

Ajay Srivastava

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My Bibliography:

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

POSITIONS AND EMPLOYMENT

- 2016 -** *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
- 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.

AWARDS AND HONORS

| | |
|--------------------|--|
| 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 and general development in *Drosophila melanogaster*.

REFEREED PUBLICATIONS

*Denotes WKU Student Authors

§Denotes Corresponding Author

Publications From WKU

- 2015 12. Qian Dong*, Breanna Brenneman*, 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.

MANUSCRIPTS IN PREPARATION

*Denotes WKU Student Author

§Denotes Corresponding Author

- 1. Christopher Fields*, Qian Dong*, **Ajay Srivastava§**. Functional analysis of a putative basement membrane degrader in *Drosophila melanogaster*.
- 2. Jessica Ross and **Ajay Srivastava§**. Understanding the Sphingolipids and Cancer connection using *Drosophila*.

CONFERENCE PRESENTATIONS

*Denotes Student Author

Presenting Student Authors Are Underlined**From WKU**

- 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

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|-------------|---------------------------|---|
| 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

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|-------------|------------------------|---|
| 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

| Year | Description/Type | Internal/External | Amount | My Role |
|------------------|--|---|---------------|--------------------------------------|
| 2016 | Awarded a RCAPIS 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 |

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|------------------|---|---|-----------|--------------------------------------|
| 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 |
| 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 |

Declined Grants

| Year | Description/Type | Internal/External | Amount Requested | My Role |
|-------------|--|---|-------------------------|--------------------------------------|
| 2016 | Submitted a FUSE Grant with my Gatton Academy student Joy Fan | Internal , sponsored by WKU office of sponsored programs | ~\$5000 | 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 |
| 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 |

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|-------------|--|---|-----------|-------------------------------|
| 2015 | Submitted a RCAP1S 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 RCAP1I 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 RCAP1 Grant for identification of Basement Membrane associated proteins. | Internal , sponsored by WKU office of research | \$19,696 | Role – Principal Investigator |
| 2012 | Submitted a RCAP1I 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 RCAP1I 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 |
|-------------|---|---|-------------------------|-------------------------|
| 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 |

STUDENT SUPERVISION AND TRAINEES

JUMP – Joint Undergraduate Masters Program

Masters Students at WKU (Total=8)

| Student's Name | Year | Status | My Role | Current Occupation |
|-----------------------|-------------|---------------|------------------------|--|
| Aref Ranjbar | 2016-2019 | Current | Primary Thesis Advisor | JUMP Student at WKU |
| Sayo Aromiwura | 2016-2018 | Current | Primary Thesis Advisor | JUMP Student at WKU |
| Nathan Powers | 2016-2018 | Current | Primary Thesis Advisor | JUMP Student at WKU |
| Dane Flinchum | 2015-2017 | Current | Primary Thesis Advisor | Graduate Student at WKU |
| Mayank Kapadia | 2014-2016 | Completed | Primary Thesis Advisor | Graduate Student at WKU |
| Christopher Fields | 2014-2016 | Completed | Primary Thesis Advisor | Ph.D. Student at University of Florida |
| Qian Dong | 2013-2015 | Completed | Primary Thesis Advisor | Research Associate at a Biotechnology Company in China |
| Gillian Jones | 2011-2013 | Completed | Primary Thesis Advisor | Research Technician at Virginia Technological University |

Other Masters Students at WKU (Total=3)

| Student's Name | Year | Status | Primary Advisor | My Role |
|-----------------------|-------------|---------------|------------------------|--------------------------|
| Robyn Wilson | 2016 | Completed | Dr. Sigrid Jacobshagen | Member, Thesis Committee |
| 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=6)

| Student's Name | Year | Status | My Role | Current Occupation |
|-----------------------|-------------|------------------|------------------------|--|
| Enes Atici | 2016-2018 | Current | Primary Thesis Advisor | Honors Student at WKU |
| Sayo Aromiwura | 2015-2016 | Switched to JUMP | Primary Thesis Advisor | JUMP Student at WKU |
| 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 | MS Student and Graduate Research Fellow at WKU |
| Jordan Olberding | 2011-2013 | Completed | Primary Thesis Advisor | Ph.D. Student at Yale University |

NSF-REU Students at WKU (Total=3)

| Student's Name | Year | Current Occupation | Comments |
|-----------------------|-------------|--|--|
| Breanna Brenneman | 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=3)

| Student's Name | Year | Current Occupation | Comments |
|-----------------------|-------------|--|---|
| Joy Fan | 2015 | Undergraduate Student at MIT | BSURE, Gatton Research Internship Grant Recipient |
| Ananya Sharma | 2014 | Undergraduate 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=33)

| Student's Name | Year | Type | Current Occupation | Comments |
|----------------------|-----------|--------------------|--|---|
| Sarah Ames | 2016 | Volunteer | Undergraduate Student at WKU | |
| Aref Ranjbar | 2016 | Volunteer | Undergraduate Student at WKU | |
| Morgan Cash | 2015-2016 | BIOL399 | Undergraduate Student at WKU | |
| Mackenzie Armstrong | 2016 | BIOL399 | Undergraduate Student at WKU | |
| Joy Fan | 2015 | BIOL399 | Undergraduate Student at MIT | BSURE Recipient, Ex Gattton Academy Student |
| Nathan Powers | 2015 | BIOL399 | JUMP Student at WKU | FUSE, BSURE Recipient, 2016 Outstanding Biotechnology Student 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 Gattton Academy Student |
| Paige Kington | 2014 | BIOL399 | Undergraduate Student | Ex Gattton Academy Student |
| Noah Maikranz | 2014 | BIOL399 | Undergraduate Student | Ex Gattton 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 Gattton Academy Student |
| Bradley Blankenship | 2013 | BIOL399 | MD Student at University of Kentucky | |
| Kelsey Kaetzel | 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 Gattton Academy Student |
| Linda Cruz | 2012 | BIOL399 | Undergraduate Student at WKU | Ex Gattton Academy Student |
| Cecily Allen | 2012 | BIOL399 | Not Known | Ex Gattton Academy Student |
| Samantha Hawtrey | 2011-2012 | BIOL399 | MD Student at University of Louisville | Ex Gattton 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 BIOL399 | Ph.D. Student at Yale University | |
| Sean Shannon | 2010-2011 | BIOL399 | MD Student at University of Louisville | |

Completed Theses at WKU

| Student's Name | Year | Type | Title of Thesis | Comments |
|--------------------|------|--------|--|--|
| Mayank Kapadia | 2016 | MS | Identification of Collagen IV Associated Proteins in <i>Drosophila</i> using Genetics and Mass Spectrometry | |
| Christopher Fields | 2016 | MS | Functional and Expression Analysis of a Novel Basement Membrane Degradator 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> . | |
| 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 |
| 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 |

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 |
| BIOL120 (O) | Introduction to Cell Biology, Metabolism and Genetics, 3 credit hours | W15,SU15 |
| BIOL327 | Genetics and associated labs, 4 credit hours | F10,SP11,SP12,SP13,SP14 |
| BIOL327 | Genetics, 3 credit hours | SP15, F15 |
| BIOL327 (H) | Genetics Honors, 3 credit hours | SP15 |
| BIOL337 | Genetics labs, 1 credit hours | SP15, F15 |
| BIOL411 | Cell Biology, 3 credit hours | SP16 |
| BIOL411 (H) | Cell Biology, 3 credit hours | SP16 |
| BIOL411 (G) | Cell Biology, 3 credit hours | SP16 |
| BIOL440 | Developmental Genetics, 3 credit hours | F11 |
| BIOL475 | Techniques in Developmental Biology, 3 credit hours | F13 |
| BIOL675 | <i>Drosophila</i> Genetics and Cancer | F11,F14 |
| BIOL675 | Selected Topics in Development | SP12,SP14 |
| BIOL675 | Advanced Topics in Development | SP15 |
| BIOL675 | Advanced Topics in ECM Biology | SP16 |

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*

| | |
|------------------|---|
| 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

| | |
|------------------|---|
| 2015- | NIH Early Career Grant Reviewer Program |
| 2015-2018 | 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 |

Grant Reviewer, Internal

| | |
|------------------|-----------------|
| 2014-2016 | WKU FUSE Grants |
|------------------|-----------------|

Judge

| | |
|-------------|--|
| 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

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

| | |
|------------------|--|
| 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 |

Departmental Service

| | |
|------------------|--|
| 2016 | Member , Biotechnology Major Program Revision Committee |
| 2016- | Member , Graduate Curriculum Committee |
| 2014-2015 | Chair , Seminar Committee, WKU Biology Department |
| 2012- | Faculty Co-Advisor , Association of Undergraduate Geneticists |
| 2012- | Hosted one BASS session and attended several others |
| 2012- | Member , Departmental Safety Committee |
| 2011- | Attended ATP sessions |
| 2010- | 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 |
| 2010- | Wrote several reference letters for Undergraduate and Graduate students applying to Medical, Dental, Optometry and Ph.D. programs |

K-12 School Service

| | |
|-------------|--|
| 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

PROFESSIONAL DEVELOPMENT ACTIVITIES

| Year | Description of Activity | Type |
|-----------|--|---------------------------|
| 2015 | Attended a WKU RISE Brown Bag Lunch | Research Related |
| 2010-2015 | Attended Annual Meetings of the Kentucky Academy of Science | Research Related |
| 2012-2016 | Attended the Annual Drosophila Research Conference held in Chicago, IL; San Diego, CA and Orlando, FL | 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 |
| 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 |
| 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 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

| | |
|------------------|--|
| 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

| | |
|-------------|---|
| 2013 | http://www.lanereport.com/25166/2013/10/wku-researchers-using-fruit-fly-to-study-growth-of-cancer-cells/ |
|-------------|---|