Joshua L Hood, MD, PhD
School of Medicine CV
Associate Professor
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Degrees

2006	M.D., Medicine, University of Kentucky, Kentucky, United States
2004	Ph.D., Microbiology, University of Kentucky, Kentucky, United States
1999	B.S., Biochemistry/Molecular Biology, Centre College, Kentucky, United States B.S., Chemistry, Centre College, Kentucky, United States

Post-Graduate Training

Residency, Barnes-Jewish Hospital, Washington University School of Medicine, Clinical Pathology (Laboratory Medicine), Clinical Chemistry, Saint Louis, Missouri, United States, July 2006, June 2009

Post-Doctorate, Consortium for Translational Research in Advanced Imaging and Nanomedicine (C-TRAIN), Washington University in St. Louis, Nanomedicine, Saint Louis, Missouri, United States, July 2007, June 2009

Institutional Appointments

Assistant Professor , January 2015, December 2021

Associate Professor (Tenured), January 2022

Rank and Promotion History

Assistant Professor, University of Louisville, Louisville, 2015-01-01

Associate Professor, Unversity of Louisville, Louisville, 2022-01-01

Work Experience

2022 - Ongoing

Associate Professor (Tenured) of Pharmacology and Toxicology, University of Louisville, Louisville, Kentucky, United States

2019 - Ongoing

Scientist, University of Louisville Hepatobiology and Toxicology COBRE, Louisville, Kentucky, United States

2018 - Ongoing

Member, Brown Cancer Center, Experimental Therapeutics Program, University of Louisville School of Medicine, Louisville, Kentucky, United States

2015 - 2021

Assistant Professor of Pharmacology and Toxicology, University of Louisville School of Medicine, Louisville, Kentucky, United States

2015 - Ongoing

Member, Associate Scientist, Brown Cancer Center, University of Louisville School of Medicine, Louisville, Kentucky, United States

Graduate Faculty, University of Louisville School of Medicine, Louisville, Kentucky, United States

2014 - 2014

Assistant Professor of Medicine, Washington University in Saint Louis, Saint Louis, Missouri, United States

2011 - 2014

Associate Member, Siteman Cancer Center, Barnes-Jewish Hospital, Washington University in St. Louis, MO, Saint Louis, Missouri, United States

C-TRAIN Exosome Biocore Director, Consortium for Translational Research in Advanced Imaging and Nanomedicine (C-TRAIN), Department of Medicine, Washington University in St. Louis, Saint Louis, Missouri, United States

2009 - 2014

Instructor in Medicine, Washington University in Saint Louis, Saint Louis, Missouri, United States

2007 - 2009

Post-Doc in Nanomedicine, Consortium for Translational Research in Advanced Imaging and Nanomedicine (C-TRAIN), Washington University in Saint Louis, Saint Louis, Missouri, United States

2006 - 2009

Resident in Clinical Pathology (Laboratory Medicine), Barnes-Jewish Hospital, Washington University in St. Louis, Saint Louis, Missouri, United States

Professional Licensures

Medical, Missouri, United States, Active, 2009

Medical, Kentucky, United States, Active, 2015

Membership in Professional Organizations

College of American Pathologist (CAP), 2006

Academy of Clinical Laboratory Physician and Scientist (ACLPS), 2008

American Society of Clinical Pathology (ASCP), 2010

American Association for Cancer Research (AACR), 2015

Founding Member of the International Society for Extracellular Vesicles (ISEV), 2011

American Society for Exosomes & Microvesicles (ASEMV), 2012

Senior Member of the International Society for Extracellular Vesicles (ISEV), 2019

Southeastern Allergy Asthma & Immunology Society (SEAAI), 2019

The Nanomed Zone, 2020

American Society for Pharmacology and Experimental Therapeutics (ASPET), 2021

Honors and Awards

Summer 2008

Paul E. Strandjord Young Investigator Award for laboratory medicine research, 2008, Academy of Clinical Laboratory Physicians and Scientists (ACLPS), 43rd annual meeting, June 5-8, Philadelphia, PA

Summer 2009

Paul E. Strandjord Young Investigator Award for laboratory medicine research, 2009, Academy of Clinical Laboratory Physicians and Scientists (ACLPS), 44th annual meeting, June 4-6, Redondo Beach, CA

Summer 2011

Cover Feature Article "Exosomes released by melanoma cells prepare sentinel lymph nodes for tumor metastasis,", 2011, Cancer Research, June 1, 2011 issue

Spring 2012

Keynote speaker for the Eleventh Annual Mini-symposium on Melanoma, “Exosomes and Melanoma” , 2012, Pennsylvania State College of Medicine, Penn State Milton S. Hershey Medical Center, May 21, 2012

Spring 2013

Highlighted by TheScientist magazine for inventing Bee Venom-derived melittin nanocarriers to treat HIV, 2013, TheScientist March 12, 2013 , https://www.the-scientist.com/the-nutshell/bee-venom-for-hiv-prevention-39637

Summer 2015

Won internal competition to submit a Beckman Young Investigator Grant application, 2015, University of Louisville School of Medicine

Fall 2015

Won internal competition to submit a Searle Scholars Program Grant application, 2015, University of Louisville School of Medicine

Won internal competition to submit a PEW Scholars Program in the Biomedical Sciences Grant application, 2015, University of Louisville School of Medicine

Norbert J. Burzynski Award, 2nd place, Professional Student Category, "Development of Immunomodulatory Exosomal Nanocarriers to Treat Melanoma," Thomas Noel MS (1st year medical student, mentor Joshua L. Hood), 2015, Research!Louisville, October 30, 2015, Louisville, KY

Fall 2016

NCI Cancer Education Program, Norbert J. Burzynski Award, 1st place (tie), Undergraduate Student Category, "Paracrine induction of macrophages by melanoma exosomes," Mary Ann Smith (4th year pre- med student, Mississippi State University, mentor: Joshua L. Hood), 2016, Research!Louisville, October 14, 2016, Louisville, KY

Invited speaker, 2016, American Society of Exosomes and Microvesicles Conference (ASEMV)

Spring 2016

Interviewed by TheScientist magazine for significant contributions to exosome research, 2016, Offord, Catherine. "Cancer's Vanguard: Exosomes are emerging as key players in metastasis." TheScientist 30(4):58-60, April 2016

Invited by world renowned extracellular vesicle expert Richard J. Simpson Ph.D. (La Trobe University), to prepare an exosome manuscript for a special issue on extracellular vesicles, 2016, Seminars in Cell & Developmental Biology

Summer 2019

Our Distinction in Research track medical student, Jeremy B. Jones, received a competitive travel award to present his research findings at the First joint meeting of the International society for extracellular vesicles and the metastasis research society (ISEV-MRS), 2019, ISEV-MRS, Vanderbilt University, Nashville TN, August 4th, 2019

Invited speaker, 2019, First joint conference between the international society for extracellular vesicles and the metastasis research society (ISEV-MRS), August 4th, Vanderbilt University, Nashville TN

Fall 2017

Invited speaker, 2017, American Society of Exosomes and Microvesicles Conference (ASEMV)

Fall 2018

Invited speaker, 2018, American Society of Exosomes and Microvesicles Conference (ASEMV)

Fall 2019

Invited speaker, 2019, American Society of Exosomes and Microvesicles Conference (ASEMV)

Spring 2018

Exclusive invitation to write a follow-up peer reviewed perspective concerning isolation of exosomes for nanomedicine applications , 2018, Nanomedicine (London)

Exclusive invitation to submit a peer reviewed manuscript to the International Journal of Molecular Sciences Special Issue "Focus on Exosome-Based Cell-Cell Communication in Health and Disease", 2018, International Journal of Molecular Sciences

Spring 2019

Exclusive invitation to submit a peer reviewed melanoma-derived extracellular vesicle review to Seminars in Cancer Biology Special Issue "New Insights in Melanoma Biology", 2019, Seminars in Cancer Biology

Spring 2017

Pre-proposal selected to submit an application to the Jewish Heritage Fund for Excellence, 2017, Jewish Heritage Fund for Excellence

Selected through an internal competition to submit an application to the JGBCC molecular therapeutics CoBRE program cycle V, 2017, University of Louisville School of Medicine, James Graham Brown Cancer Center

Spring 2014

"The Top 10 Most Downloaded Clinical Case Studies1" Our article (Hood JL, Eby CS. Evaluation of a prolonged prothrombin time. Clin Chem 2008;54(4):765-8) was the number 1 downloaded clinical case study for the Journal Clinical Chemistry., 2014, Clinical Chemistry, 60(1), 276–276.

Fall 2021

Accepted into the NASA STAR (Spaceflight Technology, Applications and Research) program., 2021, NASA Space Biosciences Division, The applicant pool for 2021 was highly competitive, with over 100 applicants from 19 countries.

Research Elevator Pitch Award, 1st place, Undergraduate Student Category, "Development of a 3D HepG2 suspension culture system to enable reducible investigations into 2D vs. 3D HepG2 culture-derived sEV biophysical properties and cancer pathway-related miRNA content," Luke Schroeder (senior, UofL premed, mentor Joshua L. Hood), 2021, Research!Louisville, October 29, 2021, Louisville, KY

NCI Cancer Education Program, Norbert J. Burzynski Award, 3rd place, Undergraduate Student Category, "Development of a 3D HepG2 suspension culture system to enable reducible investigations into 2D vs. 3D HepG2 culture-derived sEV biophysical properties and cancer pathway-related miRNA content," Luke A. Schroeder (4th year pre-med student, University of Louisville, mentor: Joshua L. Hood), 2021, Research!Louisville, October 29, 2021, Louisville, KY

Spring 2022

Certificate of Completion, STAR: Spaceflight Technology, Applications and Research Course, NASA Science Mission Directorate, Biological and Physical Sciences Division, 2022, NASA Space Biosciences Division, The applicant pool for 2021 was highly competitive, with over 100 applicants from 19 countries.

Institutional Committees

College/School

Spring 2018 - Fall 2018

Medicine - Performance Criteria and Policy Committee (PCP), (School of Medicine)

Spring 2015 - Fall 2017

Rules Policies and Credentials Committee, (School of Medicine)

Department

Spring 2016 - Ongoing

Brown Cancer Center, Clinical & Scientific Review Committee (CSRC), (James Graham Brown Cancer Center)

Spring 2015 - Ongoing

Department of Pharmacology and Toxicology Teaching Evaluation Committee, (Pharmacology and Toxicology)

Other Institutional Service

Spring 2015 - Ongoing

Interviewed and provided written assessments for prospective graduate students, (Pharmacology and Toxicology)

Interviewed and provided written assessments for prospective M.D., Ph.D. student candidates, (School of Medicine)

Service: Extramural

Spring 2020 - Spring 2020

Pennsylvania Department of Health Formula Grants Final Performance Review 19-20 Cycle A,

Projects include clinical, biomedical, and health services research and are funded by the PA DOH Master Tobacco Settlement. I was selected by Oak Ridge Associated Universities (ORAU) to review projects in my area of expertise.

Spring 2020 - Ongoing

National Science Centre Poland; Panel: NZ7 (Diagnostic tools, therapies and public health),

Are exosomes capable of transferring the resistant phenotype from vemurafenib- or trametinib-resistant melanoma cells to their drug-naïve counterparts?

Fall 2012 - Ongoing

United States-Israel Binational Science Foundation

Fall 2016 - Ongoing

French National Cancer Institute

National Science Centre Poland

Fall 2018 - Ongoing

University of Cincinnati, Sponsored Research Services

Fall 2019 - Ongoing

German-Israeli DKFZ-MOST Cooperation in Cancer Research program

Canada Foundation for Innovation

Israel Science Foundation

Ohio Cancer Research

Fall 2019 - Fall 2019

Environmental Health Sciences Center for Urban Responses to Environmental Stressors (CURES) at Wayne State University

Spring 2019 - Ongoing

Member of the Editorial Academy of Molecular Medicine Reports

Summer 2011 - Ongoing

Ad Hoc Reviewer - Reviews listed in Publons (a service providing tracking and verification of peer reviews performed for academic journals) ,

Performed 53 reviews for journals placing in the 96th percentile for verified review contributions on Publons up until June 2020.

Fall 2021 - Fall 2021

Oak Ridge Associated Universities (ORAU) proposal reviews on behalf of the Florida Department of Health (FLDOH) ,

Review biomedical research applications in response to the Bankhead-Coley Cancer Research Program, the James and Esther King Biomedical Research Program, and the Live Like Bella Pediatric Cancer Research Initiative which are funded by Florida tax revenues and from the Lawton Chiles Endowment Fund.

Fall 2021 - Spring 2022

The Freiburg Institute for Advanced Studies (FRIAS), University of Freiburg, Germany,

Review prestigious Marie Skłodowska Curie COFUND Fellowships (FCFP) for both Junior and Senior researchers

Clinical Activities

Fall 2019 - Fall 2020

Position Title: Student Case-Presentations Manager, Name of Clinical Facility: School of Dentistry, Description: Manages, schedules for review, and catalogues student clinical case-presentations for the BMSC-807-05 Pharmacology and Dental Therapeutics Course

Fall 2021 - Ongoing

Position Title: Student Case-Presentations Director, Name of Clinical Facility: School of Dentistry, Description: Directs, reviews, grades, manages, schedules and catalogues student clinical case-presentations for the BMSC-807-05 Pharmacology and Dental Therapeutics Course. The goal of the activity is for students to practice presentation skills, learn to address the potential for adverse drug:drug interactions, and conceive of means for how such interactions might be avoided through coordinated team-based communication and treatment plans developed with primary care providers.

Teaching

Spring 2023

Semester	Course Prefix	Course Number	Section	Course Title
Spring 2023	BMSC	807	02	PHARM DTL THER

Fall 2022

Semester	Course Prefix	Course Number	Section	Course Title
Fall 2022	BMSC	807	05	PHARM DTL THER

Spring 2022

Semester	Course Prefix	Course Number	Section	Course Title
Spring 2022	BMSC	807	02	PHARM DTL THER

Fall 2021

Semester	Course Prefix	Course Number	Section	Course Title
Fall 2021	BMSC	807	05	PHARM DTL THER

Spring 2021

Semester	Course Prefix	Course Number	Section	Course Title
Spring 2021	PHTX	816	02	SPEC PROJ/PHARMACOLOGY

Fall 2020

Semester	Course Prefix	Course Number	Section	Course Title
Fall 2020	BMSC	807	05	PHARM DTL THER
Fall 2020	IDEP	923	03	DISTINCTION IN RESEARCH

Fall 2019

Semester	Course Prefix	Course Number	Section	Course Title
Fall 2019	BMSC	807	05	PHARM DTL THER

Teaching:

Fall 2019 - Ongoing

Title: Dental Hygiene (DHED 402, 3 credit hours): Developed and provided lectures for the fall semester: “Drugs for Respiratory Disorders” and “Drugs for Allergic Rhinitis”, Institution or Organization: University of Louisville, Location Instruction Delivered: School of Dentistry,
Description:

This is a 3 credit hour course in the School of Dentistry. The course is directed by Kyung U. Hong, Ph.D. Additional teaching faculty develop and provide lectures.

Fall 2017 - Ongoing

Title: D3 Pharmacology and Dental Therapeutics (BMSC 806-05, 4 credit hours): Served as course co-Director, developed and provided lectures for the fall semester: “Non-Opioid Analgesics and Antagonists,” “Antianemic and Hematopoietic Stimulating Drugs,” “Drugs Acting on the Respiratory System,” and Student Clinical Case Evaluation , Institution or Organization: University of Louisville, Location Instruction Delivered: School of Dentistry,
Description:

This is a 4 credit hour course in the School of Dentistry. Joshua L. Hood M.D., Ph.D. serves as the co-Director since 2019. Additional teaching faculty develop and provide lectures.

Summer 2016 - Summer 2016

Title: Instructor for PHTX 643 Toxicology I course (3 credit hours): Taught “Toxic Responses of the Endocrine System”, Institution or Organization: University of Louisville, Location Instruction Delivered: Department of Pharmacology and Toxicology,
Description:

This is a 3 credit hour course developed around didactic teaching sessions and facilitation of student self-learning and presentation skills.

Spring 2021 - Ongoing

Title: Instructor for PHTX 644 Toxicology II course (3 credit hours): Developed and taught a module titled: “Natural and Therapeutic Exosome Involvement in Toxicity”, Institution or Organization: University of Louisville, Location Instruction Delivered: Department of Pharmacology and Toxicology,
Description:

The teaching module includes a lecture, lecture quiz preparation and administration, review and editing of student presentations, evaluation of student presentations, (~ 5 contact hours)

Title: PHTX 816-02: SPEC PROJ/PHARMACOLOGY (1-16 unit course): Provides advanced research training for profession students including medical students on the Distinction in Research Track, Institution or Organization: University of Louisville, Location Instruction Delivered: Department of Pharmacology and Toxicology,
Description:

Description provided by the UofL academic catalog: "This course is to be arranged to fit individual needs to cover topics of current interest, to participate in research project or to receive some advance training." This is a 1-16 unit course centering around professional student (medical etc.) research training, didactic teaching sessions and facilitation of student self-learning, research manuscript preparation and presentation skills.

Spring 2017 - Ongoing

Title: Instructor, Distinction in Research Course (IDEP 923), Institution or Organization: University of Louisville,
Description:

Served as the mentor for a medical student on the Distinction in Research Track.

Fall 2021 - Ongoing

Title: Instructor for 2nd year medical school curriculum course titled: "Human Systems in Health and Disease." Developed a teaching module titled: Pharmacology of the Male Reproductive System", Institution or Organization: University of Louisville , Location Instruction Delivered: School of Medicine,
Description:

Developed and provided a teaching module for medical students on the pharmacology of the male reproductive system. Teaching materials included a content outline, interactive SoftChalk lecture including quizzes and board type questions, practice questions, and exam questions with explanations.

Title: Instructor for 2nd year medical school curriculum course titled: "Human Systems in Health and Disease." Developed a teaching module titled: Urinary Incontinence and Bladder Pharmacology, Institution or Organization: University of Louisville , Location Instruction Delivered: School of Medicine,
Description:

Developed and provided a teaching module for medical students on urinary incontinence and bladder pharmacology. Teaching materials included a content outline, interactive SoftChalk lecture including quizzes and board type questions, practice questions, exam questions with explanations and in person question and answer session questions.

Spring 2022 - Ongoing

Title: D1 Pharmacology and Dental Therapeutics (BMSC 806-02, 4 credit hours): Served as course co-Director, developed and provided lectures for the fall semester: “Non-Opioid Analgesics and Antagonists,” “Antianemic and Hematopoietic Stimulating Drugs,” “Drugs Acting on the Respiratory System,” and Student Clinical Case Evaluation , Institution or Organization: University of Louisville, Location Instruction Delivered: School of Dentistry,
Description:

This is a 4 credit hour course in the School of Dentistry. Joshua L. Hood M.D., Ph.D. serves as the Director since 2022. Additional teaching faculty develop and provide lectures.

Spring 2023 - Ongoing

Title: M1 Medical Student Problem Based Learning, Institution or Organization: University of Louisville, Location Instruction Delivered: UofL Medical School,
Description:

Meet with M1 medical students and facilitate independent problem based learning concerned with clinical case assessment and management.

Mentoring and Structured Student/Clinical Trainee Learning

Fall 2011 - Spring 2014

Andrew P. Jallouk, MSTP graduate student in Molecular Cellular Biology, Division of Biology and Biomedical Sciences, Consortium for Translational Research in Advanced Imaging and Nanomedicine, Washington University in St. Louis

Fall 2012 - Spring 2013

Kyle L. Davis, Graduate Student, Department of Biomedical Engineering, Consortium for Translational Research in Advanced Imaging and Nanomedicine, Washington University in St. Louis

Fall 2013 - Spring 2014

Calvin Stephens, Molecular Genetics and Genomics Graduate Student, Consortium for Translational Research in Advanced Imaging and Nanomedicine, Washington University in St. Louis

Summer 2014 - Summer 2014

Griffin Plattner, Senior Summer Undergraduate Student, Chemical Engineering, University of Florida, FL at Consortium for Translational Research in Advanced Imaging and Nanomedicine, Washington University in St. Louis

Summer 2015 - Summer 2015

Thomas Noel M.S. Chemical Engineering, MS2 Medical Student, University of Louisville School of Medicine, NCI R25 Cancer Education Program, Department of Pharmacology and Toxicology

Summer 2016 - Summer 2016

Mary Ann Smith, 4th year undergraduate pre-med student, Mississippi State University, NCI R25 Cancer Education Program, Department of Pharmacology and Toxicology

Fall 2016 - Spring 2020

Farhad Shari, Ph.D. Graduate Student, Department of Mechanical Engineering, University of Utah

Summer 2017 - Summer 2017

William S. Berry, Undergraduate, College of Engineering, University of Kentucky, NCI R25 Cancer Education Program, University of Louisville, Department of Pharmacology and Toxicology

Fall 2017 - Fall 2017

Cody W. Estes, Major undergraduate thesis advisor for Cody W. Estes, Chemistry Major, University of Louisville

Fall 2017 - Spring 2021

Jeremy Jones, Medical Student Distinction in Research Track, J.L.Hood Laboratory, Department of Pharmacology and Toxicology

Summer 2018 - Summer 2019

Jeremy B. Jones, Medical Student, University of Louisville School of Medicine, NCI R25 Cancer Education Program, Department of Pharmacology and Toxicology

Fall 2013 - Spring 2018

Kevin E. Petersen, Ph.D. Graduate student, Department of Mechanical Engineering, University of Utah

Summer 2019 - Summer 2019

Mackenzie Joye Burroughs, Undergraduate, Oklahoma State University, NCI R25 Cancer Education Program, Department of Pharmacology and Toxicology

Fall 2015 - Spring 2017

Sanet Steyn, M.D., Ph.D. Student, Palmer Laboratory, Department of Pharmacology and Toxicology

Fall 2016 - Spring 2017

Marc Dwenger, M.S. Student, Keller Laboratory, Department of Pharmacology and Toxicology

Fall 2016 - Spring 2018

Julie Gosney, Ph.D. Student, Ceresa Laboratory, Department of Pharmacology and Toxicology

Fall 2016 - Fall 2020

Jian Jan, Ph.D. Student, Cave Laboratory, Department of Pharmacology and Toxicology

Fall 2017 - Ongoing

Ellen (Shuhan) Meng, Ph.D. Student, Li Laboratory, Department of Pharmacology and Toxicology

Fall 2018 - Spring 2021

Christine Kim, Ph.D. Student, Ceresa Laboratory, Department of Pharmacology and Toxicology

Fall 2018 - Ongoing

Hunter Miller, Ph.D. Student, Frieboes Laboratory, Department of Bioengineering

Fall 2018 - Spring 2019

Jamie Rush, M.S. Student, Ceresa Laboratory, Department of Pharmacology and Toxicology

Fall 2019 - Ongoing

Mengwei Jiang, Feng Laboratory, Division of Gastroenterology, Hepatology and Nutrition, Department of Medicine, Department of Pharmacology and Toxicology

Spring 2021 - Ongoing

Kennedy M. Walls, Ph.D. Student, Hein Laboratory, Department of Pharmacology and Toxicology

Tyler Gripshover, Ph.D. Student, Cave Laboratory, Department of Pharmacology and Toxicology

Dylan Goodin, Ph.D. Student, Friebos Laboratory, Department of Bioengineering

Sarah H. Shrader, Ph.D. Student, Song Laboratory, Department of Pharmacology and Toxicology

Summer 2021 - Ongoing

Luke Allen Schroeder, 1st year Medical Student, University of Louisville, Department of Pharmacology and Toxicology

Summer 2021 - Summer 2021

Luke Allen Schroeder, 4th year undergraduate Biology Major (pre-MD-PhD track), University of Louisville, R25 Cancer Education Program, Department of Pharmacology and Toxicology

Fall 2021 - Ongoing

Keri O. Harp, Ph.D. Student, Driss Laboratory, Department of Physiology, Morehouse School of Medicine, Role: External Advisor

Justin Thomas, Ph.D. Student, Driss Laboratory, Department of Physiology, Morehouse School of Medicine, Role: External Advisor

Summer 2022 - Summer 2022

Alexander M. Southern, 3rd year undergraduate Biochemistry Major, Indiana University Bloomington, R25 Cancer Education Program, Department of Pharmacology and Toxicology

Spring 2023 - Ongoing

Hannah Newberry, 1st year Medical Student, University of Louisville, Department of Pharmacology and Toxicology

Grants and Contracts

Completed

University of Louisville Hepatobiology and Toxicology COBRE, Funded by NIH National Institutes of Health (April 1, 2021 - March 31, 2022), awarded April 23, 2021 (**$221,963.60**), Completed, Spring 2021, CoPI Joshua Hood with PI Craig McClain

Pilot Project: Differential modulation of immune-relevant RNAs in hepatocellular carcinoma-derived small extracellular vesicles (Hepatobiology and Toxicology COBRE (PI McClain, Craig J.)), Funded by NIH NIGMS (February 1, 2020 - March 31, 2021), awarded February 1, 2020 (**$156,250.00**), Completed, Spring 2020, PI Joshua Hood

Tuning exosomes to activate anti-lung cancer macrophage, Funded by EUPF Elsa U Pardee Foundation (October 1, 2018 - September 30, 2021), awarded September 19, 2018 (**$185,241.00**), Completed, Fall 2018, PI Joshua Hood (100%)

Enhancing the Translational Potential of Adenoviral Oncolysis via Liposome Encapsulation, Funded by UofL EVPRI internal grant program (July 1, 2018 - June 30, 2019), awarded July 1, 2018 (**$9,000.00**), Completed, Summer 2018, PI Joshua Hood with CoInvestigator Jorge Gomez-Gutierrez

Pilot Project: Activating Macrophages with Melittin Loaded Exosomes to treat Melanoma, Funded by NIH NCI Molecular Targets Phase III COBRE, 5P30GM106396-05 (D. Miller) (July 1, 2017 - June 30, 2018), awarded September 15, 2017 (**$75,000.00**), Completed, Fall 2017, PI Joshua Hood

Activating Macrophages with Melittin Loaded Exosomes to treat Melanoma, Funded by NIH National Institutes of Health (July 1, 2017 - June 30, 2018), awarded September 15, 2017, Completed, Fall 2017, PI Joshua Hood with CoPI Wolfgang Zacharias, CoPI Donald Miller, CoPI John Trent, CoPI Jason Chesney

An instrument for label-free separation and purification of exosomes, Funded by NIH SBIR grant phase 1 (April 3, 2017 - September 30, 2017) (**$225,000.00**), Completed, Fall 2016, Multiple PI Joshua Hood with Multiple PI Bruce Gale, Multiple PI Kevin Petersen, Multiple PI Himanshu Sant

Continuous Exosome and Oncosome Separations Using a Modified SPLITT System, Funded by Espira Inc (September 27, 2016 - September 18, 2017), awarded October 12, 2016 (**$50,001.00**), Completed, Fall 2016, PI Joshua Hood (100%)

Melittin Modified Exosome Immunotherapy for Melanoma, Funded by University of Louisville Basic Grant Program (December 1, 2015 - November 30, 2016), awarded December 1, 2015 (**$21,500.00**), Completed, Winter 2015, PI Joshua Hood

Continuous Separation of Melanoma Exocomes Using Field-Flow Fractionation, Funded by University of Utah (January 1, 2015 - July 31, 2017), awarded June 16, 2015 (**$81,819.00**), Completed, Summer 2015, PI Joshua Hood (100%)

A Novel Vaccination Stratagem for Lung Cancer, Funded by NIH NCI (July 1, 2015 - June 30, 2017), awarded July 1, 2015 (**$195,750.00**), Completed, Summer 2015, Other Joshua Hood (consultant)

TRANSFER-Magnetic Resonance Imaging and Tracking of Melanoma Exosomes, Funded by EUPF Elsa U Pardee Foundation (January 1, 2015 - December 31, 2015), awarded March 24, 2015 (**$93,226.00**), Completed, Spring 2015, PI Joshua Hood (100%)

Continuous Separation of Melanoma Exosomes Using Field-Flow Fractionation, Funded by NIH NIGMS (August 1, 2013 - December 31, 2014), awarded August 1, 2013 (**$117,921.00**), Completed, Winter 2014, Multiple PI Joshua Hood with Multiple PI Bruce Gale, Multiple PI Samuel Wickline

Topical Fusogenic Nanosnares for HIV prophylaxis, Funded by Campbell HIV Foundation (January 1,

2013 - March 31, 2014), awarded January 1, 2013 (**$73,047.00**), Completed, Winter 2013, PI Joshua Hood

Inhibiting Sentinel Node Melanoma Niche Progression with Melittin Modified Exosomes, Funded by Saint Louis Institute of Nanomedicine Pilot Grant Program (December 1, 2010 - November 30, 2011), awarded December 1, 2010 (**$45,000.00**), Completed, Winter 2011, PI Joshua Hood

Induction of Angiogenic Nodal Turf by Melanoma Exosomes, Funded by Siteman Cancer Center Research Development Awards in Developmental Therapeutics (April 1, 2010 - March 31, 2011), awarded April 1, 2010 (**$20,000.00**), Completed, Spring 2011, PI Joshua Hood

The role of melanoma exosomes in angiogenesis, Funded by Elsa U. Pardee Foundation (July 1, 2009 - December 31, 2010), awarded July 1, 2009 (**$153,096.00**), Completed, Winter 2010, PI Joshua Hood

Funded - In Progress

University of Louisville Hepatobiology and Toxicology COBRE, Funded by NIH National Institutes of Health (April 1, 2023 - March 31, 2024), awarded June 27, 2022, Funded - In Progress, Summer 2022, CoPI Joshua Hood

University of Louisville Hepatobiology and Toxicology COBRE, Funded by NIH National Institutes of Health (April 1, 2022 - March 31, 2023), awarded June 27, 2022 (**$234,000.00**), Funded - In Progress, Summer 2022, CoPI Joshua Hood with PI Craig McClain

UofL Environmental Health Sciences Training Program, Funded by NIH NIEHS (July 1, 2021 - June 30, 2026) (**$2,575,255.00**), Funded - In Progress, Summer 2021, Multiple PI David Hein with Multiple PI John Wise, Other Joshua Hood (Mentor)

Project 2: Extracellular vesicle-based immunotherapy for hepatocellular carcinoma (Hepatobiology and Toxicology COBRE (PI McClain, Craig J.)), Funded by NIH NIGMS (April 1, 2021 - March 31, 2024) (**$655,900.00**), Funded - In Progress, Spring 2021, PI Joshua Hood (50%)

A Microfluidic Device to Fractionate Colloidal Suspensions of Nanoparticles and Nanovesicles, Funded by NSF - KY Multiscale Seed Program (April 1, 2021 - August 30, 2021) (**$1,000.00**), Funded - In Progress, Spring 2021, PI Joshua Hood with Multiple PI Julia Aebersold

Role of miR-1976 in malaria pathogenesis, Funded by NIH (January 1, 2021 - May 31, 2021)**$50,000.00**), Funded - In Progress, Spring 2021, Other Joshua Hood (Project Mentor) with PI Adel Driss

University of Louisville Cancer Education Program, Funded by NIH NCI-F (April 1, 2017 - March 31, 2022), awarded March 23, 2017 (**$1,593,000.00**), Funded - In Progress, Spring 2017, Other Joshua Hood (Mentor) with Multiple PI David Hein, Multiple PI LaCreis Kidd

Withdrawn

Development of exosomal nanocarriers to induce anti-melanoma macrophages in lymph node microenvironments, Funded by The Jewish Heritage Fund for Excellence (JHFE) (September 1, 2017 - August 31, 2019) (**$344,500.00**), Withdrawn, Fall 2017, PI Joshua Hood

Submitted - Not Funded

High-Throughout, Label-Free Sorting and Modification of Nanovesicles via 3D Printed Modular Microfluidic Platforms, Funded by NIH National Institutes of Health (May 15, 2019 - May 14, 2023) (**$1,104,671.00**), Submitted - Not Funded, Summer 2023, PI Joshua Hood (100%)

Development of Exosome-Based Melanoma Immunotherapy, Funded by Melanoma Research Alliance (June 1, 2021 - May 31, 2024) (**$348,001.00**), Submitted - Not Funded, Summer 2021, PI Joshua Hood (100%)

Assessing the therapeutic potential of melittinized nanoparticles against invasive candida species, Funded by NIH National Institutes of Health (September 1, 2020 - August 31, 2022) (**$429,175.00**), Submitted - Not Funded, Fall 2020, PI Joshua Hood (0%)

Development of "stealth" formulated oncolytic adenovirus to enable virotherapy in orthotopic lung cancer models., Funded by Lung Cancer Research Foundation (November 1, 2017 - October 31, 2019) (**$150,000.00**), Submitted - Not Funded, Fall 2020, PI Joshua Hood with CoInvestigator Jorge Gomez-Gutierrez

Activating anti-tumor macrophages with immunotherapeutic exosomes to treat melanoma, Funded by Cancer Research Institute (Clinic and Laboratory Integration Program) (July 1, 2021 - June 30, 2023) (**$200,000.00**), Submitted - Not Funded, Fall 2020, PI Joshua Hood

Continuous Exosome and Oncosome Separations Using a Modified SPLITT System, Funded by Espira Inc (September 18, 2018 - September 17, 2020) (**$976,674.00**), Submitted - Not Funded, Fall 2020, PI Joshua Hood (100%)

Enhancement of lung cancer oncolytic virotherapy via encapsulated fluvastatin-mediated autophagic cell death, Funded by Lung Cancer Research Foundation (November 1, 2018 - October 31, 2020) (**$150,000.00**), Submitted - Not Funded, Fall 2020, PI Joshua Hood with CoInvestigator Jorge Gomez-Gutierrez

Evaluating the potential of therapeutic nanoparticles developed to destroy lipid enveloped viruses to also inhibit

the growth of invasive candida species, Funded by Basic Grant Program, UofL SOM (October 1, 2020 - September 30, 2021) (**$25,000.00**), Submitted - Not Funded, Fall 2020, PI Joshua Hood with Multiple PI Joseph Kouokam

Neutrophil and endothelium education by melanoma extracellular vesicles, Funded by Melanoma Research Alliance (June 20, 2020 - May 31, 2023), Submitted - Not Funded, Summer 2020, PI Joshua Hood

Melittinized exosome-based macrophage immunotherapy for non-small cell lung cancer, Funded by KY Lung Cancer Research Program (June 1, 2018 - May 31, 2020) (**$150,000.00**), Submitted - Not Funded, Summer 2020, PI Joshua Hood with CoInvestigator Jorge Gomez-Gutierrez

Assessing the therapeutic potential of melittinized nanoparticles against invasive candida species, Funded by NIH NIAID (September 1, 2020 - August 31, 2022) (**$429,125.00**), Submitted - Not Funded, Spring 2020, PI Joshua Hood with Multiple PI Joseph Kouokam

Pioneering melittin adjuvant modified melanoma exosomes to induce anti-tumor macrophages: therapeutic strategy for melanoma, Funded by EUPF Elsa U Pardee Foundation (October 1, 2017 - September 30, 2019) (**$345,000.00**), Submitted - Not Funded, Fall 2019, PI Joshua Hood (100%)

Induction of anti-melanoma macrophages by melittin-modified melanoma exosomes, Funded by EUPF Elsa U Pardee Foundation (October 1, 2018 - September 30, 2019) (**$236,038.00**), Submitted - Not Funded, Fall 2019, PI Joshua Hood (100%)

Neutrophil and endothelium education by melanoma extracellular vesicles, Funded by Melanoma Research Alliance (June 1, 2020 - May 31, 2023) (**$900,000.00**), Submitted - Not Funded, Summer 2019, Multiple PI Joshua Hood with Multiple PI Patrizia Limonta, Multiple PI Andrea Maurichi

Role of miR-1976 in malaria pathogenesis, Funded by NIH (July 1, 2020 - June 30, 2021) **$50,000.00**), Submitted - Not Funded, Summer 2019, CoInvestigator Joshua Hood with PI Adel Driss

Pilot Project: Exosome-based immunotherapy for hepatocellular carcinoma (Hepatobiology and Toxicology COBRE (PI McClain, Craig J.)), Funded by NIH NIGMS (April 1, 2019 - March 31, 2021) (**$574,486.00**), Submitted - Not Funded, Spring 2019, PI Joshua Hood

Stealth encapsulation of an oncolytic adenovirus to enable virotherapy in orthotopic lung cancer, Funded by US Department of Defense DOD (May 1, 2018 - April 30, 2019) (**$154,000.00**), Submitted - Not Funded, Spring 2019, PI Joshua Hood with CoInvestigator Jorge Gomez-Gutierrez

High-Throughput, Label-Free Sorting and Modification of Nanovesicles via 3D Printed Modular Microfluidic Platforms, Funded by NIH NIGMS (May 15, 2019 - May 14, 2023) (**$2,742,047.00**), Submitted - Not Funded, Summer 2018, Multiple PI Joshua Hood with Multiple PI Roseanne Warren, Multiple PI Himanshu Sant, Multiple PI Ryan Sochol

Stealth encapsulation of an oncolytic adenovirus to enable orthotopic lung cancer virotheraphy, Funded by KY Lung Cancer Research Program (June 1, 2018 - May 31, 2020) (**$150,000.00**), Submitted - Not Funded, Summer 2018, Other Joshua Hood with PI Jorge Gomez-Gutierrez

Stealth encapsulation of an oncolytic adenovirus to enable orthotopic lung cancer virotherapy, Funded by Commonwealth of Kentucky Lung Cancer Research Program Cycle 17 (June 1, 2018 - May 31, 2020) (**$150,000.00**), Submitted - Not Funded, Summer 2018, Multiple PI Joshua Hood with PI Jorge Gomez-Gutierrez

Reproducible Isolation of Melanoma Oncosomes, Exosomes, and Exosome Subtypes, Funded by NIH National Institutes of Health (April 1, 2018 - March 31, 2023) (**$3,670,560.00**), Submitted - Not Funded, Spring 2018, PI Joshua Hood (100%)

Stealth encapsulation of an oncolytic adenovirus to enable virotherapy in orthotopic lung cancer, Funded by DOD Lung Cancer, Concept Award: W81XWH-17-LCRP-CA (May 1, 2018 - April 30, 2019) (**$154,000.00**), Submitted - Not Funded, Spring 2018, PI Joshua Hood with CoInvestigator Jorge Gomez-Gutierrez

Development of fluvastatin autophagy-enhanced oncolytic adenoviral nanomedicine for lung cancer, Funded by The Lexington Cancer Foundation, Inc. (January 1, 2018 - December 31, 2020) (**$284,780.00**), Submitted - Not Funded, Spring 2018, PI Joshua Hood with CoInvestigator Jorge Gomez-Gutierrez

Melanoma Exosomes to Promote Tumor Progression via Remodeling the Microenvironment, Funded by US Department of Defense DOD (October 1, 2017 - September 30, 2019) (**$752,910.00**), Submitted - Not Funded, Fall 2017, CoInvestigator Joshua Hood with PI Kelly McMasters, CoInvestigator Shesh Rai, CoInvestigator Hongying Hao, CoInvestigator Wolfgang Zacharias

An Instrument for Label-Free Separation and Purification of Exosomes, Funded by Espira Inc (July 1, 2017 - December 31, 2017) (**$50,000.00**), Submitted - Not Funded, Fall 2017, PI Joshua Hood (100%)

Continuous Separation and Collection of Exosomes, Funded by Espira Inc (July 1, 2017 - December 31, 2017) (**$50,000.00**), Submitted - Not Funded, Fall 2017, PI Joshua Hood (100%)

Evaluating the ability of melanoma-derived exosomes to induce pro-tumor macrophages, Funded by Basic

Grant Program, UofL SOM (August 1, 2017 - July 31, 2018) (**$25,000.00**), Submitted - Not Funded, Summer 2017, PI Joshua Hood

HIV-1 induces M2 macrophage exosomes that promote and increase HIV-1 infectivity of Th2 lymphocytes, Funded by NIH National Institutes of Health (July 1, 2017 - June 30, 2019) (**$423,500.00**), Submitted - Not Funded, Summer 2017, PI Joshua Hood with CoInvestigator Joseph Kouokam

Exosomal Nanocarrier Mediated Activation of Macrophages to Treat Melanoma, Funded by NIH National Institutes of Health (July 1, 2017 - June 30, 2019) (**$401,900.00**), Submitted - Not Funded, Summer 2017, PI Joshua Hood (100%)

Targeting phenotype switching via tumor-derived exosomes to inhibit melanoma progression, Funded by DOD: CA160529 (October 1, 2017 - September 30, 2019) (**$615,667.00**), Submitted - Not Funded, Summer 2017, CoInvestigator Joshua Hood with PI Kelly McMasters, CoInvestigator Hongying Hao

Melittinized exosome-based macrophage immunotherapy for non-small cell lung cancer, Funded by Commonwealth of Kentucky Lung Cancer Research Program Cycle 17 (June 1, 2018 - May 31, 2020) (**$150,000.00**), Submitted - Not Funded, Summer 2017, PI Joshua Hood with Multiple PI Jorge Gomez-Gutierrez

(PQ1) Exosome miRNA in remodeling tumor envrionment and promoting malignant progression, Funded by NIH National Institutes of Health (January 1, 2017 - December 31, 2021) (**$2,404,439.00**), Submitted - Not Funded, Spring 2017, CoInvestigator Joshua Hood with CoInvestigator Shesh Rai, CoInvestigator Hongying Hao, CoInvestigator Wolfgang Zacharias, PI Kelly McMasters

Exosomal Nanocarrier Mediated Activation of Macrophages to Treat Melanoma, Funded by NIH NCI (July 1, 2017 - June 30, 2019) (**$401,900.00**), Submitted - Not Funded, Fall 2016, PI Joshua Hood

Pioneering Immunotherapeutic Exosomal Nanocarriers to Treat Melanoma, Funded by NIH National Institutes of Health (September 30, 2016 - June 30, 2021) (**$2,298,835.00**), Submitted - Not Funded, Fall 2016, PI Joshua Hood with CoInvestigator Kavitha Yaddanapudi

Exosome miRNA in remodeling tumor environment and promoting malignant progression, Funded by NIH NCI (January 1, 2017 - December 31, 2021) (**$1,250,000.00**), Submitted - Not Funded, Summer 2016, CoInvestigator Joshua Hood with PI Kelly McMasters, CoInvestigator Hongying Hao

HIV-1 induces M2 macrophage exosomes that promote and increase HIV-1 infectivity of Th2 lymphocytes, Funded by NIH NIAID (July 1, 2017 - June 30, 2019) (**$423,500.00**), Submitted - Not Funded, Summer 2016, PI Joshua Hood with CoInvestigator Joseph Kouokam

Targeting phenotype switching via tumor-derived exosome to inhibit melanoma progression, Funded by DOD US Department of Defense (May 1, 2016 - April 30, 2018) (**$753,281.00**), Submitted - Not Funded, Summer 2016, Other Joshua Hood with Other Shesh Rai, Other Hongying Hao, PI Kelly McMasters

Polarizing Macrophages with Exosomal Nanocarriers to Treat Melanoma, Funded by NIH NCI (July 1, 2016 - June 30, 2018) (**$150,000.00**), Submitted - Not Funded, Spring 2016, PI Joshua Hood

Pioneering Immunotherapeutic Exosomal Nanocarriers to Treat Melanoma, Funded by NIH COMMON FUND (September 30, 2016 - June 30, 2021) (**$1,500,000.00**), Submitted - Not Funded, Fall 2015, PI Joshua Hood with CoInvestigator Kavitha Yaddanapudi

Targeting phenotype switching via tumor-derived exosome to inhibit melanoma progression, Funded by US Department of Defense DOD (May 1, 2016 - April 30, 2018) (**$615,667.00**), Submitted - Not Funded, Summer 2015, CoInvestigator Joshua Hood with CoInvestigator Shesh Rai, CoInvestigator Hongying Hao, PI Kelly McMasters

Antagonizing the Pre-Metastatic Niche with Melittin Modified Melanoma Exosomes, Funded by NIH National Institutes of Health (July 1, 2015 - June 30, 2017) (**$150,000.00**), Submitted - Not Funded, Summer 2015, PI Joshua Hood

Tracking Melanoma Exosomes in Vivo, Funded by NIH National Institutes of Health (July 1, 2015 - June 30, 2017) (**$412,500.00**), Submitted - Not Funded, Summer 2015, PI Joshua Hood (0%)

Antagonizing the Pre-Metastatic Niche with Melittin Modified Melanoma Exosomes, Funded by NIH NCI (July 1, 2015 - June 30, 2016), awarded July 1, 2015 (**$150,000.00**), Submitted - Not Funded, Spring 2015, PI Joshua Hood

Exosomal Adjuvant Nanocarriers to Treat Melanoma, Funded by Pew Biomedical Scholars Program (August 1, 2016 - July 31, 2020) (**$240,000.00**), Submitted - Not Funded, Spring 2015, PI Joshua Hood

Exosome Immunotherapy for Melanoma, Funded by Searle Scholars Program (July 1, 2016 - June 30, 2019) (**$300,000.00**), Submitted - Not Funded, Spring 2015, PI Joshua Hood

Tuning exosomes to modulate macrophage inflammation: A therapeutic strategy for melanoma, Funded by Beckman Young Investigators Program (September 1, 2016 - August 31, 2020) (**$750,000.00**), Submitted - Not Funded, Spring 2015, PI Joshua Hood

Tracking Melanoma Exosomes in vivo, Funded by NIH NCI (July 1, 2015 - June 30, 2017) (**$419,375.00**), Submitted - Not Funded, Fall 2014, PI Joshua Hood

Submitted for Review

R16: The role of small extracellular vesicles' miR-451a in immunity to malaria, Funded by NIH/Morehouse School of Medicine (July 1, 2023 - June 30, 2027) (**$710,000.00**), Submitted for Review, Fall 2022, CoInvestigator Joshua Hood (1%) with PI Adel Driss (50%), Other Jonathan Stiles (1%), Other Mohamed Mubasher (1%)

3D cultured hepatocellular carcinoma exosomes contain miRNA biomarkers relevant to developing macrophage immunotherapy, Funded by Cancer Research Institute (Clinic and Laboratory Integration Program) (July 1, 2023 - June 30, 2025) (**$200,000.00**), Submitted for Review, Fall 2022, PI Joshua Hood

N-acetyltransferase 1 promotes glioma-derived small extracellular vesicle induction of macrophage polarity, Funded by Brain Research Foundation (June 1, 2023 - May 31, 2025) (**$80,000.00**), Submitted for Review, Fall 2022, PI Joshua Hood with CoInvestigator David Hein

Automation and Development of Dynamic Configurable Liquid Molding Prototype, Funded by NSF 21-656 (Hummingbird Nano, LLC.) (April 1, 2022 - March 31, 2024) (**$1,000,000.00**), Submitted for Review, Fall 2021, Other Joshua Hood with PI Lyndon Stephens

Significant Technological and Commercial Additions to New Manufacturing Technology for Nanoscale Fluidics, Funded by KY SBIR/STTR Matching Funds Program Solicitation 2021-002 (January 1, 2022 - December 31, 2022) (**$100,000.00**), Submitted for Review, Fall 2021, CoInvestigator Joshua Hood with PI Scott Stephens

Small extracellular vesicle microRNAs and malaria pathogenesis, Funded by NIH (January 1, 2022 - December 31, 2025) (**$1,420,000.00**), Submitted for Review, Spring 2021, Other Joshua Hood (15%) with PI Adel Driss

Role of Arylamine N-Acetyltransferase I (NAT1) in Interplay Between Breast Cancer and Immune System, Funded by NIH, UofL Center for Cancer Immunology and Immunotherapy (CCII) (August 1, 2022), awarded August 2, 2021 (**$50,000.00**), Submitted for Review, Spring 2021, PI Kyung Hong with Other David Hein (collaborator), Other Joshua Hood (collaborator)

Scholarship and Creative Activities

Book Chapter

Completed/Published

Hood (corresponding author), J. L. Ch. 28 Electrolytes & Blood Gases. In *Tietz Textbook of Clinical Chemistry and Molecular Diagnostics 5th edition*; Scott, M. G., LeGrys, V. A., Eds.; W.B. Saunders, an imprint of Elsevier Inc.: St. Louis, MO, 63043, 2011.

Hood (corresponding author), J. L. Ch. 49 Physiology and Disorders of Water, Electrolyte, and Acid-Base Metabolism. In *Tietz Textbook of Clinical Chemistry and Molecular Diagnostics 5th edition*; Scott, M. G., Ed.; W.B. Saunders, an imprint of Elsevier Inc.: St. Louis, MO, 63043, 2011.

Conference Proceedings

Completed/Published

Sheneman (student presenter), K.; Hood, J. L.; Cummins, T. D.; Aebersold, J. W.; Merchant, M. L.; Uriarte, S. M.; Lawrenz, M. B. Yersinia Pestis Actively Influences Extracellular Vesicle Production by Human Neutrophils. In *2022 Research!Louisville Abstracts*; University of Louisville: Louisville, KY, 2022.

Southern (student presenter), A. M.; Schroeder, L. A.; Hood (corresponding author), J. L. Assessing Difference in the Production of TNF-α and IL-10 by THP-1 Monocytes Treated with Conditioned Media Derived from 2D and 3D HepG2 Cells Cultured in the Presence or Absence of Ethanol. In *2022 Research!Louisville Abstracts*; University of Louisville: Louisville, KY, 2022.

Hood (corresponding/presenting author), J. L.; Schroeder, L. A.; Bardi, G. T. A Reducible Comparison of 2D vs. 3D HepG2 Culture-Derived sEV Characteristics and Cancer Pathway-Related miRNA Content; Experimental Biology, 2022.

Bashi, A.; Thomas, J.; Harp, K.; Hood, J. L.; Stiles, J. K.; Driss, A. Heme-Induced Expression of IL-6R, TLR4 and NFκB in Human Brain Endothelial Cells (HBEC-5i) and Macrophages (THP-1) Is Modulated by miR-451a and Let-7i-5p-Loaded Extracellular Vesicles (EVs). In *American Society of Tropical Medicine & Hygiene*; Seattle, WA, 2022.

Schroeder (student presenter), L. A.; Hood (corresponding author), J. L.; Bardi, G. T. Development of a 3D HepG2 Suspension Culture System to Enable Reducible Investigations into 2D vs. 3D HepG2 Culture-Derived sEV Biophysical Properties and Cancer Pathway-Related miRNA Content. In *Posters-at-the-Capitol*; Office of Undergraduate Research and Creative Activity: Frankfort, KY, 2022.

Bashi, A.; Thomas, J.; Harp, K.; Hood, J. L.; Stiles, J. K.; Driss, A. Potential Application of miRNA-Loaded Liposomes as a Treatment for Inflammation. In *The Morehouse School of Medicine (MSM) Curtis L. Parker Student Research Symposium*; Morehouse School of Medicine: Atlanta, GA, 2022.

Thomas, J.; Bashi, A.; Harp, K.; Hood, J. L.; Stiles, J. K.; Driss, A. MiR-451a-Loaded Extracellular Vesicles Attenuate Heme-Induced Inflammation through TLR4 in iPSC-Derived Vascular Endothelial Cells. In *The Morehouse School of Medicine (MSM) Curtis L. Parker Student Research Symposium*; Morehouse School of Medicine: Atlanta, GA, 2022.

Bardi, G. T.; Burroughs, M. J.; Jones, J. B.; Aebersold, J. W.; Slusarczyk, A. S.; Driss, A.; Hood (corresponding author), J. L. Abstract 1326: Hepatocellular Carcinoma-Derived Exosomes Induce pro-Tumor Macrophages. In *HEPATOLOGY*; AASLD, 2021; Vol. 74, p 794A.

Schroeder (student presenter), L. A.; Bardi, G. T.; Hood (corresponding author), J. L. Development of a 3D HepG2 Suspension Culture System to Enable Reducible Investigations into 2D vs. 3D HepG2 Culture-Derived sEV Biophysical Properties and Cancer Pathway-Related miRNA Content. In *2021 Research!Louisville Abstracts*; University of Louisville: Louisville, KY, 2021.

Burroughs, M. J.; Bardi, G. T.; Hood (corresponding author), J. L. Liver Tumor-Derived Exosomes (small Extracellular Vesicles) Induce Macrophage Polarity. In *Extracellular Vesicle and Circulating Nucleic Acid (EVCNA) Journal*; American Society for Exosomes and Microvesicles, 2020.

Weaver, A. M.; McNamara, R. P.; Loh, Y. P.; Others; Hood, J. L.; Others. Meeting Abstracts of the American Society for Exosomes and Microvesicles 2020 Annual Meeting. In *Extracellular Vesicles and Circulating Nucleic Acids*; 2020; Vol. 1, pp 20–56.

Jones, J. B.; Bardi, G. T.; Hood (corresponding author), J. L. Changes in Macrophage Polarization, in Response to Formalin-Fixed And/or Electroporated Lung Cancer Exosomes, Depend on the Pre-Existing Macrophage Polarization State. In *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference*; American Society for Exosomes and Microvesicles: Baltimore Waterfront Marriott Conference Center, Baltimore, MD, 2018.

Petersen, K. E.; Bardi, G. T.; Sant, H.; Gale, B. K.; Hood (corresponding author), J. L. Cyclical Electrical Field-Flow Fractionation of Melanoma Exosomes. In *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference*; American Society for Exosomes and Microvesicles: Asilomar Conference Center, Pacific Beach, CA, 2017.

Hood (corresponding author), J. L.; Bardi, G. T.; Petersen, K. E.; Sant, H.; Gale, B. K. Cyclical Electrical Field-Flow Fractionation of Melanoma Exosomes: Enabling Unprecedented “Label-Free” Isolation of Exosome Subpopulations Based on Biophysical Properties. In *Research!Louisville*; University of Louisville: Louisville, KY, 2017.

Smith, M. A.; Bardi, G. T.; Hood (corresponding author), J. L. Abstract 046: Melanoma Exosomes Promote Mixed Macrophage Polarization. In *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference*; American Society for Exosomes and Microvesicles: Asilomar Conference Center, Pacific Beach, CA, 2016.

Gale, B.; Petersen, K.; Ornthai, M.; Hood (corresponding author), J. Exosome Separation Using Electrical Field Flow Fractionation and a New Continuous SPLITT/FFF Approach. In *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY*; AMER CHEMICAL SOC 1155 16TH ST, NW, WASHINGTON, DC 20036 USA, 2016; Vol. 251.

Petersen, K. E.; King, B.; White, T.; Shiri, F.; Hood, J. L.; Wickline, S. A.; Gale, B. K. Recent Advances In EL-SPLITT: A Flow Addition With Porous Electrode. In *Proceedings of 18th International Symposium on Field- and Flow-based Separation*; 2016; p P43.

Petersen, K. E.; Gale, B. K.; Hood, J. L.; King, B.; Shiri, F.; Wickline, S. A. Separation Of Exosomes With Electrical Field Flow Fractionation. In *Proceedings of 18th International Symposium on Field-and Flow-based Separation*; 2016; p O22.

Petersen, K. E.; Ornthai, M.; Hood, J. L.; Wickline, S. A.; Gale, B. K. Electrical Field Flow Fractionation of Exosomes. In *Proceedings of 17th International Symposium on Field-and Flow-based Separation*; 2014; p 78.

Petersen, K. E.; Manangon, E.; Hood, J. L.; Fernandez, D. P.; Johnson, W. P.; Gale, B. K. Separation of Melanoma Exosomes and Microparticles with As-FlFFF. In *Proceedings of 16th International Symposium on Field-and Flow-based Separation*; 2013; p 34.

Pan, H.; Ivashyna, O.; Hood, J. L.; Christenson, E.; Lanza, G. M.; Schlesinger, P. H.; Wickline, S. A. Structural Modifications to Convert Melittin from a Cytolytic Peptide to a Stable Cargo Linker. In *Biophysical Journal*; 2010; Vol. 98, p 276a – 277a.

Hood (corresponding author), J. L.; Pan, H.; Eby, C. S.; Wickline, S. A. Detection and Analysis of Nanoscale Tumor Membrane Biomarkers. In *AMERICAN JOURNAL OF CLINICAL PATHOLOGY*; AMER SOC CLINICAL PATHOLOGY 2100 W HARRISON ST, CHICAGO, IL 60612 USA, 2009; Vol. 132.

Hood (corresponding author), J. L.; Eby, C. S. A Novel Lipid Nanoparticle for Detecting the Procoagulant Nature of Anti-Beta (2)-Glycoprotein-1. In *AMERICAN JOURNAL OF CLINICAL PATHOLOGY*; AMER SOC CLINICAL PATHOLOGY 2100 W HARRISON ST, CHICAGO, IL 60612 USA, 2008; Vol. 130.

Journal Article

Completed/Published

Sriwastva, M. K.; Teng, Y.; Mu, J.; Xu, F.; Kumar, A.; Sundaram, K.; Malhotra, R. K.; Xu, Q.; Hood, J. L.; Zhang, L.; Yan, J.; Merchant, M. L.; Park, J. W.; Dryden, G. W.; Egilmez, N. K.; Zhang, H. G. An Extracellular Vesicular Mutant KRAS-Associated Protein Complex Promotes Lung Inflammation and Tumor Growth. *Journal of extracellular vesicles* **2023**, *12*, e12307.

Thomas, J. J.; Harp, K. O.; Bashi, A.; Hood, J. L.; Botchway, F.; Wilson, M. D.; Thompson, W.; Stiles, J. K.; Driss, A. MiR-451a and Let-7i-5p Loaded Extracellular Vesicles Attenuate Heme-Induced Inflammation in hiPSC-Derived Endothelial Cells. *Frontiers in Immunology* **2022**.

Shiri, F.; Feng, H.; Petersen, K. E.; Sant, H.; Bardi, G. T.; Schroeder, L. A.; Merchant, M. L.; Gale, B. K.; Hood (corresponding author), J. L. Separation of U87 Glioblastoma Cell-Derived Small and Medium Extracellular Vesicles Using Elasto-Inertial Flow Focusing (a Spiral Channel). *Scientific reports* **2022**, *12*, 6146.

Kumar, A.; Sundaram, K.; Teng, Y.; Mu, J.; Sriwastva, M. K.; Zhang, L.; Hood, J. L.; Yan, J.; Zhang, X.; Park, J. W.; Merchant, M. L.; Zhang, H. G. Ginger Nanoparticles Mediated Induction of Foxa2 Prevents High-Fat Diet-Induced Insulin Resistance. *Theranostics* **2022**, *12*, 1388–1403.

Thomas, J. J. J.; Harp, K. O.; Bashi, A.; Hood, J. L.; Botchway, F.; Wilson, M. D.; Thompson, W. E.; Stiles, J. K.; Driss, A. MiR-451a and Let-7i-5p Loaded Extracellular Vesicles Attenuate Heme-Induced Inflammation in hiPSC-Derived Endothelial Cells. *Frontiers in immunology* **2022**, *13*, 1082414.

Petersen, K.; Shiri, F.; Tasci, T. O.; Sant, H.; Hood, J.; Gale, B. Experiment, Theory, and Simulation of a Flow-Electrical-Split Flow Thin Particle Separation Device. *Journal of Chromatography A* **2021**, 462634.

Shiri, F.; Gale, B. K.; Sant, H.; King, B.; Bardi, G. T.; Hood (corresponding author), J. L.; Petersen, K. E. Development and Testing of a Continuous Flow-Electrical-Split-Flow Lateral Transport Thin Separation System (Fl-El-SPLITT). *Analytical chemistry* **2021**.

Harp, K. O.; Botchway, F.; Dei-Adomakoh, Y.; Wilson, M. D.; Hood, J. L.; Adjei, A.; Stiles, J. K.; Driss, A. Hemoglobin Genotypes Modulate Inflammatory Response to Malaria Infection. *Frontiers in Immunology* **2020**, *11*.

Shiri, F.; Gale, B. K.; Sant, H.; Bardi, G. T.; Hood (corresponding author), J. L.; Petersen (corresponding author), K. E. Characterization of Human Glioblastoma versus Normal Plasma-Derived Extracellular Vesicles Preisolated by Differential Centrifugation Using Cyclical Electrical Field-Flow Fractionation. *Analytical chemistry* **2020**, *92*, 9866–9876.

Hood (corresponding author), J. L. Natural Melanoma-Derived Extracellular Vesicles. *Seminars in cancer biology* **2019**, *59*, 251–265.

Bardi, G. T.; Al-Rayan, N.; Richie, J. L.; Yaddanapudi, K.; Hood (corresponding author), J. L. Detection of Inflammation-Related Melanoma Small Extracellular Vesicle (sEV) mRNA Content Using Primary Melanocyte sEVs as a Reference. *International journal of molecular sciences* **2019**, *20*, 1235.

Bardi, G. T.; Smith, M. A.; Hood (corresponding author), J. L. Melanoma Exosomes Promote Mixed M1 and M2 Macrophage Polarization. *Cytokine* **2018**, *105*, 63–72.

Petersen, K. E.; Shiri, F.; White, T.; Bardi, G. T.; Sant, H.; Gale, B. K.; Hood (corresponding author), J. L. Exosome Isolation: Cyclical Electrical Field Flow Fractionation in Low-Ionic-Strength Fluids. *Analytical chemistry* **2018**, *90*, 12783–12790.

Hood (corresponding author), J. L. Pre-Analytical Influences on the Population Heterogeneity of Human Extracellular Vesicles Sourced for Nanomedicine Uses. **2018**.

Hood (corresponding author), J. L. The Association of Exosomes with Lymph Nodes. *Seminars in cell & developmental biology* **2017**, *67*.

Noel, T. A.; Hood (corresponding author), J. L. Abstract B40: Tuning Exosomes to Modulate Macrophage Inflammation: A Therapeutic Strategy for Melanoma. *Cancer Research* **2016**, *76*.

Hood (corresponding author), J. L. Melanoma Exosomes Enable Tumor Tolerance in Lymph Nodes. *Medical hypotheses* **2016**, *90*, 11–13.

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Hood (corresponding author), J. L. Post Isolation Modification of Exosomes for Nanomedicine Applications. *Nanomedicine* **2016**, *11*, 1745–1756.

Hu, L.; Wickline, S. A.; Hood (corresponding author), J. L. Magnetic Resonance Imaging of Melanoma Exosomes in Lymph Nodes. *Magnetic resonance in medicine* **2015**, *74*, 266–271.

Jallouk, A. P.; Moley, K. H.; Omurtag, K.; Hu, G.; Lanza, G. M.; Wickline, S. A.; Hood (corresponding author), J. L. Nanoparticle Incorporation of Melittin Reduces Sperm and Vaginal Epithelium Cytotoxicity. *PLoS One* **2014**, *9*.

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Hood (corresponding author), J. L.; San, R., Susana; Wickline, S. A. Exosomes Released by Melanoma Cells Prepare Sentinel Lymph Nodes for Tumor Metastasis. *Cancer research* **2011**.

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Hood, J. L.; Pan, H.; Lanza, G. M.; Wickline, S. A. Paracrine Induction of Endothelium by Tumor Exosomes. *Laboratory investigation* **2009**, *89*, 1317–1328.

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Hood, J. L.; Brooks, W. H.; Roszman, T. L. Subcellular Mobility of the Calpain/calpastatin Network: An Organelle Transient. *Bioessays* **2006**, *28*, 850–859.

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Revise & Resubmit

Bardi, G. T.; Burroughs, M. J.; Jones, J. B.; Hood (corresponding author), J. L. Induction of Mixed M1/M2 THP-1 Macrophage Polarity Supportive of pro-Tumor Inflammatory Processes by Human HepG2 Liver Tumor-Derived Small Extracellular Vesicles. *Extracellular Vesicles and Circulating Nucleic Acids (EVCNA)* **2021**.

Submitted

Bardi, G. T.; Burroughs, M. J.; Jones, J. B.; Aebersold, J. W.; Slusarczyk, A. S.; Driss, A.; Hood (corresponding author), J. L. Induction of Mixed M1/M2 THP-1 Macrophage Polarity by Human HepG2 Liver Tumor-Derived Small Extracellular Vesicles Supports pro-Tumor Inflammatory Processes. *International Journal of Nanomedicine* **2021**.

Magazine Article

Completed/Published

Hood, J. L.; Jallouk, A. P.; Campbell, N.; Ratner, L.; Wickline, S. A. HIV Sting Operation. *American Scientist* **2013**, *101*, 193–194.

Hood, J. L.; Eby, C. S.; Hoek, J.; Hoorn, E. J.; Jong, G. M.; Janssens, E. N.; Herder, W. W.; Mahajan, V. S.; Pace, C. A.; Jarolim, P.; others. The Top 10 Most Downloaded Clinical Case Studies. *Interpretation* **2009**, *55*.

Other Creative Activity

Completed/Published

Hood, J. L. Developed a Student Clinical Case Presentation Working Group for the Pharmacology and Dental Therapeutics Course (BMSC 807-05) Including a Protocol for Generating Sharable Presentations. *Developed a student clinical case presentation working group for the Pharmacology and Dental Therapeutics Course (BMSC 807-05) including a protocol for generating sharable presentations, UofL School of Dentistry, Pharmacology and Dental Therapeutics Course BMSC 807-05* **2020**.

Hood, J. L. Developed Efficient Instructions for Installing and Recording in Panopto to Facilitate a Virtual Learning Environment for Students and Faculty Using Blackboard. *Developed efficient instructions for installing and recording in Panopto to facilitate a virtual learning environment for students and faculty using Blackboard, UofL School of Dentistry, Pharmacology and Dental Therapeutics Course BMSC 807-05* **2020**.

Hood, J. L. Development of Teaching Aids or Materials for General Use: Dental Pharmacology Student Clinical Case Presentation Guidelines. *UofL School of Dentistry, Pharmacology and Dental Therapeutics Course BMSC 807-05* **2019**.
Development of teaching aids or materials for general use: Dental pharmacology student clinical case presentation guidelines.

Hood, J. L. Development of Teaching Aids or Materials for General Use: A Mandatory Student Attendance Honor Code System. *UofL School of Dentistry, Pharmacology and Dental Therapeutics Course BMSC 807-05* **2019**.
Development of teaching aids or materials for general use: A mandatory student attendance honor code system.

Other Scholarly Work

Completed/Published

Hood, J. L. Developed a Clinical Case Presentation Template/format for the Pharmacology and Dental Therapeutics Course (BMSC 807-05). **2021**.
The template facilitates student preparation of clear and concise pharmacology-relevant clinical case presentations and critical thinking skills.

Hood, J. L. Independently Developed Core Concept Learning Objectives for All 45 Lecture Topics Covered in Pharmacology and Dental Therapeutics (BMSC-807-05). **2020**.
Each ~ 1 hour lecture now includes 3-5 topic specific learning points. These learning objectives are now included in the new course syllabus and are based predominantly on the required course textbook material when possible. They are to be used to reinforce and/or supplement the lecture materials and lecture specific learning objectives provided by individual course instructors. They were also developed to serve as a general organizational outline to facilitate preparation for future licensing and board exams.

Hood, J. L. The Association of Calpain and Its Regulatory Proteins with the Endoplasmic Reticulum and Golgi Apparatus. *Dissertation* **2004**.

Patent and Intellectual Property

Completed/Published

Hood, J. L. Exosome Based Immunotherapy for Melanoma. U of L Office of Technology Transfer, 2015.
A new immunotherapy for cancer

Hood, J. L.; Wickline, S. A.; Lanza, G. M. Nanoparticulate-Based Contraceptive/Anti-HIV Composition and Methods. Application Number: 13278049, 2011.

Hood, J. L. A Methodological Means for Converting Exosome Nanovesicles into Nanoborgs Containing Biologic and Synthetic Cargo. Washington University in St. Louis Case No. CW0894-01, 2008.

Hood, J. L.; Wickline, S. A. Therapeutic Use of Exosomes as Turf Builders. Washington University in St. Louis Case No. 011699, 2011.

Hood, J. L. Nanoplatelet Micro Particle (NPMP). Washington University in St. Louis Case No. CW0894-01, 2008.
A new liposomal clinical laboratory clotting reagent for evaluating anti-phospholipid antibody syndrome.

Hood, J. L. Nexoparticle. Washington University in St. Louis Case No. Pending, 2008.
Bio-Synthetic Hybrid Nanoparticles for targeting tumor microenvironments or serving as a melanoma vaccine.

Presentation

Completed/Published

Southern (student presenter), A. M.; Schroeder, L. A.; Hood (corresponding author), J. L. Assessing Difference in the Production of TNF-α and IL-10 by THP-1 Monocytes Treated with Conditioned Media Derived from 2D and 3D HepG2 Cells Cultured in the Presence or Absence of Ethanol. *NCI R25 Cancer Education Program Undergraduate Research Session*, 2022.

Hood, J. L. Hepatocellular Carcinoma (HCC)-Derived Small Extracellular Vesicles (sEVs) Induce Inflammation-Related mRNAs in Macrophages. *Hepatobiology and Toxicology COBRE external advisor*

meeting, 2022.

Hood, J. L. HepG2 Extracellular Vesicles: Induction of Macrophage Inflammation-Related mRNA Content and 3D Spheroid Sourcing., 2022.

Hood (corresponding/presenting author), J. L.; Schroeder, L. A.; Bardi, G. T. A Reducible Comparison of 2D vs. 3D HepG2 Culture-Derived sEV Characteristics and Cancer Pathway-Related miRNA Content. *Experimental Biology 2022*, 2022.

Bashi, A.; Thomas, J.; Harp, K.; Hood, J. L.; Stiles, J. K.; Driss, A. Potential Application of miRNA-Loaded Liposomes as a Treatment for Inflammation. *The Morehouse School of Medicine (MSM) Curtis L. Parker Student Research Symposium*, 2022.

Thomas, J.; Bashi, A.; Harp, K.; Hood, J. L.; Stiles, J. K.; Driss, A. MiR-451a-Loaded Extracellular Vesicles Attenuate Heme-Induced Inflammation through TLR4 in iPSC-Derived Vascular Endothelial Cells. *The Morehouse School of Medicine (MSM) Curtis L. Parker Student Research Symposium*, 2022.

Bashi, A.; Thomas, J.; Harp, K.; Hood, J. L.; Stiles, J. K.; Driss, A. Heme-Induced Expression of IL-6R, TLR4 and NFκB in Human Brain Endothelial Cells (HBEC-5i) and Macrophages (THP-1) Is Modulated by miR-451a and Let-7i-5p-Loaded Extracellular Vesicles (EVs). *American Society of Tropical Medicine & Hygiene*, 2022.

Bardi, G. T.; Burroughs, M. J.; Jones, J. B.; Aebersold, J. W.; Slusarczyk, A. S.; Driss, A.; Hood (corresponding author), J. L. Hepatocellular Carcinoma-Derived Exosomes Induce pro-Tumor Macrophages. *AASLD, The Liver Meeting® 2021*, 2021.

Schroeder (student presenter), L. A.; Bardi, G. T.; Hood (corresponding author), J. L. Development of a 3D HepG2 Suspension Culture System to Enable Reducible Investigations into 2D vs. 3D HepG2 Culture-Derived sEV Biophysical Properties and Cancer Pathway-Related miRNA Content. *NCI R25 Cancer Education Program Undergraduate Research Session*, 2021.

Hood, J. L. Macrophage Induction by Natural and Attenuated Tumor Exosomes. *Hepatobiology and Toxicology Research Seminar*, 2021.

Hood, J. L. Introduction to Extracellular Vesicle-Based Nanomedicine Research. *Department of Pharmacology and Toxicology Student Orientation Presentation*, 2021.

Hood, J. L. The Influence of Natural and Attenuated Tumor Exosomes on Macrophage Polarization. *Pharmacology and Toxicology Research Seminar*, 2021.

Hood (corresponding author), J. L. Induction of Macrophage Polarity by Liver Tumor-Derived Exosomes (small Extracellular Vesicles). *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference*, 2020.

Hood, J. L. Liver Tumor-Derived Small Extracellular Vesicles Modulate Macrophage Function. *Southeast Regional NIH IDeA conference*, 2019.

Jones (student presenter), J. B.; Bardi, G. T.; Hood (corresponding author), J. L. Attenuating Inflammatory Mediator Production by AML Cells Using Normal Human Plasma-Derived Extracellular Vesicle Subtypes. *Southeast Regional NIH IDeA conference*, 2019.

Burroughs, M. J.; Bardi, G. T.; Hood (corresponding author), J. L. Liver Tumor-Derived Small Extracellular Vesicles Modulate Macrophage Function. *Southeast Regional NIH IDeA conference*, 2019.

Jones (student presenter), J. B.; Bardi, G. T.; Hood (corresponding author), J. L. Differential Reduction in Inflammatory Mediator Production by AML Cells Using Normal Human Plasma-Derived Extracellular Vesicle Subtypes. *Research!Louisville*, 2019.

Jones (student presenter), J. B.; Hood (corresponding author), J. L. Attenuating Inflammatory Mediator Production by AML Cells Using Normal Human Plasma-Derived Extracellular Vesicle Subtypes. *Southeast Regional NIH IDeA conference*, 2019.

Burroughs (student presenter), M. J.; Bardi, G. T.; Hood (corresponding author), J. L. Induction of Macrophages by Liver Tumor-Derived Small Extracellular Vesicles. *Research!Louisville*, 2019.

Jones (student presenter), J. B.; Hood (corresponding author), J. L. Induction of Macrophages Using Attenuated Lung Cancer Cell-Derived Small Extracellular Vesicles. *First joint meeting of the International society for extracellular vesicles and the metastasis research society (ISEV-MRS)*, 2019.

Hood, J. L. Exosome-Based Immunotherapy for Hepatocellular Carcinoma. *Hepatobiology & Toxicology research center seminar series*, 2018.

Hood, J. L. Effect of Exosomes on Macrophage Polarization State. *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference*, 2018.

Jones, J. B.; Bardi, G. T.; Hood (corresponding author), J. L. Macrophage Polarization Status Influences Macrophage Responsiveness to Lung Cancer Exosome-Derived Nanocarriers (Poster Presentation). *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference: Session B, Poster*

Presentation, 2018.

Jones (student presenter), J. B.; Bardi, G. T.; Hood (corresponding author), J. L. Macrophage Polarization Status Influences Macrophage Responsiveness to Lung Cancer Exosome-Derived Nanocarriers. *Research!Louisville*, 2018.

Hood, J. L. Advancing Exosome Isolation via Development of Cyclical Electrical Field-Flow Fractionation. *James Graham Brown Cancer Center Seminar Series*, 2018.

Hood, J. L. Cyclical Electrical Field-Flow Fractionation of Melanoma Exosomes. *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference*, 2017.

Petersen, K. E.; Bardi, G. T.; Sant, H.; Gale, B. K.; Hood (corresponding author), J. L. Cyclical Electrical Field-Flow Fractionation of Melanoma Exosomes (Poster Presentation). *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference: Session A, Poster Presentation*, 2017.

Hood (corresponding author), J. L.; Bardi, G. T.; Petersen, K. E.; Sant, H.; Gale, B. K. Cyclical Electrical Field-Flow Fractionation of Melanoma Exosomes. *Research!Louisville: Junior Faculty Competition*, 2017.

Hood, J. L. Overview of “Exosome-Inspired” Nanomedicine Research Directions. *Department of Pharmacology & Toxicology Graduate Student Orientation*, 2017.

Hood, J. L. Advancing Translational Melanoma Exosome Research. *Department of Pharmacology & Toxicology Research Presentation*, 2017.

Hood, J. L. Developing Exosomal Nanocarriers to Treat Melanoma. *University of Louisville MD/PhD Program Seminar Series*, 2016.

Hood, J. L. Melanoma Exosomes Promote Mixed Macrophage Polarization. *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference*, 2016.

Smith (student presenter), M. A.; Bardi, G. T.; Hood (corresponding author), J. L. Paracrine Induction of Macrophages by Melanoma Exosomes. *Research!Louisville*, 2016.

Smith, M. A.; Bardi, G. T.; Hood (corresponding author), J. L. Melanoma Exosomes Promote Mixed Macrophage Polarization (Poster Presentation). *Annual American Society for Exosomes and Microvesicles (ASEMV) Conference*, 2016.

Hood, J. L. An Introduction to Melanoma Nanomedicine. *UofL Bioengineering Department Seminar Series*, 2016.

Hood, J. L. An Introduction to Melanoma Nanomedicine. *James Graham Brown Cancer Center (JGBCC) and Department of Pharmacology and Toxicology R25 cancer education program summer internship programs*, 2016.

Petersen, K. E.; Gale, B. K.; Ornthai, M.; Hood, J. L. Exosome Separation Using Electrical Field Flow Fractionation and a New Continuous SPLITT/FFF Approach. *251st American Chemical Society National Meeting & Exposition*, 2016.

Hood (corresponding author), J. L.; Noel, T. A. Tuning Exosomes to Modulate Macrophage Inflammation: A Therapeutic Strategy for Melanoma. *4th AACR International Conference on Frontiers in Basic Cancer Research*, 2015.

Noel (student presenter), T. A.; Hood (corresponding author), J. L. Development of Immunomodulatory Exosomal Nanocarriers to Treat Melanoma. *Research!Louisville*, 2015.

Hood, J. L. Melanoma Exosomes: Research and Applications. *Department of Pharmacology and Toxicology Seminar Series*, 2014.

Hood, J. L. Melanoma Exosomes: Research and Applications. *James Graham Brown Cancer Center Seminar Series*, 2014.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: Exosome Nanovesicles and Their Contribution to Melanoma Pathogenesis. *Center for Cardiovascular Research, Special Seminar*, 2013.

Hood, J. L. Exosomes and Melanoma. *Eleventh Annual Minisymposium on Melanoma*, 2012.

Pan, H.; Iyashyna, O.; Hood, J. L.; Christenson, E.; Schlesinger, P. H.; Wickline, S. A. Structural Modifications to Convert Melittin from a Cytolytic Peptide to a Stable Cargo Linker. *Biophysical Society 54th Annual Meeting*, 2010.

Hood (corresponding author), J. L.; Pan, H.; Lanza, G. M.; Wickline, S. A. Translational Techniques for the Isolation of Endogenous Cancer Nanoparticles (exosomes). *4th Annual NCI Alliance for Nanotechnology in Cancer Investigators’ Meeting*, 2009.

Hood, J. L. Detection and Analysis of Nanoscale Tumor Membrane Biomarkers. *44th annual Academy of Clinical Laboratory Physicians and Scientists (ACLPS) conference*, 2009.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: Development of a Novel Lipid Nanoparticle for Detecting Anti-Beta-2-Glycoprotein-1 Mediated pro-Coagulation. *Laboratory Medicine Conference*, 2008.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: Evaluating Melanoma Angiogenesis: A Nanoscale Perspective. *Laboratory Medicine Conference*, 2008.

Hood, J. L. Nanoscale Translation of Anti-beta2 GPI Mediated Coagulation. *43rd annual Academy of Clinical Laboratory Physicians and Scientists (ACLPS) conference*, 2008.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: Sensitivity to Metal Implants. *Clinical Chemistry Conference*, 2007.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: Acanthamoeba. *Laboratory Medicine Conference*, 2007.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: A Glimpse at Cell Derived Microparticles. *Anatomic and Molecular Pathology Conference*, 2007.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: Fanconi Anemia. *Clinical Chemistry Conference*, 2006.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: Laboratory Diagnosis of α1-Antitrypsin Deficiency. *Laboratory Medicine Conference*, 2006.

Hood, J. L. AMA PRA Category 1 Credit Approved (1 Credit Hour) Presentation: Evaluation for Antiphospholipid Antibody Syndrome. *Laboratory Medicine Conference*, 2006.

Hood, J. L. The Association of the Calpain/Calpastatin Network with Organelles. *National Institutes of Health, The Laboratory of Pathology*, 2005.

Hood (corresponding author), J. L. Association of the Calpain/Calpastatin Network with Subcellular Organelles. *National M.D./Ph.D student conference*, 2004.

Community Engagement

Spring 2020 - Ongoing

Structured Mentoring of Junior Faculty (Adel Driss), Department of Pharmacology and Toxicology, School of Medicine, Morehouse School of Medicine, Adel Driss, adriss@msm.edu, Partnership (ongoing collaborative activity), Engaged Scholarship (faculty involved in research), Structured mentoring of junior faculty engaged in NIH U54 CTRHD and SCORE program projects, Morehouse School of Medicine is a private co-education medical school in Atlanta Georgia that is heavily invested in cutting edge research and participates in NIH U54 Center for Translational Research in Health Disparities (CTRHD) and SCORE program funding mechanisms. The opportunity to mentor junior faculty enhances their career development and facilitates their transition to research independence as demonstrated by successful formulation and submission of R level NIH award applications.

Fall 2018 - Fall 2018

Judge for Southeast Regional NIH IDeA conference Poster Presentations, University of Louisville, School of Medicine, Southeast Regional NIH IDeA conference , Engaged Scholarship (faculty involved in research), Judge for Southeast Regional NIH IDeA conference Poster Presentations, Galt House Conference Center, Louisville Kentucky, November 6-8, 2019, Participation in this conferences increase awareness of research being conducted at UofL and the Louisville community in general in terms of its ability to integrate with, impact and support the mission of the NIH IDeA regional award mechanisms.

Fall 2015 - Ongoing

Judge for the NCI R25 Cancer Education Program Presentations, Department of Pharmacology and Toxicology, School of Medicine, National Institutes of Health, NCI R25 Cancer Education Program, Engaged Scholarship (faculty involved in research), Judging undergraduate, medical and dental professional student research presentations, The NCI R25 Cancer Education Program administered by the UofL School of Medicine, Department of Pharmacology and Toxicology, highlights and increases the awareness of vital cancer research being conducted at UofL and the Brown Cancer Center and how such research integrates with and impacts the Louisville community.

Judge for Research!Louisville Presentations, University of Louisville, School of Medicine, Research!Louisville, Engaged Scholarship (faculty involved in research), Judging research presentations for all education levels including undergraduate, graduate, professional and post-doctoral, Research!Louisville increases the awareness of research being conducted at UofL and its integration and impact on the Louisville community and supports the mission of the University.

Summer 2021 - Ongoing

Navigating Careers in Cancer Research for the NCI R25 Cancer Education Program Presentations, Department of Pharmacology and Toxicology, School of Medicine, National Institutes of Health, NCI R25 Cancer Education Program, Outreach (temporary or short term service activities), Served as a leader for trainees navigating careers in cancer research. Presented information on how I selected my research and clinical fields, the kinds of challenges that process involves as well as how to develop survival skills including time management, networking, balancing competing responsibilities. A particular focus on the opportunities available for careers in pharmacology & toxicology and their integration with other scientific disciplines was discussed. , The NCI R25 Cancer Education Program administered by the UofL School of Medicine, Department of Pharmacology and Toxicology, highlights and increases the awareness of vital cancer research being conducted at UofL and the Brown Cancer Center and how such research integrates with and impacts the Louisville community.