CURRICULUM VITAE

Stanley Vaughn Smith, Ph.D.

Professor, School of Medicine

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Place of Birth: Starkville, MS

Marital Status: Married to Anne Louise Smith

Citizenship: United States of America

EDUCATIONAL BACKGROUND:

1983-1987:
Mississippi State University
Starkville, MS
B.S., Biochemistry, 1987

1987-1995:
The University of Mississippi Medical Center
Jackson, MS
Ph.D., Biochemistry, March 1995.

1995-2002: The National Institutes of Health (NIH), Postdoctoral Fellowships, National Institute of Arthritis, Musculoskeletal and Skin Diseases (NIAMS), Laboratory of Physical Biology (1995-1997); The National Cancer Institute (NCI), Laboratories of Molecular Carcinogenesis/Metabolism (1997-2002).

RESEARCH AND PROFESSIONAL EXPERIENCE:

Research Apprentice, Dr. Robert B. Koch (deceased), Professor, Department of Biochemistry, Mississippi State University. Funded by Army Research Organization Minority Grants during the summers of 1981 - 1984.

Laboratory Technician, Dr. Robert B. Koch (deceased), Professor, Department of Biochemistry, Mississippi State University, 1982 - 1987. Enzymology Studies on Plant Lipoxygenases and Vertebrate ATPases.

Graduate Assistant, Dr. Steven T. Case, Professor (retired), Department of Biochemistry, The University of Mississippi Medical Center, Jackson, Mississippi, 1987 – 1995, Dissertation: *"Design, Synthesis, and Characterization of rCAS, a Protein Modelled After Repeats in an Insect Silk Protein"*

Research Associate, Dr. Jonathan B. Chaires, Professor, Department of Biochemistry, The University of Mississippi Medical Center, Jackson, Mississippi, March 1995 - August 1995.

Intramural Research Traineeship Award (IRTA) Fellow, Advisor: Dr. Robert Horowits, Research Biologist, The National Institute of Arthritis and Musculoskeletal and Skin Diseases, Laboratory of Physical Biology, The National Institutes of Health, Bethesda, Maryland, September 1995 – October 1997

IRTA/CRTA (Cancer Research Traineeship Award) Fellow, Advisor: Dr. Fred K. Friedman, Principal Investigator, The National Cancer Institute, Laboratory of Molecular Carcinogenesis/Metabolism, The National Institutes of Health, Bethesda, Maryland, October 1997 – July 2002.

Assistant Professor (Tenure-Track), The University of Mississippi Medical Center, Department of Pharmacology and Toxicology, Jackson, Mississippi, August 2002 – 2012.

Assistant Professor (Non-Tenure-Track), The University of Mississippi Medical Center, Department of Pharmacology and Toxicology, Jackson, Mississippi, August 2012 – 2016.

Proteomics Director, Mass Spectrometry Core Facility (MSCF) UMMC, *ibid*, July 2010 – present.

Director, Mass Spectrometry Core Facility (MSCF) UMMC, *ibid*, July 2014 – present.

Associate Director for Mass Spectrometry Resources and Member of Executive Committee, The Mississippi Center for Heart Research (MCHR), UMMC, *ibid*, October 1, 2015 – January 2019

Associate Professor, The University of Mississippi Medical Center, Department of Pharmacology and Toxicology, Jackson, Mississippi, July 1, 2016 – present.

Associate Professor (Tenure-Track), The University of Mississippi Medical Center, Department of Pharmacology and Toxicology, Jackson, Mississippi, August 4th, 2016 – present

CURRENT TEACHING/COURSE DIRECTOR RESPONSIBILITIES:

Director, Medical Pharmacology (PH620/PH722), 2016 – present. Currently >100 contact hours per semester including lectures, Canvas course maintenance, managing reviews, team-based learning exercises, test preparation, ExamSoft maintenance, liaisons with class officers and students, exam proctoring, general course maintenance, curriculum mapping, curriculum alignment, curriculum development, content integration, and other School of Medicine/Accreditation-mandated responsibilities. (~160 students)
***COVID19 Pandemic, March 16th, 2020:** As Course Director was responsible for transferring all content for Online access. Medical School was paused until March 30th, 2020 to allow students adjustment time. From March 30th – April 27th, 2020 (See Below)

Course Director, Dental Pharmacology (DENT626), 2011 – present. Currently >60 contact hours per semester including lectures, reviews, clinical correlations, liaisons with class officers/students, test preparation, and exam proctoring. Lecturer in course since 2004. (~40 students)

Course Director, Fundamental Pharmacology (PHARM 726), 2017 – present. >50 contact hours per semester including lectures, reviews, clinical correlations, liaisons with class officers/students, test preparation, and exam proctoring. (~100 students)

Physiological Applications of Molecular Biology: 2 hour lecture: Proteomics, Mass spectrometry and Protein Array Analysis

Pre-clinical Advisor to Medical Students: 4 – 6 students; 12 -18 hours contact time (Discussion, e-value reports)

***Curriculum Measures Due to COVID-19 Pandemic:**
Medical Pharmacology (PH620): The COVID-19 Pandemic led to the "pausing" of all M2 courses, including Medical Pharmacology, for two weeks from March 16th – March 30th. As Course Director and in consultation with the other Course Directors and the Office of Medical Education, I implemented a plan designed to complete all educational objectives of Medical Pharmacology and allow us to successfully complete the academic year following the pause. Luckily, the majority of Medical Pharmacology had been delivered as intended prior to the Pandemic. Once we resumed the schedule on March 30th, all classes/sessions were moved to Online. Prior to the pause, Medical Pharmacology was almost finished except for a Geriatrics Clinical Correlation (2 hours); an Alcohol/Toxicology Clinical Correlation series (5 hours); several Faculty-Driven STEP 1 Reviews (5 hours); a Review for Exam 5; Exam 5; and the NBME Pharmacology Subject Exam. To facilitate delivery of the content to meet all educational standards, the following adjustments were implemented successfully and allowed completion of the course.

- Previous year's Podcasts were used to deliver the didactic lecture content (Geriatrics and Alcohol/Toxicology Clinical Correlations) with the permission of the participating faculty. The Podcasts and the accompanying Powerpoint presentations were made available on Canvas. In all cases, students were directed to contact, via e-mail or Discussion Board, the Course Director and Faculty for any questions, follow-up, or any other guidance.
- Previous year's Podcasts for the STEP 1/Exam 5 Review sessions and accompanying Powerpoint presentations were made available on Canvas. In all cases, students were directed to contact, via e-mail or Discussion Board, the Course Director

and Faculty for any questions, follow-up, or any other guidance.

- The NBME Pharmacology Subject Exam scheduled for April 13th was cancelled due to limitations brought about by the Pandemic. Instead, Exam 5 was given on that date. Doing so accomplished two purposes. First it gave the students adequate time to adapt to the changes that had been implemented due to the Pandemic. In addition, it provided extra time for the students to digest the Podcast material and prepare adequately for the exam. With no on-site testing, Exam 5 was administered successfully with the Respondus Lockdown Browser for a secure test environment.
- Shortly after the schedule resumed, students were informed of changes in the Grading Policy that would occur because the NBME Pharmacology Subject Exam was not going to be administered. Initially, final grades in Medical Pharmacology would be calculated based on an 85% contribution from 5 Exams; 10% contribution from the NBME Pharmacology Subject Exam; and 5% contribution from Bonus Points/Small Group Participation. With the cancellation of the NBME Pharmacology Subject Exam, the grades were calculated based on 92% contribution from 5 Exams and 8% contribution from Bonus Points/Small Group Participation.

Fundamental/Dental Pharmacology (PHARM 726/DENT626): Dental Pharmacology classes paused for three days until March 19th while Fundamental Pharmacology classes started March 16th (immediately after Spring Break). Only about ~1/3rd of these Courses had been completed. Immediately, content was converted to Online (Annotated Powerpoints, Voice-annotated Powerpoints, Podcasts from Medical Pharmacology) and the content delivered. To accommodate the differing time lines resulting from differences in approaches by the School of Graduate Studies and the School of Dentistry, exams were slightly shifted to re-align the two courses. To allow off-site examinations, the Respondus Lockdown Browser was used to give and proctor exams through Canvas. I successfully administered and proctored 4 exams in each course via this method (8 total exams). The Lockdown Browser uses the student's camera to film the students while engaged in exams. An Artificial Intelligence module analyzes the film and scores each person for probability of inappropriate behavior. I

was able to go back and review footage and check for suspicious activity. This worked reasonably well. In addition, prior to each exam, students were given Formative Questions via low stakes online quizzes in Canvas that allowed reinforcement of the material. Most importantly, I was constantly accessible to the students via UMMC e-mail, text, or phone. I estimate that I fielded well over 250 inquiries from students with questions, concerns, or just in need of reassurance in these troubling times. Due to bandwidth issues at home, I was on campus during the majority of the "shelter at home" orders caused by the Pandemic. During this time I was constantly moving course content online, communicating with and aiding our faculty, transferring podcasts after I reviewed them for appropriateness for the Fundamental/Dental courses, updating and encouraging students, creating and loading formative quizzes, proctoring Respondus Lockdown Browser exams, grading exams/quizzes, reviewing film of "flagged" behaviors during testing, helping other Course Directors with Respondus Software and other problems, and many other things necessary to ensure content delivery and success. Using this approach, the remainder of the two courses was completed successfully.

COVID19 Pandemic Summary: Although not under the most ideal conditions, I was very pleased with the outcomes as well as the willingness of the faculty to try things they had never done before. The student evaluations of the courses reflected that overall they were pleased with delivery and content under these unprecedented times caused by the Pandemic.

TEACHING HONORS/PROFESSIONAL ACTIVITIES

Pre-Clinical Professor of the Year, University of Mississippi Medical Center, 2020-2021

The Nelson Order for Teaching Excellence, UMMC School of Medicine, 2021.

Evers Society Hall of Fame Inductee, awarded by The Carl G. Evers, M.D. Society, the University of Mississippi Medical Center, 2020-2021

Trailblazer Teaching Award, The Office of Medical Education, UMMC, 2021.

M2 Professor of the Year, awarded by The Carl G. Evers, M.D. Society as chosen by the M2 Student body of the University of Mississippi Medical Center, 2019-2020

American Society for Pharmacology and Experimental Therapeutics (ASPET) Division for Pharmacology Education (DPE) Senior Pharmacology Educator Travel Award, 2020. (Award was to be presented at the 2020 Experimental Biology Meeting in San Diego, CA; unfortunately meeting cancelled due to COVID-19 Pandemic)

M2 All-Star Professor, awarded by The Carl G. Evers, M.D. Society as chosen by the M2 Student Body of The University of Mississippi Medical Center, 2017 – 2018, 2018 - 2019.

M2 Basic Sciences Department of the Year Awarded to the Pharmacology and Toxicology Department, 2018 – 2019 and 2020 - 2021. (Course Director, Stanley V. Smith); Awarded by the The Carl G. Evers, M.D. Society as chosen by the M2 Student Body of The University of Mississippi Medical Center,

Executive Committee Member, The Division of Pharmacology Education, The American Society for Pharmacology and Experimental Therapeutics, July 1, 2019 – present.

Nelson Order for Teaching Excellence, School of Dentistry 2014

PREVIOUS TEACHING EXPERIENCE:

Laboratory Teaching Assistant/Lecturer, Graduate Biochemistry Course (BCH 8205), Department of Biochemistry, Mississippi State University, 1982 - 1985.

Lecturer, Summer Introduction to Biochemistry Course for Minority Students, Department of Biochemistry, University of Mississippi Medical Center, 1989-1991.

Lecturer, Medical Pharmacology (PH620/PH720), Department of Pharmacology and Toxicology, University of Mississippi Medical Center, 2003 – present.

Lecturer, Dental Pharmacology (DENT626), Department of Pharmacology and Toxicology, University of Mississippi Medical Center, 2004 – present.

Lecturer/Co-Coordinator, Molecular Toxicology (PHARM 781), Department of Pharmacology, University of Mississippi Medical Center, 2004-2010 (even years), 3 hour Graduate Level Course.

Co-Director, **Medical Pharmacology (PH620/PH720)**, 2015 – 2016. >70 contact hours per semester including lectures, managing reviews, team-based learning exercises, test preparation, liaisons with class officers and students, exam proctoring, and general course maintenance.

Associate Director, **Medical Pharmacology (PH620/PH720)**, 2014 – 2015. 15-20 contact hours per semester including lectures, managing reviews, and team-based learning exercises. Lecturer in course since 2003.

Lecturer, Core Concepts for M1s: Enzyme Kinetics II, University of Mississippi Medical Center, 2005

Lecturer/Co-Coordinator, Molecular Biology (BCH742), Department of Biochemistry, University of Mississippi Medical Center, 2006-2012 (even years).

Co-Director, Mechanisms of Drug Action (PHARM 723), Department of Pharmacology, University of Mississippi Medical Center, 2008 – 2011, 2 hour Graduate Level Course.

Lecturer, Special Topics in Pharmacology for 4th year Medical Students, Department of Pharmacology, University of Mississippi Medical Center, 2008 – 2011, Provided Reviews for M4s on Diabetes/Antidiabetic Drugs and Drug Metabolism/Biotransformation

PROFESSIONAL ACTIVITIES:

American Society for Pharmacology and Experimental Therapeutics (ASPET):

Pharmacology Education Executive Committee Member

American Physiology Society (APS)

International Association of Medical Science Educators (IAMSE)

American Society for Mass Spectrometry (ASMS)

American Chemical Society (ACS)

American Association for the Advancement of Science (AAAS)

Mississippi Academy of Sciences (MAS): Past-President and Lifetime Member

STUDY SECTIONS/REVIEWER:

Intramural Research Support Program (IRSP) Grant Reviewer, 2017 and 2018

Ad hoc Member, Minority Programs Review Committee, Subcommittee A (MPRC-A) Study Section, February 15-16th, 2007, National Institute of General Medical Sciences (NIGMS), NIH, Bethesda, MD.

Journal of the Mississippi Academy of Sciences (Ad hoc)

Expert Opinions in Drug Metabolism (Ad hoc)

Current Drug Metabolism (Ad hoc)

Annals of the New York Academy of Sciences (Ad hoc)

WORKSHOPS/TRAINING/INTERVIEWS, TEACHING/EDUCATION EMPHASIS:

Association of American Medical Colleges (AAMC) Minority Faculty Career Development Seminar, Georgetown University, Washington, DC, September 11-13, 2004.

Alliance for Graduate Education in Mississippi (AGEM) Winter Symposium, Jackson, MS, January 20-22, 2005.

National Board of Medical Examiners (NBME) Test Question Writing Workshop for Basic and Clinical Sciences, School of Medicine, University of Mississippi Medical Center, 2005

American Cancer Society (ACS) Local and National Representatives; Discussion/Research Laboratory Tour, UMMC, August 2007

Interviewed by WJTV News in the Promotion for "Making Strides against Breast Cancer Walk", Jackson, MS, August 2007

National Board of Medical Examiners (NBME) Review of Pharmacology Exam, Pharmacology Department, University of Mississippi Medical Center, June 19th, 2012.

National Board of Medical Examiners (NBME) Item Writing Workshop for Basic and Clinical Sciences, School of Medicine, University of Mississippi Medical Center, July 23rd, 2014.

Minority Faculty Professional Development Focus Group, Office of Faculty Affairs, School of Medicine, University of Mississippi Medical Center, September 10th, 2015.

Dental Schools Addiction Education Summit for SAMHSA Regions III and IV, ADEA Headquarters, Washington, DC, August 29th and 30th, 2017.

Interviewed for Article Promoting Colon Cancer Screening in UMMC's eCV (Semi-Weekly CenterView EMAIL Publication): https://www.umc.edu/news/News Articles/2018/03/ummc-researcher-calls-for-colleagues-to-heed-the-call-to-be-screened.html

WORKSHOPS/TRAINING RESEARCH EMPHASIS:

Population-based Disparities in Cancer Grant Writing Workshop, Jackson Cancer Research Interest Group, University of Mississippi Medical Center, March 15th, 2006

Grantsmanship/Funding Strategy Discussion Session, National Center for Science Resources (NCRR), The National Institutes of Health, February 20th, 2007

QTRAP for Qualitative/Quantative Workflows Training, ABSCIEX Complex, Framingham, MA, May 11-14, 2010.

Global Obesity Summit, The University of Mississippi Medical Center, Jackson, MS, November 9-11, 2010.

QTRAP 5500 Training for Peptide Quant, ABSCIEX Complex, Framingham, MA, August 2 – 5, 2011.

Physiology of Cardiovascular Disease: Gender Disparities, Sponsored by the Women's Health Research Center, The University of Mississippi Medical Center, Jackson, MS October 12-14, 2011.

Proteomics Training for Q-Exactive Plus, provided by ThermoFisher, Inc., UMMC Department of Physiology, January 21-23, 2014.

INVITED SEMINARS AND PRESENTATIONS:

- Mississippi State University, Department of Biochemistry, 1995.
- Gordon Research Conference, Drug Metabolism Section, July, 1998, Holderness, NH
- The University of Kentucky, Division of Pharmaceutical Sciences, College of Pharmacy, January 22nd, 2002.
- The University of Mississippi Medical Center, Department of Pharmacology and Toxicology, March 18th, 2002.

- The University of Mississippi Medical Center, Department of Biochemistry, October 31st, 2002.
- Mississippi State University, Department of Biochemistry, April 9th, 2003.
- The University of Southern Mississippi, Department of Biological Sciences, April 30th, 2003.
- Tougaloo College, Department of Biology, October 27th, 2003.
- Jackson State University, Department of Chemistry, November 14th, 2003.
- Mississippi Functional Genomics Network (MFGN) Session at the Mississippi Academy of Sciences, Biloxi, MS, February 20th, 2004.
- Baker Donelson Law Firm, Jackson, MS, July 24, 2004
- Jackson Cancer Research Interest Group (JCRIG), The University of Mississippi Medical Center, Jackson, MS, August 26th, 2004
- Alliance for Graduate Education in Mississippi (AGEM) Symposium, Jackson State University e-Learning Center, January 21st, 2005.
- American Cancer Society "Relay for Life" in Simpson County, MS 2005
- American Cancer Society "Walk for the Cure" Breakfast, Jackson, MS August 2006
- American Cancer Society "Walk for the Cure" Breakfast, Jackson, MS August 2007.
- Mississippi Biophysical Consortium, Oxford, MS May 23rd, 2008.
- Increasing Minority Access to Education (IMAGE) Awards Banquet for The Louis Stokes Mississippi Alliance for Minority Participation, The University of Southern Mississippi, Hattiesburg, MS, April 24, 2013.
- The University of Mississippi Medical Center, Department of Biochemistry, April 1st, 2014.

COMMITTEE RESPONSIBILITIES:

Pharmacology Faculty Representative, Breakfast with Liaison Committee on Medical Education (LCME) during UMMC site visit, October, 2003.

Microbiology Chair Search Committee, 2003 - 2004

Member of the Multi-Cultural Enhancement Strategic Planning Subcommittee, 2006.

UMC Voluntary Health Agency Steering Committee representing the School of Graduate Studies in the Health Sciences, 2006

Graduate Faculty Member, The School of Graduate Studies, The University of Mississippi Medical Center, January, 2007.

Thesis Advisor: Ms. Stephanie M. Burks, 2007-2010. received Master's degree (2009).

Thesis Committee Member:

Dr. John K. Smith, Pharmacology Department, Ph.D. conferred May 2008.

Dr. Sooim Shin, Biochemistry Department, Ph.D. conferred May 2011.

Ms. Aruna Rawat, Biochemistry Department, received Master's degree (2010)

Dr. Valeria Zai-Rose, Biochemistry/Cell Molecular Biology Department, 2014-2018, PhD conferred 2018.

Dr. Edward A. Townsend, Neuroscience Program, 2014-2017, Ph.D. conferred 2017.

Ms. Sonja Dragojevich, Biochemistry/Cell Molecular Biology Department, PhD conferred 2020.

Mr. Bibek Poudel, Experimental Therapeutics and Pharmacology, 2018 – present.

Mr. Corbin Shields, Experimental Therapeutics and Pharmacology, 2018 – present.

Institutional Animal Care and Use Committee (IACUC) Member: 2007 – 2010

Dental Admissions Committee Member: 2007 – 2010

Publicity Chairperson, Mississippi Academy of Sciences, 2008 – 2009.

Pharmacology Department Representative, UMMC/Mississippi Blood Services Blood Drive, 2008 – 2010

Pharmacology Department Graduate Admissions Committee, 2007 – 2010

Pharmacology Department, Professional Education Committee, 2009 - present

Co-Chairperson, Mississippi Academy of Sciences Health Sciences Division, 2009 – 2010.

Member of the Board of Directors, Mississippi Academy of Sciences, 2009 – 2014.

Basic Sciences/Research Recruitment Coordinator, UMMC/Mississippi Blood Services Blood Drive, 2009 – 2010

Member of Pharmacology Faculty Search Committee, 2009 – 2015.

President-Elect, Mississippi Academy of Sciences (2012)

President, Mississippi Academy of Sciences (2013-2014)

Student Evaluation and Promotion Committee, School of Dentistry, (2012 – 2014).

Self-Study Committee for External Evaluation of the Department of Pharmacology and Toxicology, 2013

Curriculum Committee, School of Dentistry (2014-present)

Search/Advisory Committee for Dean of Admissions, School of Dentistry, 2014.

Dental Admissions Committee (Application Screener) 2014 – present

Coordinator for UMMC Pharmacology Department Website Update and Maintenance, 2014 – present.

Curriculum Committee, Continuous Quality Improvement (CQI) Subcommittee, School of Medicine, UMMC, 7/1/2015 – 6/30/2021.

Medical Neuroscience Curriculum Development Subcommittee, October 9th, 2015 – 2017

Institutional Climate Workgroup, Member, UMMC, 2016 – 2017.

Vice-Chancellor's Diversity Advisory Council, Member, UMMC, 2017 – 2018.

Education Program Subcommittee, Self-Study in Preparation for the Liaison Committee for Medical Education (LCME) Full Accreditation Survey, February 1, 2018 – 2020.

Self-Study Committee for External Evaluation of the Department of Pharmacology and Toxicology, 2018

File Review Committee, Office of Admissions, School of Medicine, May 27th 2020 – present.

Task Force for Curriculum Improvement/Integration, School of Medicine, June 24th, 2020 – present.

Faculty Senate, Senate Alternate for the School of Dentistry, UMMC, July 29th, 2020 – present.

Steering Committee for Curriculum Redesign, School of Medicine, August 28th, 2020 – present.

Chair, Student Evaluation Subcommittee, Steering Committee for Curriculum Redesign, School of Medicine, August 28th, 2020 – present.

Curriculum Committee, Program Evaluation Subcommittee, School of Medicine, UMMC, 7/1/2021 – present.

STUDENT MENTORING/TRAINING:

Mentor for Army Research Organization Summer Apprentices, Department of Biochemistry, Mississippi State University.

Summer of 1985: Ms. Joyce Wade; Senior, Starkville High School, Starkville, MS
Summer of 1986: Mr. Michael Purnell; *ibid.*
Summer of 1987: Mr. Anthony Burke; *ibid.*

Young Black Men with Promise Mentoring Program, Volunteer Mentor, Highland View Elementary School, Silver Spring, Maryland, 2000-2002.

Students: Mr. Jeremy Burgess
Mr. Dayne Bolt

Mentor for Minority Access to Research Careers (MARC) Scholar:

Ms. Patrice Miller, Tougaloo College, 2002-2003.

Mentor for Mississippi Functional Genomics Network Research Experience Opportunity and IdeA Network of Biomedical Research (INBRE) Scholars :

2003-2019 (13 awardees total)

Delta State University–3 awardees

Ms. Jessica Revell (2004)
Ms. Jodie Reese (2004)
Ms. Heather Hilderbrand (2005)

Tougaloo College – 9 awardees

Ms. Juliette Sandifer (2003-2005)
Ms. Bianca Clark (2005)
Ms. Keila Brown (2006)
Mr. Alfred Junior, III (2007)
Ms. Kiara Richardson (2008)

Ms. Treniece Perry (2007-2008)
Ms. Brittany Brown (2009)
Mr. Terrance Rush (2009)
Ms. Trianna Humphrey (2015)
Alcorn State University – 1 awardee
Ms. Latoya Brantley (2015)
Mississippi Gulf Coast Community College
Ms. Kristen C. Smith (2019)

Mentor for Base Pair Program Scholars:

2004-2006: Mr. Jonathan Priester, Murray H.S. High School, Jackson, MS
2007-2009: Ms. Ashley Trussell, *ibid.*
2009-2011: Ms. Britany Cavett, *ibid.*
2011-2013: Ms. Arielle Wallace, *ibid.*

Mentor for UMMC Summer Undergraduate Research Experience (SURE) Awardees:

Ms. Antrice Walker, Tougaloo College (2008)
Ms. Rhiannon K. Rowe, Univ. of Miss. (2012-2013)

Supervised and Trained in the MSCF (Mass Spectrometry, Proteomics, Sample Preparation, and Data Analysis)

Ms. Sang Won Park, Ph.D. Candidate, 2011-2012
Ms. Yoko Kojima, Visiting Research Scientist, 2012-2013
Dr. Tomoko Muroya, Visiting Physician, 2013-2014
Mr. Arun Rijal, Researcher/MSCF Manager, 2017 – present

OUTREACH:

Science Fair Judge; Albert Einstein High School, Silver Spring Maryland, 2001-2002.

Science Fair Judge; Montgomery Blair High School, Silver Spring, Maryland, 2001-2002.

Science Fair Judge; Power Academic and Performing Arts Complex, Jackson, MS

Judge, Computer Science poster category, Alliance for Graduate Education in Mississippi (AGEM) Winter Symposium, January 20th-22nd, 2005.

Judge, School of Health Related Professions (SHRP) Research Day, 2005 - 2011.

Judge, School of Graduate Studies Research Day, 2008 and 2014

HONORS AND AWARDS/OTHER:

Honoree for Contributions to the Positive Advancement of Diversity by the Black History Month Committee of the State Institutions of Higher Learning (IHL) Board of Trustees, February 2007.

Mississippi Functional Genomics Network (MFGN) Featured Scientist, July 11th, 2003.

Black History Month Honoree, Longview First Baptist Missionary Baptist Church, Starkville, MS, March 1995.

Fisher Biotechnology Award for Best Graduate Student Presentation, Mississippi Academy of Sciences, Division of Cellular, Molecular, and Developmental Biology, February 1991.

Fisher Biotechnology Award for Best Graduate Student Presentation, Mississippi Academy of Sciences, Division of Cellular, Molecular, and Developmental Biology, February 1990

National Merit Semifinalist/National Achievement Finalist, Starkville High School, Starkville, MS, 1982-1983

National Honor Society, Starkville High School, Starkville, MS 1982-1983

EXPERIMENTAL TECHNIQUES/RESEARCH INTERESTS:

Cloning, Sequencing, and Characterization of Genes
Bacterial and Insect Cell Expression Systems
Protein Purification/Biochemistry/Physical Biochemistry
Laser Photolysis and other Absorbance/Fluorescence Methods
Pharmacokinetics and Pharmacodynamics
Proteomics/Peptidomics/Lipidomics/Metabolomics
Mass Spectrometry: Methods, Data Collection and Analysis
Alcohol/Drug-Induced Hepatotoxicity Mechanisms
Characterization of Biomarkers in Human Illness/Disease

Contributions to Science and Education Summary:

1. As a graduate student, I initially was trained as a Molecular Biologist (cloning, sequencing, library screening, etc …) as my laboratory was interested in identifying novel silk protein Balbiani Ring genes from the aquatic larva of the midge *Chironomus tentans*. These genes are comprised of highly tandemly repeated sequences and difficult to clone. I characterized several novel tandem repeats from the extremities of the SpI gene family. My focus then shifted to characterizing the proteins that these tandemly repeated sequences encode and trying to understand the structural and functional roles they play in the aquatic silk fibers that they constitute. I designed, synthesized, cloned, and expressed a gene modeled after one of the most common SpI core repeats. This construct represented the first of its kind in the Balbiani Ring field. I then performed biophysical and biochemical characterization of the protein as well as protein folding and disulfide mapping studies of this protein. I demonstrated that the most stable native state of this protein was a soluble monomer containing two intramolecular disulfide bonds. One of the major and surprise findings of this study was that the cysteines found in the repeats and presumably in the native SpI protein (1000 kDa; predominately made of the core repeat units) formed intramolecular disulfides rather than intermolecular disulfides as thought by those in the field. This indicated that the cysteines were most likely not involved in stabilizing the insoluble silk fiber produced by the larva. Instead were most likely involved in keeping these large proteins soluble in the salivary gland lumen of the larva prior to extrusion, aggregation, and ultimately insoluble silk fiber formation.
    a. **Smith, S. V.** and Case, S. T. (1993) Over-expression of a core repeat from an insect silk protein that forms intramolecular disulfide bonds., in Biomolecular Materials (Viney, C., Case, S. T., and Waite, J. H., Eds.) pp 93-98, Materials Research Society Press, Pittsburgh, PA ISBN: 1-55899-187-5.
    b. Case, S. T. and **Smith, S. V.** (1994) Synthetic and recombinant domains from a midge's giant silk protein: Role of disulfide bonds., in Silk Polymers: Materials Science and Biotechnology (Kaplan, D., Adams, W. W., Farmer, B., and Viney, C., Eds.) pp 91-97, American Chemical Society Press, Washington, DC ISBN: 0-8412-2743-8.

c. Case, S. T., **Smith, S. V.**, and Bratton, M. R. (1994) Disulfide bonds in recombinant repeat units from an aquatic insect's silk protein., in Biomolecular Materials by Design (Alper, M., Bayley, H., Kaplan, D., and Navia, M., Eds.) pp 31-36, Materials Research Society Press, Pittsburgh, PA ISBN: 1-55899-229-4.
d. **Smith, S. V.**, Correia, J. J., and Case, S. T. (1995) Disulfide bonds in a recombinant protein modeled after a core repeat in an aquatic insect's silk protein., Protein Sci. 4, 945-954.

2. As a Postdoctoral Fellow in the Laboratories of Molecular Carcinogenesis and Metabolism, I performed Laser Flash Photolysis and other biophysical measurements to understand the role conformational dynamics plays in structure/function relationships of hemeproteins. The cytochrome P450s, enzymes that are at the forefront of drug biotransformation and metabolism in the field of Pharmacology, were the primary focus of my research. These enzymes are membrane associated and insoluble when not associated with membranes. This makes them very difficult to study. We designed a unique laser flash photolysis unit that allowed us to study these proteins while they were incorporated in microsomes and still possessing all structural and functional features. In particular, I was interested in cytochrome P450 2E1 which plays significant roles in acetaminophen- and alcohol-induced hepatotoxicity as well as in other forms of hepatic dysfunction. I used liver microsomes from novel knockout P450 2E1 and human P450 2E1 transgenic mouse models as well as baculovirus-expressed recombinant proteins to demonstrate a unique, rapid conformational dynamics feature of P450 2E1 that may be the reason for the enzyme’s tendency to uncouple during its catalytic cycle. This property makes P450 2E1 more likely to produce reactive oxygen species and other reactive products. I continued my interest in cytochrome P450s and drug and xenobiotic metabolism when I moved back to Mississippi as an Assistant Professor in the Pharmacology and Toxicology Department at The University of Mississippi Medical Center to establish my own laboratory.
   a. Omata, Y., Dai, R., **Smith, S. V.**, Robinson, R. C., and Friedman, F. K. (2000) Synthetic peptide mimics of a predicted topographical interaction surface: the cytochrome P450 2B1 recognition domain for NADPH-cytochrome P450 reductase, *J. Protein Chem. 19*, 23-32.
   b. Piro, M. C., Militello, V., Leone, M., Gryczynski, Z., **Smith, S. V.**, Brinigar, W. S., Cupane, A., Friedman, F. K., and Fronticelli, C. (2001) Heme pocket disorder

in myoglobin: reversal by acid-induced soft refolding, Biochemistry 40, 11841-11850.

c. **Smith, S. V.**, Koley, A. P., Dai, R., Robinson, R. C., Leong, H., Markowitz, A., and Friedman, F. K. (2000) Conformational modulation of human cytochrome P450 2E1 by ethanol and other substrates: a CO flash photolysis study, *Biochemistry 39*, 5731-5737. PMID: 10801323

d. **Smith, S. V.**, Robinson, R. C., Smith, T. G., Burks, S. M., and Friedman, F. K. (2006) Rapid conformational dynamics of cytochrome P450 2E1 in a natural biological membrane environment., *Biochemistry 45*, 15617-15623. (*Biochemistry* "Hot Article" for January 2007).

3. During early career as faculty member, I found it difficult to obtain extramural support outside of small grants localized to Mississippi. In addition, our department was in transition from a strictly basic research, single investigator-driven model to a more clinically relevant, illness and disease-driven, collaborative model. My contributions during most of this time were to the Teaching and Service missions of the Medical Center and to the Research mission by still maintaining my own laboratory and mentoring over a dozen undergraduate summer students, serving as a thesis advisor for one graduate student, and serving on several PhD thesis committees. In addition, I helped promote and encourage interest in science, health care, and research through my roles with The Mississippi Academy of Sciences (President-Elect, 2012; President, 2013, Lifetime Member). In 2009, with the arrival of my third chairman, I was able to begin retooling in a transitioning department with research emphasis and focus on models relevant to human illness and disease as well as on biomarker research using human samples. Accordingly, I became Proteomics Director and subsequently Director of the Mass Spectrometry Core Facility and have been collaborating with a number of investigators both at UMC and at other institutions. My research contributions over the last few years include: developing LC/MS approaches to quantifying eicosanoids in chronic kidney disease patients; developing LC/MS methods to measure Angiotensin II and other angiotensin metabolites in rodent models of obesity, hypertension and acute kidney injury; developing Discovery and Targeted Proteomics strategies for identifying and measuring novel biomarker proteins and other proteins of interest to collaborators; and Directing the Mass Spectrometry Core Facility. Support from Institutional COBREs (Mississippi Center of Excellence in Perinatal

Research and the Cardiorenal and Metabolic Diseases Research Center) have afforded me the opportunity for career and scientific growth and development through interacting with the participating investigators. This includes monthly meetings where research ideas are discussed; excellent speakers both in-house and external where cutting edge research is presented and discussed; access to other state-of-the-art instrumentation; and individual consultations with investigators to discuss their needs, experimental design, and how LC/MS approaches can facilitate their research. This has led to many collaborations at UMMC as well as inter-institutional collaborations.

a. Hirata, T., **Smith, S.V.**, Takahashi, T. Miyata, N., and Roman, R.J. (2020) Increased Levels of Renal Lysophosphatidic Acid in Rodent Models with Renal Disease. *Accepted for Publication JPET 12/1/2020*
b. Poole, A.R., Enwerem, I.I., Vicino, I.A., Coole, J.B., **Smith, S.V.**, Hebert, M.D. (2016). Identification of processing elements and interactors implicate SMN, coilin and the pseudogene-encoded coilp1 in telomerase and box C/D scaRNP biogenesis. *RNA Biol.*; 13(10):955-972. PubMed PMID: 27419845; PubMed Central PMCID: PMC5056767.
c. Lindsey, M.L., Gomes, A.V., **Smith, S.V.**, and de Castro Bras, L.E.. Manual of Cardiovascular Proteomics, Agnetti, G., Lindsey, M.L., and Foster, D., editors. New York: Springer Berlin Heidelberg; 2016. *Chapter 3, How to Design a Cardiovascular Proteomics Experiment; p.33-57. 430p*
d. Dreisbach, A.W., **Smith, S.V.**, Kyle, P.B., Ramaiah, M., Amenuke, M., Garrett, M.J., Lirette, S.T., Griswold, M.E., and Roman, R.J. (2014). Urinary CYP Eicosanoid Excretion Correlates with Glomerular Filtration in African-Americans with Chronic Kidney Disease, *Prostaglandins Other Lipid Mediat. Prostaglandins Other Lipid Mediat.*, Aug 21. pii: S1098-8823(14)00033-1. doi: 10.1016/j.prostaglandins.2014.08.002. [Epub ahead of print] PMID: 25151892 [PubMed - as supplied by publisher]
e. Fan, F., Geurts, A.M., Pabbidi, M.R., **Smith, S.V.**, Harder, D.R., Jacob, H., and Roman, R.J. (2014). Zinc-finger nuclease knockout of dual-specificity protein phosphatase-5 enhances the myogenic response and autoregulation of cerebral blood flow in FHH.1.BN rats., *PLoS One*, 9(11):e112878

4. My Education roles have grown in the last 5 years. I am the

Director of Medical Pharmacology (PH620), Dental Pharmacology (DENT626), and Fundamental Pharmacology (PHARM726). In these roles, I am the primary interface for the Department of Pharmacology with professional students in medical, dental, and graduate (M.S.- and Ph.D.- seeking) arenas. I have been recognized by the Dental School students (Nelson Order Inductee, 2014) as well as Medical School Students (M2 Professor of the Year, 2020 and M2 All-Star Professor, 2018, 2019). Perhaps most importantly, our Department was named Basic Sciences Department of the Year (in 2019) by the 2nd year Medical Students. In addition, I have developed an excellent rapport with the M.S.-seeking Students in Fundamental Pharmacology. Many of them are hopeful future Medical, Dental, and PhD candidates. I meet with them and provide encouragement and guidance as I am heavily involved in those three areas. I have always had and will continue to grow and foster my commitment to Teaching/Education Excellence.

Education Abstracts/Stories:

1. **Smith, SV**, (2019) Improving Student Outcomes in Medical Pharmacology. FASEB J. 33, 1_supplement: 803.2. https://www.fasebj.org/doi/10.1096/fasebj.2019.33.1_supplement.803.2
2. **Smith, SV**, (2020) Improving Student Performance in an Inter-Professional Pharmacology Course: Applying Lessons Learned from Successes in Medical Pharmacology. FASEB J. 34, 1-supplement: 05446. https://doi.org/10.1096/fasebj.2020.34.s1.054463.
3. **Smith, SV**, (2020)ASPET Selects UMMC Pharmacology/Toxicology Faculty for Travel Award, The Journey Newsletter, Office of Medical Education, UMMC, February 2020. https://www.umc.edu/som/Departments%20and%20Offices/SOM%20Administrative%20Offices/files/files/journal-feb-2020.pdf

RESEARCH FUNDING/SUPPORT:

Genetic Targets of Hypertension End Organ Damage
5RO1HL137673-03 Type: RO1
PI: Dr. Michael Garrett
SV Smith role: Co-Investigator
10% Salary Support

Mississippi Center of Excellence in Perinatal Research
1P20GM121334-01 Type: COBRE
PI: Dr. Jane Reckelhoff

SV Smith Role: Mass Spectrometry Core Support (5% effort)
Project Period: June 2017 – May 2022.

Cardiorenal and Metabolic Diseases Research Center
5P20GM104357 Type: COBRE
PI: Dr. John E. Hall
SV Smith Role: Core B Mass Spectrometry Support
Project Period: August 2013 – present.
Currently 5% Salary support

PENDING:
Title: Nuclear and Mitochondrial Genome Crosstalk in Kidney
Source: NIH/NIDDK- R01DK126900-01 (Dr. Michael Garrett- PI)
Role: Co-Investigator (Smith, 10%)
Dates: 09/01/2020-08/31/2025
Direct Funds: $2,836,070.00 (total cost for all years)
Goal: This goal of this application is to map QTL and identify genes/genetic variants that control nephron number, which is linked with susceptibility to develop hypertension and chronic kidney disease

Title: Administrative Supplement: Genetic Targets of Hypertension End Organ Damage: Cognitive Impairment in Vascular Dementia (NOT-AG-20-008)
Source: NIH/NHLBI-1R01HL137673-01S2 (Garrett- PI)
Role: **Co-Investigator (Smith, 10%)**
Dates: 07/01/2020-06/30/2021
Direct Funds: $387,500 (direct cost for all years)

Title: Genetic Interactions in Hypertensive End Organ Injury
Source: NIH/NIDDK- R01HL- 000000-01 (Garrett- PI)
Role: **Co-Investigator (Smith-10%)**
Dates: 04/01/2021-08/31/2025
Direct Funds: $2,482,505 (total cost for all years)
Goal: The goal of this application is to investigate the role of Cgnl1 as well as the genetic interaction with Arhgef11 in the onset and development of hypertensive kidney disease using animal model and state-of –art omics technologies

Completed Research Support
Genomics and Lipidomics of CYP Eicosanoids in Kidney Disease in African-Americans
Type: UMC Intramural Research Support Program (IRSP); $30,000
Role: Co-Investigator (PI is Dr. Albert W. Dreisbach, MD)
Project Period: May 1, 2011 – April 30, 2012

Structure/Function Relationships in the Breast Cancer Molecular Target Aromatase
Type: American Cancer Society (ACS) Institutional Research Grant
Role: Principal Investigator
Project Period: July 1, 2003 – June 30th, 2004

HPLC Purification and Characterization of Hepatic Cytochrome P450 Isoforms
Type: Mississippi Functional Genomics Network Small Instrumentation Grant
Role: Principal Investigator
Project Period: October 1, 2003 – September 30th, 2004

Role of microRNA-21 in acetaminophen-induced acute liver failure
R21DK113500
PI: Damian G. Romero, PhD; **SV Smith, Co-Investigator**
Project Period: 04/01/2017 – 03/31/2020

Development of novel combinatorial treatment to prevent chemotherapeutic resistance and enhance efficacy of riluzole in a rodent model of SCI.
Type: DOD
PI: Dr. Raymond J. Grill; **SV Smith, Co-Investigator** (10% Salary, Mass Spectrometry Core Support)
Project Period: 10/1/2015 – 9/30/2017

Sildenafil for the Treatment of Delayed Cerebral Ischemia Following Subarachnoid Hemorrhage.
Type: Intramural Research Support Program (IRSP)
PI: Dr. Chad Washington; **SV Smith Co-Investigator**

PUBLICATIONS AND BOOK CHAPTERS:

1. Koch, R. B., **Smith, S.**, and Glick, B. (1991) Effects of several selected odorants on the sodium- and potassium-dependent adenosine triphosphatase activities of two different chicken olfactory tuberinals., *Poult. Sci. 70*, 1269-1272.

2. **Smith, S. V.** and Case, S. T. (1993) Over-expression of a core repeat from an insect silk protein that forms intramolecular disulfide bonds., in *Biomolecular Materials* (Viney, C., Case, S. T., and Waite, J. H., Eds.) pp 93-98, Materials Research Society Press, Pittsburgh, PA ISBN: 1-55899-187-5.

3. Case, S. T. and **Smith, S. V.** (1994) Synthetic and recombinant domains from a midge's giant silk protein: Role of disulfide bonds., in *Silk Polymers: Materials Science and Biotechnology* (Kaplan, D., Adams, W. W., Farmer, B., and Viney, C., Eds.) pp 91-97, American Chemical Society Press, Washington, DC ISBN: 0-8412-2743-8.

4. Case, S. T., **Smith, S. V.**, and Bratton, M. R. (1994) Disulfide bonds in recombinant repeat units from an aquatic insect's silk protein., in *Biomolecular Materials by Design* (Alper, M., Bayley, H., Kaplan, D., and Navia, M., Eds.) pp 31-36, Materials Research Society Press, Pittsburgh, PA ISBN: 1-55899-229-4.

5. **Smith, S. V.**, Correia, J. J., and Case, S. T. (1995) Disulfide bonds in a recombinant protein modeled after a core repeat in an aquatic insect's silk protein., *Protein Sci. 4*, 945-954.

6. Omata, Y., Dai, R., **Smith, S. V.**, Robinson, R. C., and Friedman, F. K. (2000) Synthetic peptide mimics of a predicted topographical interaction surface: the cytochrome P450 2B1 recognition domain for NADPH-cytochrome P450 reductase, *J. Protein Chem. 19*, 23-32.

7. **Smith, S. V.**, Koley, A. P., Dai, R., Robinson, R. C., Leong, H., Markowitz, A., and Friedman, F. K. (2000) Conformational modulation of human cytochrome P450 2E1 by ethanol and other substrates: a CO flash photolysis study, *Biochemistry 39*, 5731-5737.

8. Piro, M. C., Militello, V., Leone, M., Gryczynski, Z., **Smith, S. V.**, Brinigar, W. S., Cupane, A., Friedman, F. K., and Fronticelli, C. (2001) Heme pocket disorder in myoglobin: reversal by acid-induced soft refolding, *Biochemistry 40*, 11841-11850.

9. **Smith, S. V.**, Robinson, R. C., Smith, T. G., Burks, S. M., and Friedman, F. K. (2006) Rapid conformational dynamics of cytochrome P450 2E1 in a natural biological membrane environment., *Biochemistry 45*, 15617-15623. (*Biochemistry* "Hot Article" for January 2007).

10. Kyle, P.B., **Smith, S.V.**, Baker, R.C. and Kramer, R.E. (2012). Mass spectrometric detection of CYP450 adducts following oxidative desulfuration of methyl parathion, *J. Applied Toxicol* Jan 23. doi: 10.1002/jat.1792. PMID: 22271348 [Epub ahead of print]

11. Dreisbach, A.W., **Smith**, **S.V.**, Kyle, P.B., Ramaiah, M., Amenuke, M., Garrett, M.J., Lirette, S.T., Griswold, M.E., and Roman, R.J. (2014). Urinary CYP Eicosanoid Excretion Correlates with Glomerular Filtration in African-Americans with Chronic Kidney Disease, *Prostaglandins Other Lipid Mediat. Prostaglandins Other Lipid Mediat.*, Aug 21. pii: S1098-8823(14)00033-1. doi: 10.1016/j.prostaglandins.2014.08.002. [Epub ahead of print] PMID: 25151892 [PubMed - as supplied by publisher]

12. Fan, F., Geurts, A.M., Pabbidi, M.R., **Smith**, **S.V.**, Harder, D.R., Jacob, H., and Roman, R.J. (2014). Zinc-finger nuclease knockout of dual-specificity protein phosphatase-5 enhances the myogenic response and autoregulation of cerebral blood flow in FHH.1.BN rats., *PLoS One*, 9(11):e112878

13. Lindsey ML, Gomes AY, **Smith SV**, de Castro Bras LE. *How to Design a Cardiovascular Proteomics Experiment*, p. 33-57. In: Agnetti G, Lindsey ML, and Foster DB, editors. Manual of Cardiovascular Proteomics. New York: Springer Berlin Heidelberg; 2016 (ISBN 978-3-319-31828-4).

14. Poole, A.R., Enwerem, I.I., Vicino, I.A., Coole, J.B., **Smith**, **S.V.**, and Hebert, M.D. (2016). Identification of processing elements and interactors implicate SMN, coilin and the pseudogene-encoded coilp1 in telomerase and box C/D scaRNP biogenesis, *RNA Biology*, 13(10): 955 - 972.

15. Hirata, T., **Smith**, **S.V.**, Takahashi, T. Miyata, N., and Roman, R.J. (2020) Increased Levels of Renal Lysophosphatidic Acid in Rodent Models with Renal Disease. *Submitted and in Revision, JPET 9/1/2020*

MEETING ABSTRACTS:

1. **Smith**, **S.V.**, Glick, B., and Koch, R.B. (1985) Chicken ATPase Activities from Five Different Chicken Tissue Preparations. *J. Mississippi Academy of Sciences*, 30:20.

2. Koch, R.B. and **Smith**, **S.V.** (1987) Purification and Comparison of Lipoxygenase Enzymes: Properties and Activities from Five Different Legume and Corn Seeds. *J. Mississippi Academy of Sciences*, 32:17.

3. Koch, R.B., Glick, B., and **Smith, S.V.** (1988) Comparison of the Effects of Odorants and Amino Sugars on the ATPase Activities of Chicken Olfactory and Chicken Brain Preparations. *J. Mississippi Academy of Sciences*, 33:19.

4. **Smith, S.V.** and Case, S.T. (1992) High-Level Expression in *E. coli* of a Recombinant Core Repeat from a *Chironomus tentans* Secretory Protein. *J. Mississippi Academy of Sciences*, 37:30.

5. **Smith, S.V.** and Case, S.T. (1994) Evidence for Intramolecular Disulfide Bonds in a Recombinant spIa Core Repeat Protein from *Chironomus tentans*. *J. Mississippi Academy of Sciences*, 39:33.

6. **Smith, S.V.** and Case, S.T. (1995) Disulfide Bonds in a Recombinant Repeat From an Aquatic Insect's Silk Protein. *Biophys. J.*, 68:A342.

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8. Fronticelli, C., Piro, C., Karavitis, M., Arosio, D., **Smith, S.V.**, Friedman, F.K. and Brinigar, W.S. (2000) Conformational and Functional Relevance of the COO-Terminal Residues in Sperm Whale Myoglobin. *Biophys. J.*, 78:A281.

9. Robinson, R.C., Friedman, F.K., and **Smith, S.V.** (2001) Unique Conformational Ensembles of Different Human Cytochromes P450. *Biophys. J.*, 80:A403-404.

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11. Priester, J. and **Smith, S.V.** (2005). Using Difference Spectroscopy to Investigate the Interactions of Selected Inhibitors with the Breast Cancer Molecular Target Cytochrome P450 Aromatase. *J. Mississippi Academy of Sciences*, 50(1):45.

12. Priester, J., and **Smith, S.V.** (2006). Ligand Binding Properties of the Breast Cancer Molecular Target Aromatase. *J. Mississippi Academy of Sciences*, 51(1):35.

13. Hilderbrand, H.J., Smith, T.G., and **Smith, S.V.** (2006) The Effects of Several Selected Breast Cancer Drugs on Aromatase Activity. *J. Mississippi Academy of Sciences*, 51(1):43.

14. Brown, K., **Smith, S.**, Levison, V., Purser, C.A., Smith, T.G., and Baker, R.C. (2007) Hepatic Cytochrome P450 Activity in a Zebrafish Alcoholic Liver Disease Model. *J. Mississippi Academy of Sciences*, 52(1):54-55.

15. Levison, V.L., Baker, R.C., Brown, K., **Smith, S.V.**, Purser, C.A., Smith, T.G., and Tucci, M. (2007) Development of a Model for Alcoholic Liver Disease. *J. Mississippi Academy of Sciences*, 52(1):104.

16. Burks, S.M., Levison, V., Knight, E., Baker, R.C., and **Smith, S.V.** (2008). Pharmacological Effects of Ethanol and Other Drugs on Zebrafish. *SEPS 28th Annual Meeting*, 50(1):67-68.

17. Harvey, K.L., Trussell, A.N., **Smith, S.V.**, and Wellman(2009) Purification and Reconstitution of Bacterially Expressed Aromatase. *J. Mississippi Academy of Sciences*, 54(1):37.

18. Love, J.A., Smith, T.G., Freeman, M.L., Yoder, Z.J., Purser, C.A., Burks, S.M., Couch, D.B., **Smith, S.V.**, and Baker, R.C. (2009) A Zebrafish Model of Short- and Long-Term Ethanol Exposure. *J. Mississippi Academy of Sciences*, 54(1):67.

19. Richardson, K., Walker, A., Burks, S., Baker, R., and **Smith, S.**(2009). Effects of Binge and Chronic Alcohol Exposure on Zebrafish Grouping Behavior. *J. Mississippi Academy of Sciences*, 54(1):79.

20. Rush, T., Brown, B., Purser, C., and **Smith, S.** (2010). *In Vitro* Metabolomics of the Breast Cancer Drug Tamoxifen. *J. Mississippi Academy of Sciences,* 55(1):90.

21. Burks, S. and **Smith, S.** (2010). Probing Cytochrome P450s: Insights into Conformational Dynamics Using Laser Flash Photolysis. *J. Mississippi Academy of Sciences,* 55(1):90.

22. Dreisbach, A., **Smith, S.V.**, Kyle, P.B., Ramaiah, M., Garrett, M.R., Amenuke, M., Griswold, M.E., and Roman, R.J. (2012) Urinary CYP Eicosanoid Excretion Correlates with Glomerular Filtration in African-Americans with Chronic Kidney Disease. *Hypertension*, 60:A348.

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24. **Smith, SV,** (2020) Improving Student Performance in an Inter-Professional Pharmacology Course: Applying Lessons Learned from Successes in Medical Pharmacology. FASEB J. 34, 1-supplement: 05446. https://doi.org/10.1096/fasebj.2020.34.s1.05446

25. **Smith, S,** Williams, JM, Shields, C. (2020) Using The Obese Dahl Salt 2D sensitive Leptin Receptor Mutant Rat As A Model Of Renal Injury Associated With Prepubertal Obesity, Submitted to AHA

26. **Smith, S,** Williams, JM, Brown A. (2020) Elevations In Arterial Pressure Is Associated With Increases In Plasma Angiotensin II And Angiotensin1-7 In Female Obese SS Rats Prior To Puberty, Submitted to AHA