------------------|--|
| 2022 | Submitted a NSF-MRI grant for acquisition of a FACS machine. PI – Dr. Simran Banga | External , National Science Foundation | \$302,950 | Role – Co-Principal Investigator |
| 2020 | Part of a NSF-MRI Grant for Acquisition of a LC-MS | External , National Science Foundation | | Role – Senior Personnel (PI: Eric Conte) |

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|-------------|---|---|-------------|----------------------------------|
| 2018 | Part of a NSF-MRI Grant for Acquisition of a Femtosecond Laser. PI – Dr. Ali Er | External , National Science Foundation | \$628,665 | Role – Co-Principal Investigator |
| 2014 | Part of a Summer Research Experience for Undergraduates proposal. PI – Dr. Rodney King | External , National Science Foundation, Research Experience for Undergraduates | \$405,230 | Role – Senior Personnel |
| 2014 | Part of a BRIDGES to Baccalaureate, NIH-R25 grant. PI: Dr. Raja Dakshinamurthy | External , National Institutes of Health | \$1,527,530 | Role – Senior Personnel |
| 2013 | Part of a proposal to acquire Next Generation Sequencing Apparatus. PI – Dr. Robert Wyatt | Internal , sponsored by WKU office of research | \$75,270 | Role – Senior Personnel |

Planned Grant Submissions

| Year | Description/Type | Internal/External | My Role |
|-------------|-----------------------------|---|-------------------------------|
| 2025 | NSF-proposal to MCB cluster | External , National Science Foundation | Role – Principal Investigator |

STUDENT SUPERVISION AND TRAINEES

JUMP – Joint Undergraduate Masters Program

Masters Students at WKU (Total=11, 9 Completed, 2 in Progress)

| Student's Name | Year | Status | My Role | Current Occupation |
|-----------------------|-------------|-----------------------|------------------------|--|
| Ayanfe Ashaolu | 2024-2026 | In-Progress | Primary Thesis Advisor | Graduate Student at WKU |
| Rangana Ratnayake | 2024-2026 | In-Progress | Primary Thesis Advisor | Graduate Student at WKU |
| Tobiloba Dorcas | 2022-2024 | Completed | Primary Thesis Advisor | Graduate Student at WKU |
| Paige Hiltner | 2019-2021 | Completed, non-thesis | Primary Advisor | Switched to non-thesis MS |
| Aref Ranjbar | 2016-2020 | Withdrew | Primary Thesis Advisor | Withdrew for Personal Reasons |
| Sayo Aromiwura | 2016-2019 | Completed | Primary Thesis Advisor | DO Student at Liberty University, Lynchburg, VA |
| Nathan Powers | 2016-2018 | Completed | Primary Thesis Advisor | Research Associate, Vanderbilt University, |
| Dane Flinchum | 2015-2018 | Completed | Primary Thesis Advisor | PhD Student at Tulane University, New Orleans, LA |
| Mayank Kapadia | 2014-2016 | Completed | Primary Thesis Advisor | Research Associate at UTMB, Galveston, TX |
| Christopher Fields | 2014-2016 | Completed | Primary Thesis Advisor | Ph.D. Student at University of Florida |
| Qian Dong | 2013-2015 | Completed | Primary Thesis Advisor | Ph.D. Student at University of Melbourne, Australia |
| Gillian Jones | 2011-2013 | Completed | Primary Thesis Advisor | Research Technician at Virginia Technological University |

Other Masters Students at WKU (Total=9)

| Student's Name | Year | Status | Primary Advisor | My Role |
|-----------------------|-------------|------------------------|------------------------|--------------------------|
| Rachel Foster | 2023-2025 | In Progress | Dr. Joe Marquardt | Member, Thesis Committee |
| Jihye Kang | 2022-2023 | Completed | Dr. Moon-Soo Kim | Member, Thesis Committee |
| Kayode Adeyemi | 2021-2023 | Completed | Dr. Simran Banga | Member, Thesis Committee |
| Hunter Weaver | 2020-2022 | Completed | Dr. Noah Ashley | Member, Thesis Committee |
| Joel Omage | 2018-2020 | Completed | Dr. Moon-Soo Kim | Member, Thesis Committee |
| Jasmine Murillo | 2018- | Switched to non-thesis | Dr. Simran Banga | Member, Thesis Committee |
| Robyn Wilson | 2016 | Completed | Dr. Sigrid Jacobshagen | Member, Thesis Committee |

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|---------------|-----------|-----------|-------------------|--------------------------|
| Julia Freeman | 2011-2013 | Completed | Dr. Nancy Rice | Member, Thesis Committee |
| Olivia Boyd | 2013-2015 | Completed | Dr. Keith Philips | Member, Thesis Committee |

Undergraduate Honors Thesis Students at WKU (Total=8)

| Student's Name | Year | Status | My Role | Current Occupation |
|--------------------|-----------|--|------------------------|--|
| Lauren Hale | 2024- | In Progress | Primary Thesis Advisor | Undergraduate Student at WKU |
| Jada Scott | 2023- | In Progress | Primary Thesis Advisor | Undergraduate Student at WKU |
| Lindsey Fannin | 2022-2023 | Completed | Primary Thesis Advisor | MD Student starting in Fall 2023 at University of Kentucky College of Medicine |
| Enes Atici | 2016-2018 | Did not finish, accepted to med school | Primary Thesis Advisor | MD Student at WKU/University of Kentucky College of Medicine |
| Sayo Aromiwura | 2015-2016 | Switched to JUMP | Primary Thesis Advisor | JUMP Student at WKU/DO Student at Liberty University |
| Nathan Powers | 2015-2016 | Switched to JUMP | Primary Thesis Advisor | JUMP Student at WKU |
| Elizabeth Oates | 2014-2016 | Did not finish | Primary Thesis Advisor | Honors Student at WKU |
| Christopher Fields | 2012-2014 | Completed | Primary Thesis Advisor | Ph.D. Student at University of Florida |
| Jordan Olberding | 2011-2013 | Completed | Primary Thesis Advisor | Ph.D. Student at Yale University |

Other Undergraduate Honors Thesis Students at WKU (Total=3)

| Student's Name | Year | Status | My Role | Current Occupation |
|------------------|-----------|-----------|---|---|
| Langley Williams | 2022-2023 | Completed | Committee Member (Thesis Advisor: Dr. Moon-Soo Kim) | PhD Student at University of Louisville |
| Manzar Razayeva | 2022 | Completed | Committee Member (Thesis Advisor: Dr. Noah Ashley) | MPH Student at WKU |
| Wendy Cecil | 2021 | Completed | Committee Member (Thesis Advisor: Dr. Moon-Soo Kim) | PhD Student at University of Louisville |

NSF-REU Students at WKU (Total=3)

| Student's Name | Year | Current Occupation | Comments |
|--------------------|------|--|--|
| Breanna Brennehan | 2012 | Ph.D. Student at University of Virginia, Charlottesville | Honorable mention at the NSF Graduate Fellowship Competition |
| Kevin Colon-Negron | 2011 | Ph.D. Student at University of California, San Francisco | Recipient of the NSF Graduate Fellowship |
| Rebecca Ray | 2011 | Ph.D. Student in Forensics | |

Gatton Academy Summer Research Students at WKU (Total=15)

| Student's Name | Year | Current Occupation | Comments |
|----------------|-----------|---|---|
| Sydney Putnam | 2024-2025 | Undergraduate Student at WKU | Gatton Research Internship Grant Recipient |
| Landon Carlton | 2023-2024 | Undergraduate Student at Wake Forest University | Gatton Research Internship Grant Recipient |
| Jacob Thomas | 2022-2024 | Undergraduate Student at WKU | Gatton Research Internship Grant Recipient |
| Siheon Im | 2022-2023 | Undergraduate Student at WKU | Gatton Research Internship Grant Recipient |
| Krupa Hegde | 2019-2021 | Undergraduate Student at Yale University | Gatton Research Internship Grant Recipient – COVID-19 Pandemic, |

| | | | |
|-------------------|-----------|---|--|
| Elisha VanZant | 2019-2020 | Undergraduate Student at University of Louisville | Undergraduate Student at Yale University FUSE, Gatton Research Internship Grant Recipient |
| Grace McClurg | 2019 | Undergraduate Student at WKU | Gatton Research Internship Grant Recipient but declined due to personal reasons |
| Camila Lozano | 2019-2020 | Undergraduate Student at WKU | Gatton Research Internship Grant Recipient |
| Jakob Quisenberry | 2019 | Undergraduate Student at WKU | Gatton Research Internship Grant Recipient |
| Usman Salim | 2019-2020 | Undergraduate Student at Washington University in St. Louis | FUSE, Gatton Research Internship Grant Recipient |
| Anas Gondal | 2018-2019 | Undergraduate Student at Duke University | Gatton Research Internship Grant Recipient |
| Hasan Salim | 2017-2018 | Undergraduate Student at Washington University in St. Louis | Gatton Research Internship Grant Recipient, Best Poster Award at the WKU Reach Week |
| Joy Fan | 2015-2016 | Undergraduate Student at MIT, PhD student at Columbia University | BSURE, Gatton Research Internship Grant Recipient |
| Ananya Sharma | 2014 | Undergraduate Student at Vanderbilt University, MD Student at Vanderbilt University | FUSE, BSURE, Gatton Research Internship Grant Recipient |
| Paige Kington | 2014 | Undergraduate Student | BSURE, Gatton Research Internship Grant Recipient |

Other Students Mentored in Research at WKU (Total=63)

| Student's Name | Year | Type | Current Occupation | Comments |
|---------------------|------|-----------|------------------------------|--|
| Sydney Putnam | 2024 | Volunteer | Gatton Academy Student | |
| Zachary Vandermolen | 2024 | Volunteer | Gatton Academy Student | |
| Lauren Hale | 2024 | BIOL399 | Undergraduate Student at WKU | |
| Ibrahim Ali | 2024 | BIOL399 | Gatton Academy Student | |
| Emma Hyman | 2024 | Volunteer | Gatton Academy Student | |
| Rylee Wallace | 2023 | BIOL399 | Undergraduate Student at WKU | |
| Brandon Brion | 2023 | BIOL399 | Undergraduate Student at WKU | |
| Miranda Hardin | 2023 | Volunteer | Undergraduate Student at WKU | |
| Brayden Gross | 2023 | Volunteer | Gatton Academy Student | |
| Siheon Im | 2022 | Volunteer | Gatton Academy Student | |
| Laura Ragan-Gay | 2022 | BIOL399 | Undergraduate Student at WKU | |
| Jacquelyn Buckley | 2022 | BIOL399 | Undergraduate Student at WKU | |
| Annah Hopkins | 2022 | BIOL399 | Undergraduate Student at WKU | FUSE Award Recipient |
| Brennan McElfresh | 2022 | HON303 | Gatton Academy Junior | US Naval Academy |
| Lindsey Fannin | 2021 | Volunteer | Undergraduate Student at WKU | FUSE Award Recipient, MD Student at University of Kentucky College of Medicine |

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|---------------------|-----------|--------------------|--|--|
| Ethan Baird | 2021 | Volunteer | Undergraduate Student at WKU | |
| Christina Tran | 2021 | BIOL399 | Gatton Academy Student | |
| Gabriel Heckerman | 2020 | Volunteer | Undergraduate Student at WKU | |
| Krupa Hegde | 2019 | HON303, BIOL399 | Gatton Academy Junior | Undergraduate Student at Yale University |
| Saeed Patwardhan | 2019 | BIOL399 | Gatton Academy Rising Senior | Undergraduate Student at NYU |
| Emerson VanTrease | 2019 | Volunteer | Undergraduate Student at WKU | |
| Jakob Quisenberry | 2019 | Volunteer | High School Student | |
| Usman Salim | 2018 | Volunteer | Undergraduate Student at WKU | FUSE Award Recipient |
| Naail Tariq | 2018 | BIOL399 | Undergraduate Student at WKU | |
| Rachel Curtis | 2018 | BIOL399 | Undergraduate Student at WKU | |
| Thomas Pelkey | 2018 | Volunteer | Undergraduate Student at WKU | |
| Challee Shartzter | 2018 | Volunteer | Undergraduate Student at WKU | |
| Enes Atici | 2016-2018 | BIOL399 | MD Student at WKU/UK College of Medicine | Fuse Award Recipient |
| Braxton Gauthier | 2017 | Volunteer | Undergraduate Student at WKU | |
| Deanna Close | 2017 | Volunteer | Undergraduate Student at WKU | |
| Hasan Salim | 2017 | BIOL399 | Gatton Academy Rising Senior | Undergraduate Student at Washington University in St. Louis, FUSE Recipient, MD Student at Columbia University |
| Hannah Watkins | 2017-2019 | Volunteer/Biol399 | Undergraduate Student at WKU | |
| Sarah Ames | 2016 | Volunteer | Undergraduate Student at WKU | MD Student |
| Aref Ranjbar | 2016 | Volunteer | Undergraduate Student at WKU | Undergraduate Student at WKU, FUSE Recipient |
| Morgan Cash | 2015-2016 | BIOL399 | Undergraduate Student at WKU | MD Student at University of Kentucky |
| Mackenzie Armstrong | 2016 | BIOL399 | Undergraduate Student at WKU | |
| Joy Fan | 2015 | BIOL399 | Undergraduate Student at MIT | BSURE Recipient, Ex Gatton Academy Student |
| Nathan Powers | 2015 | BIOL399 | JUMP Student at WKU | FUSE, BSURE Recipient, 2016 Outstanding Biotechnology Student Award Recipient, Gleason Award Recipient |
| Sayo Aromiwura | 2015 | BIOL399 | JUMP Student at WKU | FUSE Recipient |

| | | | | |
|----------------------|-----------|-----------|--|---------------------------|
| Elizabeth Oates | 2014 | BIOL399 | Honors College Student at WKU | FUSE Recipient |
| Noel Maxwell | 2014-2015 | BIOL399 | Undergraduate Student at WKU | |
| Ananya Sharma | 2014-2015 | BIOL399 | Undergraduate Student at Vanderbilt University | Ex Gatton Academy Student |
| Paige Kington | 2014 | BIOL399 | Undergraduate Student | Ex Gatton Academy Student |
| Noah Maikranz | 2014 | BIOL399 | Undergraduate Student | Ex Gatton Academy Student |
| Aiste Dobrovolskaite | 2013-2014 | BIOL399 | MS Student at WKU | |
| Rachel Huffman | 2013 | BIOL369 | Dental School at University of Louisville | - |
| Dixa Patel | 2013 | Volunteer | Not Known | Ex Gatton Academy Student |
| Bradley Blankenship | 2013 | BIOL399 | MD Student at University of Kentucky | |
| Kelsey Kaetzl | 2013 | BIOL399 | Not Known | |
| Taylor Billings | 2012-2013 | BIOL399 | Undergraduate Student at WKU | |
| Taylor Johnson | 2012 | BIOL399 | MD Student at University of Louisville | |
| Sibi Rajendran | 2012 | BIOL399 | MD Student | Ex Gatton Academy Student |
| Linda Cruz | 2012 | BIOL399 | Undergraduate Student at WKU | Ex Gatton Academy Student |
| Cecily Allen | 2012 | BIOL399 | Not Known | Ex Gatton Academy Student |
| Samantha Hawtrey | 2011-2012 | BIOL399 | MD Student at University of Louisville | Ex Gatton Academy Student |
| Karlee Driver | 2011-2012 | BIOL399 | Not Known | |
| Patrick Webb | 2011 | Volunteer | Not Known | |
| Katie Melton | 2011 | Volunteer | Not Known | |
| Alex Lee Compton | 2011 | Volunteer | Attending Optometry School | |
| Cheryl Onwu | 2011 | Volunteer | Not Known | |
| Meliha Hrustanovic | 2011 | BIOL399 | MD Student at University of Louisville | |
| Chelsey Faulk | 2011 | BIOL399 | Not Known | |
| Jordan Olberding | 2011 | BIOL199 | Ph.D. Student at Yale University | |
| Sean Shannon | 2010-2011 | BIOL399 | MD Student at University of Louisville | |

Completed Theses at WKU as Thesis Director (Total=11; 8 MS and 3 Honors)

| Student's Name | Year | Type | Title of Thesis | Comments |
|----------------------|------|------|--|---|
| Tobiloba Oguntoyinbo | 2024 | MS | The Role of Cysteine Cathepsin L CP1 in Tumor Metastasis and the Activation of MMP in <i>Drosophila melanogaster</i> . | Clinical Data Coordinator at Nashville Oncology |
| Sayo Aromiwura | 2019 | MS | Characterization of Antibodies Against Two Basement Membrane Degradors in <i>Drosophila</i> . | DO Student at Liberty University, Lynchburg, VA |
| Nathan Powers | 2018 | MS | Involvement of JAK/STAT Signaling and A Basement Membrane – Associated Protein | Research Associate, Vanderbilt University |

| | | | | |
|--------------------|------|--------|--|---|
| Dane Flinchum | 2018 | MS | During Air Sac Primordium Development in <i>Drosophila melanogaster</i> Characterizing the Role of CP1 in <i>Drosophila melanogaster</i> : Its Effects on Basement Membrane Degradation and Signaling | School of Medicine, Nashville, TN PhD student at Tulane University, New Orleans, LA |
| Mayank Kapadia | 2016 | MS | Identification of Collagen IV Associated Proteins in <i>Drosophila</i> using Genetics and Mass Spectrometry | Research Associate at UTMB Galveston, TX |
| Christopher Fields | 2016 | MS | Functional and Expression Analysis of a Novel Basement Membrane Degradation in <i>Drosophila melanogaster</i> | Ph.D. student at University of Florida |
| Qian Dong | 2015 | MS | Functional Analysis of a Cathepsin L in <i>Drosophila melanogaster</i> . | Ph.D. Student at University of Melbourne, Melbourne, Australia |
| Gillian Jones | 2013 | MS | Development of Tools to Assess the Effects of Lunasin on Normal Development and Tumor Progression in <i>Drosophila melanogaster</i> | Outstanding Biology Graduate Student at WKU |
| Lindsey Fannin | 2023 | Honors | Analysis of a Cysteine Cathepsin in Normal Development and Tumor Metastasis | MD Student at University of Kentucky College of Medicine, Bowling Green Campus |
| Christopher Fields | 2014 | Honors | Functional and Expression Analysis of SNUTS in <i>Drosophila melanogaster</i> | Gleason Award Winner at WKU for Excellence in Undergraduate Research |
| Jordan Olberding | 2013 | Honors | Creation of Tools to Assess the effects of α 2NC1 on Normal Development and Tumor Progression in <i>Drosophila melanogaster</i> . | Outstanding Biology Undergraduate Student at WKU |

Postdoctoral Supervision at WKU

| Name | Year |
|------------------|-----------|
| Dr. Jessica Ross | 2014-2016 |

Ph.D., and MS Student Thesis Advisory Committee Member at University of Louisville

| Student's Name | Year | Type | Title of Thesis | Comments |
|----------------|-------|------|-----------------|---|
| Rachel Curtis | 2022- | MS | | In Progress |
| Breanna Beard | 2022- | PhD | | In Progress at University of Louisville |
| Ladan Abbasi | 2021 | MS | | Completed thesis under the Directorship of Dr. Dae-Sung Hwangbo at University of Louisville |

TEACHING EXPERIENCE

Courses Taught at WKU

F – Fall; SP – Spring; SU – Summer; W – Winter

H – Honors; G – Graduate; O – Online

| Course Number | Course Description and Credit Hours | Semesters and Years Taught |
|---------------|---|---|
| BIOL120 | Introduction to Cell Biology, Metabolism and Genetics, 3 credit hours | SP11, F12, F13, F14, F16, F17, SP18, F21, F22, F23, F24 |
| BIOL120 (O) | Introduction to Cell Biology, Metabolism and Genetics, 3 credit hours | W15, SU15, SU16, SU17, W18, SU18, W19, SU19, |

| | | |
|-------------|---|---|
| BIOL327 | Genetics and associated labs, 4 credit hours | W20, SU20, W21, SU21, W22, W23, W24 |
| BIOL327 | Genetics, 3 credit hours | F10, SP11, SP12, SP13, SP14 SP15, F15, SP17, F20, F22, F24 |
| BIOL327 (H) | Genetics Honors, 3 credit hours | SP15, SP17, F17, F19, F20, F22 |
| BIOL337 | Genetics labs, 1 credit hours | SP15, F15 |
| BIOL403 | Molecular Biology of Cancer | SU24 |
| BIOL403 (G) | Molecular Biology of Cancer | SU24 |
| BIOL411 | Cell Biology, 3 credit hours | SP16, SP19, SP20, SP21, SP22, SP23, SP24, SP25 |
| BIOL411 (H) | Cell Biology, 3 credit hours | SP16, SP19, SP20, SP21, SP22, SP23, SP24 |
| BIOL411 (G) | Cell Biology, 3 credit hours | SP16, SP19, SP21, SP22, SP23, SP24, SP25 |
| BIOL412 | Cell Biology Labs, 1 credit hour | SP19, SP20, SP21, SP22, SP23, SP24, SP25 |
| BIOL440 | Developmental Genetics, 3 credit hours | F11 |
| BIOL475 | Techniques in Developmental Biology, 3 credit hours | F13 |
| BIOL560 | Advanced Cell Biology | F19, SU19, F21 |
| BIOL675 | Drosophila Genetics and Cancer | F11, F14 |
| BIOL675 | Selected Topics in Development | SP12, SP14, F17 |
| BIOL675 | Advanced Topics in Development | SP15 |
| BIOL675 | Advanced Topics in ECM Biology | F15, SP16 |
| BIOL675 | Selected Topics in Stem Cell Biology | SP17 |
| BIOL675 | Advanced Topics in Protease Biology | SP18, F20, SP23 |
| BIOL675 | Selected Topics in Basement Membrane Biology | SP19 |

Teaching Experience and Supervision Prior to WKU

| | | |
|------------------|-----------------------|---|
| 2004-2009 | Yale University | Manager of the Xu Lab Confocal Microscopy Facility. I was responsible for the initial purchase, setup and subsequent training of students and post-docs in the laboratory on how to use the Confocal Microscope as well as the administration of the facility. |
| 1998-2002 | University of Alberta | Supervised undergraduate project students in the laboratory of Dr. John Bell (8 in number) on various Biology 498 and Biology 499 research projects of one and two semester duration respectively. Instrumental in design and execution of experiments conducted by the students. |
| 1997-2002 | University of Alberta | Teaching Assistant for Biology 107 (introduction to cell biology, labs). I was responsible for successful completion of the labs as well as grading of the final exams for the course. |

PROFESSIONAL SERVICE

Leadership Positions

| | |
|-------------------|--|
| 2022-2025 | Chair , WKU Financial Conflict of Interest Committee (FCOI), WKU, Bowling Green, KY |
| 2022-2021- | Chair, DEI Committee , Department of Biology, WKU, Bowling Green, KY |
| | Program Director , Molecular Biotechnology Major, Department of Biology, WKU, Bowling Green, KY |
| 2018-2021 | Co-director , Molecular Biotechnology Major, Department of Biology, WKU, Bowling Green, KY |
| 2017-2019 | Senator , WKU Senate, representing Biology Department |
| 2016-2017 | Chair , Biology Department Online Graduate Program Development Committee |

2014-2015 **Chair**, Seminar Committee, WKU Biology Department
2013-2015 **Chair** of the WKU Ogden College Identity Committee
2011-2013 **President and Vice President** of Sigma Xi, WKU Chapter
2010-2012 **Chair and Secretary** of the Cell and Molecular Biology Section of the Kentucky Academy of Science

Reviewer

2024 **Invited to Serve as a Topic Editor for Special Edition of Frontiers in Cell and Developmental Biology**
2023- **Associate Editor – Developmental Biology for Heliyon**, a Cell Press Journal
2023 Invited to serve as a reviewer for the **Ralph E. Powe Junior Faculty Award by Oak Ridge Associated Universities (ORAU)**
2021 **Adhoc Reviewer, NSF RUI Proposal**
2019- **Academic Editor, PLOS One**
2017- **Editorial Board, Scientific Reports – a Nature Publishing Group Journal**
2015- **NIH Early Career Grant Reviewer Program**
2015- **Editorial Board, Heliyon (Elsevier)**
2014- **Editorial Review Board, Journal of Visualized Experiments (JOVE)**
2014- **Member, Community Advisory Group, FLYBASE**
2014 **Reviewed Book Chapters** for Principles of Development by Lewis Wolpert and Others, Published by the Oxford University Press, London, England
2010- **Reviewed Journal Articles** for the following Journals: Experimental Biology and Medicine, Genome, PLOS One, Oncogene, Oncotarget, Disease Models and Mechanisms, PeerJ

Invited External Evaluator, Tenure and Promotion Decisions

2024 Invited to Provide External Evaluation of Promotion and Tenure to Associate Professor of Dr. Kris Schwab at Indiana State University
2024 Invited to Provide External Evaluation of Promotion to Full Professor Packet of Dr. Brian Robertson at Middle Tennessee State University
2022 Invited to Provide External Evaluation of Promotion and Tenure packet for Dr. Eugenia Villacuesta, Associate Professor at Adelphi University, Garden City, NY, USA
2019 Invited to Provide External Evaluation of Promotion and Tenure packet for Dr. Min Gao, Assistant Professor at Indiana University NorthWest, IN, USA

Invited External Faculty Mentor

2019- Invited to serve as a mentor to Dr. Dae-Sung Hwangbo, Assistant Professor, Department of Biology, University of Louisville, Louisville, KY

Grant Reviewer, External

2024 Invited to Review Grant Proposals for ORAU
2021 Adhoc Reviewer for National Science Foundation, RUI Proposal

Grant Reviewer, Internal

2017-2024 WKU Research and Creative Activities Program
2014-2024 WKU FUSE Grants

Session Moderator, External

2024 Invited to moderate a session on “Applying to Graduate School” at The Allied Genetics Conference 2024 (TAGC24) held in Washington DC

Panelist, Internal

2019 WKU Research and Creative Activities Program Panel Sponsored by WKU Office of Sponsored Programs

Judge

2016 Judged Posters at the Annual Meeting of the Kentucky Academy of Science held at Louisville, KY

2015 Judged posters at the SE Regional IDeA meeting held in Biloxi, MS

2013 Judged posters at the Annual Meeting of the Kentucky Academy of Science held at Morehead, KY

2012 Judged posters at the Annual Meeting of the Kentucky Academy of Science held at Richmond, KY.

2012 Judged posters and platform presentations for Undergraduate and Graduate students respectively at the 42nd WKU Research Conference and REACH week.

2011 Judged posters at the Sigma Xi International Conference, Raleigh, NC

2011 Judged “Cell and Molecular Biology Section” posters at the annual meeting of the Kentucky Academy of Science held in Murray, KY.

2011 Judged posters at the 41st WKU Undergraduate Research Conference.

2010 Judged “Cell and Molecular Biology Section” posters at the annual meeting of the Kentucky Academy of Science held in Bowling Green, KY.

SERVICE TO UNIVERSITY, COLLEGE, AND DEPARTMENT

University Service

2024- **Member, Minority Assistantship Program Reimagining Committee, organized by the Associate Provost for Research and Graduate Studies at WKU**

2022 **Member, WKU Office of Scholar Development Coordinator Search Committee**

2022-2025 **Elected Chair, WKU Financial Conflict of Interest Committee (FCOI)**

2019-2020 **WKU Goldwater Scholarship Application Packet Reviewer**

2017-2019 **Elected Senator Representing Biology at the University Senate, WKU**

2017- **Member, WKU Technology Commercialization Roadmap Committee**

2017 **Member, WKU SGA Student Awards Committee**

2017- **Member, WKU Financial Conflict of Interest Committee**

2016 **Member, Applied Research and Technology Program (ARTP) Steering Committee**

2016-2017 **Member, Biotechnology Center Executive Committee**

2014-2016 **Member, WKU Graduate School Minority Assistantship Council, Reviewed 15, 26 Minority Assistantship program Applications in Spring 2014 and 2015**

2013-2014 **Member, Biotechnology Center Bylaws Review Committee**

2011-2013 **Member, WKU Student Research Council.** As an active member of this council I played an important role in the discussions leading up to the new research week. An acronym suggested by me for this new research week was accepted. This research week is now referred to as the REACH week or the Research Experiences and Creative Heights week.

2011-2013 **Vice President and President of Sigma Xi, WKU Chapter.** As part of my involvement with Sigma Xi I represented it at the WKU student research council and hosted the conference speakers during the REACH week in 2012, 2013.

2011- **Faculty Co-Advisor to WKU Indian Students Association.** As a faculty advisor I help student leadership with the various aspects of student life. In addition, I am also responsible for conducting yearly elections for the position of officers of the association.

2010- **Attended WKU Commencement Ceremonies**

College Related Service

| | |
|-----------|--|
| 2023-2024 | Member, Ogden College Academic Program Review Committee for Psychological Sciences BS and MS programs |
| 2022-2023 | Member, Ogden College “Diversity, Equity, and Inclusion, DEI” Committee |
| 2019-2022 | Member, Ogden College “Diversity, Equity, and Inclusion, DEI” Taskforce |
| 2019 | Member, Ogden College “Comprehensive Academic Program Evaluation – CAPE” Review Committee |
| 2017 | Member, Ogden College Faculty Awards Committee |
| 2016 | Member, ARTP Steering Committee |
| 2015 | Member, Ogden College Marketing Committee |
| 2014 | Invited by the Dean to present a vision for “Branding and Marketing” of Ogden College |
| 2013-2015 | Chair of the WKU Ogden College Identity Committee |
| 2011- | Member, Premed Advising Committee |

Departmental Service

| | |
|-----------|---|
| 2023-2024 | Staff Search Committee Member, Biotechnology Center Manager Position |
| 2023 | Member of the Departmental Promotion and Tenure Guidelines Committee |
| 2022- | Chair of Biology Department Diversity, Equity, and Inclusion Committee renamed Climate Committee |
| 2022- | Faculty Mentor for Dr. Joseph Marquardt, Assistant Professor, Department of Biology, WKU, Bowling Green, KY |
| 2022-2023 | Faculty Search Committee Member , Cell & Molecular Biology position |
| 2021-2022 | Faculty Search Committee Member , Cell & Molecular Biology (2 positions), Physiology (1 position) Faculty Search |
| 2021 | Faculty Mentor for Dr. Cristi Galindo, Assistant Professor, Department of Biology, WKU, Bowling Green, KY |
| 2021 | Search Committee Member , Department Coordinator/Business Manager Search |
| 2021- | Member , Departmental Program Review and Assessments Committee |
| 2021- | Program Director , Molecular Biotechnology Major, Department of Biology, WKU, Bowling Green, KY |
| 2018-2021 | Co-director , Molecular Biotechnology Major, WKU Biology Department |
| 2018 | Member , Departmental Program Review Committee |
| 2016-2018 | Member , Biotechnology Major Program Revision Committee |
| 2016-2017 | Chair , Online Graduate Program Development Committee |
| 2016-2018 | Member , Graduate Curriculum Committee |
| 2014-2015 | Chair , Seminar Committee, WKU Biology Department |
| 2012- | Faculty Co-Advisor , Association of Undergraduate Geneticists |
| 2012-2015 | Hosted one BASS session and attended several others |
| 2012-2017 | Member , Departmental Safety Committee |
| 2011- | Attended ATP sessions, Major Minor Fair |
| 2010-2016 | Member , Undergraduate Curriculum Committee |
| 2010- | Member , Departmental Advising Committee |
| 2010- | Member , Pre-Professional Advising Committee |
| 2010- | Member , Thesis Advisory Committees for Undergraduate and Graduate Students |
| 2010- | Invited and Hosted the following seminar speakers: Dr. Carl Hashimoto (could not make it); Dr. Jennifer Curtiss, Dr. Alexey Arkov, Dr. Amit Singh, Dr. Andrea Page-McCaw, Dr. Luke Bradley, Dr. Madhuri Kango-Singh, Dr. Jakub Famulski, Dr. Udai Pandey, Dr. Alexey Arkov, Dr. Yves Chabu |
| 2010- | Wrote several reference letters for Undergraduate and Graduate students applying to Medical, Dental, Optometry and Ph.D. programs |

K-12 School Service

| | |
|------------------|---|
| 2019-2020 | Was Relected to Serve on the Site Based Decision Making Council for Greenwood High School, Bowling Green, KY |
| 2018-2019 | Was Elected to Serve on the Site Based Decision Making Council for Greenwood High School, Bowling Green, KY |
| 2016 | Joined BioRad Science Ambassador Program and Presented a “Genes in a Bottle” activity to the Gifted and Talented students at the Warren County 212 Academy |
| 2016 | Kentucky Science Olympiad, Cell Biology Events Coordinator |
| 2013 | Invited by Briarwood Elementary School to talk to their 4th grade students about cells. |
| 2012 | Presented a talk to STEM Academy students at Greenville, KY (04/08/12) titled: Understanding Development and Disease using Drosophila Genetics. |
| 2013 | Presented three one hour talks on Drosophila genetics and demonstrated Drosophila wild type and mutant strains to students at Drakes Creek Middle School, Bowling Green, KY |

OTHER SERVICE

Panelist

| | |
|-------------|---|
| 2022 | Invited to participate in a WKU Asian Faculty Panel organized by WKU Asian American Student Association |
|-------------|---|

PROFESSIONAL DEVELOPMENT ACTIVITIES

| Year | Description of Activity | Type |
|------------------|--|------------------|
| 2021 | Attended a Genetics Society of America Sponsored Webinar, Exploring Gene Functions across humans and model organisms: Monarch Initiative | Research Related |
| 2021 | Attended a Genetics Society of America Sponsored Webinar titled: Exploring Gene Functions across humans and model organisms: Mining Model organism Data in the alliance of genome resources portal | Research Related |
| 2020 | Attended an e-symposium titled: “The Extracellular Matrix Reloaded”, hosted by the American Society for Matrix Biology | Research Related |
| 2019 | Attended the SE regional IDEa meeting held in Louisville, KY | Research Related |
| 2018 | Attended the NISBRE meeting held in Washington DC | Research Related |
| 2017 | Attended the SE regional IDEa meeting held in Morgantown, WV | Research Related |
| 2017 | Attended Genetics Society of America Sponsored Workshops at the Annual Drosophila Research Conference held in San Diego, CA | Research Related |
| 2015 | Attended a WKU RISE Brown Bag Lunch | Research Related |
| 2010-2019 | Attended Annual Meetings of the Kentucky Academy of Science | Research Related |
| 2012-2019 | Attended the Annual Drosophila Research Conference held in Chicago, IL; San Diego, CA; Orlando, FL, San Diego, CA; Philadelphia, PA; Dallas, TX. | Research Related |
| 2012 | Attended “Writing Winning Grants”: Workshop organized by WKU Office of Sponsored Programs. | Research Related |
| 2011- | Attended Annual Department of Biology Safety Seminars | Research Related |
| 2011 | Attended the Sigma Xi annual international conference and ethics symposium held at Raleigh, NC | Research Related |
| 2011 | Attended the Sophomore Faculty Follow-up organized by the office of the Provost and VP-Research. | Research Related |
| 2010 | Attended the KBRIN-AREA grant writing workshop at the Annual Meeting of the KAS held in Bowling Green, KY. | Research Related |
| 2010 | NSF Grant writing workshop at NKU, Frankfort KY | Research Related |
| 2010 | Attended a workshop titled “Planning the Budget for Your Grant Proposal” organized by WKU Office of Sponsored Programs | Research Related |

| | | |
|-----------|--|---------------------------|
| 2010-2016 | Met regularly with my mentoring committee and mentor | Research/Teaching Related |
| 2023 | Attended "Advancing Biology Education" webinar sponsored by WVNORTON on March 21st 2023 | Teaching Related |
| 2020-2021 | Attended five workshops sponsored by WKU CITL centered on various aspects of online teaching | Teaching Related |
| 2016 | Attended WKU CET/Honors Thesis fair organized by the Biology Department Head | Teaching Related |
| 2016 | Attended a "Vision and Change" Workshop at the Allied Genetics Research Conference, Orlando, FL | Teaching Related |
| 2016 | Attended the Undergraduate Session at the SE Regional IDEa meeting, Biloxi, MS | Teaching Related |
| 2014 | Completed ADA compliance training on the web | Teaching Related |
| 2013 | Attended Academic Dishonesty Workshop hosted by Michael Crowe from WKU Judicial Affairs | Teaching Related |
| 2013 | Attended McGraw Hill Workshop on e-textbooks | Teaching Related |
| 2013 | Attended an information session for "Thesis Readers in Ogden College" organized by the WKU biology department | Teaching related |
| 2012 | Attended seminar conducted by Dr. Pam Petty, Professional Development mandated by the State of Kentucky | Teaching Related |
| 2012 | Attended workshop organized by WKU Information Technology department titled: Teaching with Turning Point Clickers | Teaching Related |
| 2012 | Workshop on Writing for The Sciences organized by the Dean's office | Teaching Related |
| 2012 | Attended a workshop titled: Electronics In The Classroom | Teaching Related |
| 2012 | Attended a curriculum development workshop organized by FACET and titled: "Escaping the Tyranny of Textbook Changes" | Teaching Related |
| 2023 | Attended online training for Visual Analytics, offered by WKU Institutional Research | General |
| 2021 | Attended Degree Works Training hosted by Jennifer Hammonds on 08/20/21 | General |
| 2021 | Attended an Assessment Rubric Training offered by Dr. Doug McElroy and Dr. Kerrie McDaniel on 08/19/21 | General |
| 2021 | Attended "Courseleaf" training | General |
| 2019 | Completed a Title IX training administered by Catharsis for WKU | General |
| 2017 | Attended a seminar on diversity and inclusion organized by Dean of Ogden College titled: "Making Excellence Inclusive" and presented by Dr. Alma Clayton-Peterson | General |
| 2013 | Attended a special meeting hosted by the head of the biology department for Pre-Tenure Faculty | General |
| 2013 | Attended a workshop titled: How to get promotion and tenure in Ogden college at WKU. Hosted by the Ogden College Dean | General |
| 2012-2013 | As part of an MBA degree from University of Louisville, I took for credit several courses in leadership, organizational behavior, business intelligence, managerial decision making, and managing in the future. All of these courses have relevance in helping me manage people, and resources at WKU in my role as an Assistant Professor. | General Management |
| 2010- | Attended the Annual WKU President's Convocation | General |
| 2010- | Attended the Annual Fall Ogden College Opening by the Dean | General |

COMMUNITY OUTREACH

- Interviewed by WNKY TV News, Bowling Green, KY to talk about the Molecular Biotechnology Major within the Biology Department.
- Interviewed by Bowling Green Daily News about the Indian festival of colors, Holi.

- Invited by Briarwood Elementary School to talk to their 4th grade students about cells.
- Gave a talk on Drosophila genetics and demonstrated Drosophila wild type and mutant strains to students at Drakes Creek Middle School, Bowling Green, KY.
- Was interviewed by Bowling Green Daily News to offer my perspective on the controversy involving a Hindu celebration, Governor Beshear's position and the position of State Senator Williams.

PROFESSIONAL AFFILIATIONS

| | |
|-----------|---|
| 2018- | Member , American Society for Biochemistry and Molecular Biology |
| 2014-2015 | Member , Society for Experimental Biology and Medicine |
| 2012- | Member , Society for Developmental Biology |
| 2010- | Member , Kentucky Academy of Science |
| 2002- | Member , Sigma Xi the scientific research society |
| 1998- | Member , Genetics Society of America |

MEDIA COVERAGE

| | |
|------|---|
| 2024 | https://www.wku.edu/news/articles/index.php?view=article&articleid=11637 |
| 2023 | https://www.wbko.com/2023/02/09/wku-awarded-460000-upgrade-research-equipment/ |
| 2019 | https://www.bgdailynews.com/news/new-high-tech-microscope-will-enhance-gatton-academy-wku-students/article_8c146434-eafa-5af9-b262-ff15183b1afb.html |
| 2018 | https://www.wnky.com/wwwwnkycomwku-to-add-molecular-biotechnology-major/ |
| 2013 | http://www.lanereport.com/25166/2013/10/wku-researchers-using-fruit-fly-to-study-growth-of-cancer-cells/ |