CURRICULUM VITAE

Judy S. Crabtree, Ph.D.

Current Title: **Assistant Professor - Research**
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Education:

Undergraduate

1987 – 1992 Bachelor of Science in Chemistry (Honors), The University of Oklahoma, Norman, OK

Graduate

1992 – 1994 Master of Science in Biochemistry, The University of Oklahoma, Norman, OK

1994 – 1997 Ph.D. in Biochemistry and Genetics, The University of Oklahoma, Norman, OK (Advisor: Bruce A. Roe, Ph.D.)

Post-Doctoral Fellowship

1997 – 2001 National Human Genome Research Institute, National Institutes of Health (Advisor: Francis S. Collins, M.D., Ph.D.)

Career Development

2005 – 2006 **Wyeth Women as Leaders in Discovery.** This was a two-year leadership training program emphasizing leadership skills for careers in upper management. This training included topics such as ethics, managing difficult people, conflict resolution, learning style identification, time management, efficient meeting management, negotiation skills, and effective communication strategies.

2006 **Wyeth Drug Development Training.** An intensive three-day training for senior R&D project Team Leaders. This training included topics relevant to drug development including high throughput screening, lead optimization, preclinical testing strategies, commercial development, marketing, positioning strategy, labeling, clinical trial design, and intellectual property protection.

2011 **American Association of Medical Colleges Early Career Women Faculty Professional Development Program**, Washington, DC. A one-week program of professional development for early stage female faculty in medical colleges. Attendees were selected through a competitive application process.

2017 **Mentor Training Participant** in the National Science Foundation Research Mentor Training Program. This was a training session for faculty and other mentors to improve and refine mentoring skills, specifically for mentors involved in the Research Experiences for Underrepresented Minority Undergraduates Program (REU) at NSF. The mentoring training program was conducted in 4 online sessions of 2 hours each and covered skills such as how to improve mentees' research productivity, how to reduce frustration in mentoring and how to increase/incorporate culturally sensitive mentoring practices.

Academic, Professional, and Research Appointments:

2001-2003 **Research Fellow**, National Human Genome Research Institute, National Institutes of Health, Bethesda, MD

2003-2006 **Senior Research Scientist II**, Women's Health and Musculoskeletal Biology, Wyeth Research, Collegeville, PA

2007-2008 **Principal Research Scientist I**, Women's Health and Musculoskeletal Biology, Wyeth Research, Collegeville, PA

2009-2013 **Assistant Professor (tenure track)**, Louisiana State University Health Sciences Center School of Medicine, Department of Genetics, New Orleans, LA

2009-present **Member, Graduate Faculty**, Louisiana State University Health Science Center, New Orleans, LA

2009-present **Member, Stanley S. Scott Cancer Center and Louisiana Cancer Research Consortium**, Louisiana State University Health Sciences, New Orleans, LA

2009-present **Member, Louisiana Clinical and Translational Science Center** (LACaTS), New Orleans, LA

2012-present **Adjunct Assistant Professor**, Pennington Biomedical Research Center, Baton Rouge, LA

2013-present **Director**, Genomics Core, School of Medicine, New Orleans, LA

2013-present **Assistant Professor – Research**, Louisiana State University Health Sciences Center, New Orleans, LA

2014-present **Adjunct Faculty**, Tulane University Diabetes Research Program, Tulane University School of Medicine, New Orleans, LA

2017-present **Scientific and Education Director**, LSUHSC Precision Medicine Program

Membership in Professional Organizations:

1992-1997 Member, Phi Lambda Upsilon, Alpha Omega Chapter, National Chemistry Honor Society

1998-2005	Member, American Association for the Advancement of Science
1999-present	Member, American Society for Human Genetics
2004-present	Member, The Endocrine Society
2004-2005	Contributing Faculty Member, Faculty of 1000 in Medicine (Endocrinology Section)
2009-present	Founding Member, Association of Women in Science (AWIS), South Louisiana Chapter
2009-2010	Treasurer, Association of Women in Science, South Louisiana Chapter
2014-2016	Treasurer, Association of Women in Science, South Louisiana Chapter
2011-2012	Member, Society for the Study of Reproduction
2011-present	Member, American Association for Cancer Research (AACR)
2011-present	Member, AACR Women in Cancer Research

Awards and Honors:

1991	Phi Lambda Upsilon, National Chemistry Honor Society, Outstanding Undergraduate Research Student, The University of Oklahoma, Norman, OK
1992-1997	Department of Energy Graduate Research Fellowship Recipient
1999	Pioneering Women in Oklahoma exhibit (in conjunction with International Women in Science Day), Pioneer Woman Statue and Museum, Ponca City, OK. My work with the Human Genome Project was featured in an exhibit highlighting exceptional women from the State of Oklahoma.
2000	Abstract selected for late breaking oral plenary session, American Society of Human Genetics annual meeting, Philadelphia, PA. I was selected to give an oral presentation in the late-breaking science plenary session. This session is for cutting edge science and was scheduled unopposed during this time slot. It was estimated that more than 5,000 people were in attendance for this session.
2001	John Haddad Young Investigator Award, Advances In Mineral Metabolism - American Society of Bone and Mineral Research (AIMM-ASBMR) Annual Meeting, Keystone, CO
2002	Outstanding Merit Poster Award, National Human Genome Research Institute, Scientific Retreat, Bethesda, MD
2002	Newkirk High School Hall of Fame Award, Newkirk, OK.

2003	Director's Distinguished Service Award, National Human Genome Research Institute, National Institutes of Health. Institute Director: Dr. Francis S. Collins
2004	Above and Beyond Award for exemplary service and research excellence, Wyeth Research, Collegeville, PA
2006 – 2007	Wyeth Scholars Program. I was selected through a competitive process to serve as a scientist teacher/mentor to Perkiomen High School science teachers in Collegeville, PA. This program was a two-year continuing education program for high school teachers that involved didactic classwork in mentoring, direct mentoring of teachers, and conducting science experiments with high school science students.
2012	Travel award ($1500) to attend the "How to Secure Promotion and Tenure Workshop and Reception" at The Endocrine Society's Annual Meeting, Houston, TX.
2012	Selected for Early Career Reviewer (ECR) program at the Center for Scientific Review (CSR), NIH, Bethesda, MD
2016	Selected to attend the Council on Undergraduate Research's Research Experiences for Undergraduates National Symposium as mentor, Washington, D.C. Mentee: Denicka Wilson.

TEACHING EXPERIENCE AND RESPONSIBILITIES

My teaching responsibilities include lecturing graduate students in the School of Graduate Studies Interdisciplinary Program and the Department of Genetics, students in the Physician Assistant program in the School of Allied Health, and medical students in the School of Medicine.

Within the Interdisciplinary Program (IDP), my teaching has increased over my time at LSUHSC from teaching one lecture in the introductory core course (INTER121), to now teaching 7-10 lectures in the overall first year IDP core curriculum. In addition, I serve as co-course director for Introduction to Genetics (INTER141), also a required core course for all incoming graduate students. Within the Department of Genetics, I was co-course director for the Human Molecular Genetics course (GENET231 - the fundamental core genetics course for all Department of Genetics graduate students) for 7 years until it was replaced by Introduction to Genetics (INTER141) when the IDP curriculum was revised in 2016. I have developed an upper level graduate course in the School of Graduate Studies entitled Animal Models of Human Disease (GENET242), for which I am the course director. Additionally, I serve as the course director for Seminars in Human Genetics (GENET299), a required seminar class for graduate students in the Department of Genetics. Beginning in fall 2017, I also teach a Professionalism lecture to incoming graduate students as a part of the Graduate Student Orientation class, INTER101.

In 2015 my teaching responsibilities expanded to include lectures on Precision Medicine to students in the Physician's Assistant (PA) program in the School of Allied Health (Clinical Genetics, PYAS6574). This topic has subsequently been integrated into the

Fundamentals of Pharmacology course (PHARM207), which is taken by the PA students as well as the graduate students in the Department of Pharmacology.

My teaching in the School of Medicine also began in 2015 when I taught two lectures in the Medical Biochemistry course to first year medical students on topics of Pharmacogenomics, Next Generation Sequencing and Precision Medicine. In 2016, my Medical School responsibilities changed with the curriculum renewal process and I now teach second year medical students on similar topics in the new Foundations of Disease and Therapy course. Additionally, I am a House Mentor for Decatur House wherein I facilitate group discussion for first and second year medical students - initially in Science and Practice of Medicine (SPM100/101 and 200/201) and now in the Clinical Skills Integration courses (CSI101/102 and 201/202).

In addition to my formal didactic teaching responsibilities, I have trained two graduate students who received their Ph.D. degrees in 2015. Currently, I have one graduate student in my laboratory, and I serve on one dissertation committee and one M.S. thesis committee. I have trained five rotating graduate students and four undergraduate summer students (one student for three summers to date), and one high school summer student in my years at LSUHSC.

In 2017, I initiated a Continuing Medical Education (CME) course for physicians and other medical professionals (including physical therapy, occupational therapy and nurse practitioners). I conceived, planned and developed a 4.5 hour course which was held on April 7 and will continue on a regular recurring basis as long as there is demand. This course includes didactic instruction on the fundamental concepts of genetics, chromosome structure, molecular biology and heredity, and then correlates these concepts into the genetics of disease and the role of genetic variation in drug metabolism and clinical decision-making.

Course/Clerkship/Residency or Fellowship/CME Directorships

2010 – present **Course Director**, Animal Models of Human Disease (GENET242). Graduate School Program in the Department of Genetics. Initially I developed this course in collaboration with Dr. Udai Pandey who left the institution in 2011. This course has been offered each spring, but has suffered from low enrollment after the first iteration in 2010 and has not been taught since then. I was responsible for developing the course content, updating the material to include new technologies, evaluating the final project, preparing and scoring the class exams, and scheduling additional faculty to assist with lectures. This course encompasses 11 lectures and two exams. Students are also required to prepare a final project, which involves generating a new, theoretical mouse model along with literature presentations on the topic.

2011 – 2016 **Co-course Director**, Human Molecular Genetics (GENET231). Graduate School Program in the Department of Genetics. Along with Dr. Paula Gregory, I was responsible for the overall organization, content and implementation of this fundamental course for Genetics graduate students. My contributions included setting the curriculum including my topic areas on the Human Genome Project, epigenetics and Precision Medicine. My primary role was to independently develop and teach a content module on the Human Genome. This included

determining the topics to be covered, teaching the first five lectures of the course, and developing, proctoring and grading the first exam. This course was discontinued in 2016 with the curriculum restructuring, and was replaced by INTER141 (see below).

2012 – present **Course Director**, Seminars in Human Genetics (GENET299). Graduate School Program in the Department of Genetics. In this capacity, along with Dr. Andrew Hollenbach (2012-2014) and then independently (2015-present), I am responsible for scheduling the Department of Genetics student seminars, setting the schedule and evaluating the performance of student presentations.

2017 – present **Co-course Director**, Introduction to Genetics (INTER141). Graduate School Interdisciplinary Program. This class replaced Human Molecular Genetics (GENET231) and was expanded from a Department of Genetics course to a required course for all incoming graduate students. This course includes ten didactic lecture sessions, two exams, and seven homework assignments covering the fundamentals of Human Genetics. Along with Dr. Fern Tsien, I was responsible for developing the curriculum for the course, selecting additional expert faculty to lecture within the course, organizing/grading the take-home problem sets, teaching four lectures, proctoring exams, calculating final grades and implementing team-based learning modules for the study of genetics-based medical ethics.

Curriculum Development/Implementation

1. In collaboration with Dr. Fern Tsien, I developed and implemented a new core course for all incoming graduate students in the interdisciplinary program (INTER141). This course was modeled after GENET231, but included updated curriculum development and organization. Topics include chromosome structure and function, modes of inheritance (Mendelian and non-Mendelian), the human genome, genome editing, biochemical genetics, epigenetics and imprinting, immunogenetics, pharmacogenetics, genetic testing and genetic ethics.

2. I developed and implemented a new upper level graduate course Animal Models of Human Disease (GENET242) in collaboration with Dr. Udai Pandey. This course was designed to give a fundamental knowledge of animal models to upper level graduate students. Topics include Drosophila models, transgenic mouse and rat model systems, rabbit models of virus reactivation, and non-human primate model systems. Students develop a final project wherein they describe the production and use of one of these models systems to answer a particular biological question. This final student project is presented to the other students in the class in seminar format. Students are graded on content and suitability of the model system to the hypothesis in question.

3. In 2017, as the Scientific and Education Director for the Precision Medicine Program within the Department of Genetics, I developed and implemented a Continuing Medical Education (CME) course for physicians and other medical professionals (including physical therapy, occupational therapy and nurse practitioners) entitled “Precision Medicine: Integrating Genetics and Genomics into the Clinic.” The inaugural session of this 4.5 hour course was held on April 7 and future sessions will

continue on a regular recurring basis. Topics include didactic instruction on the fundamental concepts of genetics, chromosome structure, molecular biology and heredity, and then correlates these concepts into the genetics of disease and the role of genetic variation in drug metabolism and clinical decision-making.

4. I serve on the Ethics and Cultural Competency subcommittee for Clinical Skills Integration course for first and second year medical students. Chaired by Dr. Robin English and along with many other faculty, we were tasked with revising the case study scenarios to more effectively integrate cultural competency and ethics into the curriculum.

5. In 2016 as an *ad hoc* member of the Interprofessional Education (IPE) Committee, I helped develop the IPE Day activity by providing information on the Genetic Nondiscrimination Act (GINA) component.

Formal Course Responsibilities

School of Graduate Studies:

2009-2015 **Lecturer**, INTER121, Cell Biology. Lectured 3 hours per year on the topic of genome-wide technologies called –Omics. This topic was omitted when the curriculum was revised at the end of 2015. In 2014 and 2015, I also lectured an additional 3 hours on modes of genetic inheritance.

2009-present **Lecturer**, INTER122, Introduction to Molecular Biology. I lecture between 10 and 12 hours per year on the topics of DNA replication, site specific recombination, homologous recombination, general transcription and RNA splicing. In the fall of 2015, I taught three additional lectures (7.5 additional lecture hours) on general transcription, RNA processing and protein translation to cover for a colleague who needed to leave town unexpectedly to deal with family matters.

2009-2016 **Lecturer (2009–2011), Co-Course Director (2011–2016)**, GENET231, Human Molecular Genetics. In my capacity as lecturer and co-course director I lectured 12 hours per year on topics including organization of the human genome, cloning human genes, genomics technologies, epigenetics, imprinting and regulatory RNAs. In the later years (2013-2016) this course was organized into three topic blocks and I was fully responsible for the first block on the Human Genome including all lectures, homework and the block 1 exam.

2010-2016 **Lecturer**, INTER123, Control of Gene Expression. I lectured 3 hours on mouse model generation and their use in basic science research.

2010-present **Lecturer**, GENET234, Epigenetics. I lecture 1.5 hours per year on regulatory RNAs.

2010-present **Course Director**, GENET 242, Animal Models of Human Disease. This course has been offered every spring, but has had low enrollment resulting in this class not being taught any year except 2010. In 2010, I served as course director and lectured 12 hours on basic rodent

biology, mouse model production and use, practical application of mouse model strategies, and rat model systems.

2012-present **Course Director**, GENET299, Department of Genetics Student Seminar Series. I have served as Co-director (with Dr. Hollenbach from 2012-2014) or as Director of the Departmental Student Seminar series since 2012. In this role, I am responsible for establishing the schedule for the seminar series each year, assigning dates for each student seminar based on student seniority, acting as faculty contact for any scheduling conflicts that arise and assessing student performance.

2015 **Lecturer**, GENET245, Cancer Molecular Genetics and Applications. This course is offered every other year. In 2015, lectured 3 hours on Precision Medicine in a one-on-one, independent study format to the one student who enrolled in this course and needed it for graduation.

2017-present **Co-course Director**, INTER141, Introduction to Genetics. This course replaced GENET231 upon restructuring of the Interdisciplinary Program curriculum in 2016. In addition to co-directing this course, I lecture 9 hours on topics that include the Human Genome, genome editing, mouse models, pharmacogenomics, precision medicine, genetic testing, genetic approaches to treating disease, clinical genetics, and ethics of genetic testing.

2017-present **Lecturer**, INTER101, Graduate Student Orientation. I delivered a 1 hour lecture on Professionalism and behavioral expectations of LSUHSC graduate students.

School of Medicine

2012-2013, & 2015-present **Basic Science Facilitator and House Faculty Mentor**, MCLIN101/102, Science and the Practice of Medicine (Clinical Skills Integration as of 2015). Decatur House. In this capacity I lead group discussions on biomedical and clinical ethics for 14 hours per year to first year medical students. Discussion topics include professional relationships, confidentiality, duty to report, informed consent, disclosing errors, truth telling, research ethics, right to refuse treatment, duty to treat, professional responsibility in extreme conditions, lifesaving support and withdrawal of care, assisted suicide, access to care, medical interpreters, ethics of digital health information, and assessing decision-making capacity of patients.

2012-2013, & 2015-present **Basic Science Facilitator and House Faculty Mentor**, MCLIN201/202, Science and the Practice of Medicine (Clinical Skills Integration as of 2015). Decatur House. In this capacity I lead group discussions on how to critically read and evaluate medical literature. This work involves 16 hours per year working with second year medical students.

2015 **Lecturer**, MED100, Medical Biochemistry, I lectured 2 hours per year on the topics of next generation sequencing and precision medicine to first year medical students.

2016-present **Lecturer**, MCLIN230, Foundations of Disease and Therapy. I lecture 1 hour per year on Pharmacogenomics to second year medical students.

School of Allied Health

2015 **Lecturer**, PYAS6574, Clinical Genetics. I lectured 2.5 hours on Precision Medicine and Genomics to first year physician assistant students.

2017-present **Lecturer**, PHARM207, Medicinal Pharmacology. I lecture one hour on Precision Medicine to pharmacology graduate students and first year physician assistant students.

Undergraduate, Medical, or Graduate Students Trained

Dissertation Advisor:

2011-2015 Elaine C. Maggi, Ph.D. – Dissertation title "Role of Aberrant RBP2 Expression in Neuroendocrine Tumors." (Continued on to perform postdoctoral work with Steve Libutti, M.D. at Albert Einstein College of Medicine/Montefiore Hospital in Bronx, N.Y.)

2011-2015 Jyothi Vijayaraghavan, Ph.D. – Dissertation title "MicroRNA-mediated Regulation of Adaptive Beta Cell Mass Expansion." (Continued on to perform postdoctoral work with Barbara Osborne, Ph.D. at University of Massachusetts, Amherst.)

2015-present Ciera Singleton, LSUHSC Ph.D. candidate, Department of Genetics

Thesis and Dissertation Committees:

2010-2012 Nikki Nguyen, Ph.D., Department of Genetics (PI: Kolls), "Vitamin D Regulation of Immune Responses to *Aspergillus fumigatus*," awarded December, 2012.

2012-2014 Jacob Loupe, Ph.D., Department of Genetics (PI: Hollenbach), "The contribution of PAX3-FOXO1 to the Progression of Alveolar Rhabdomyosarcoma," awarded May, 2014.

2012-2014 Michael Ripple, Ph.D., Department of Genetics (PI: Del Valle), "Modulation of Wnt Pathway Target Gene Expression by JC Virus T-Antigen in Colon Cancer," awarded August 2014.

2014-present Kayla Fuselier, Ph.D. candidate (PI: Grabczyk), Department of Genetics

2017-present Bryant Autin, M.S. candidate (PI: Cameron), Department of Microbiology, Immunology and Parasitology

2017-present Katelyn Robillard, M.D./Ph.D. candidate (PI: Lentz), Neuroscience Center

Additional Training History:

Junior Faculty Mentoring Activity:

2016-present Tanja Milosavljevic, Ph.D. Instructor-Research, LSUHSC Department of Surgery. I regularly review manuscripts, grant proposals and give constructive scientific feedback on experimental design/approaches.

Research Staff Trained:

2009-2010 Peter J. Hickman, B.S.

Rotation Student Advisor:

2009 Jyothi Vijayaraghavan, Ph.D. candidate, Department of Genetics
2010 Jack DePaolo, M.D./Ph.D. candidate, Department of Genetics
2010 Elaine Maggi, Ph.D. candidate, Interdisciplinary Program
2015 Ciera Singleton, Ph.D. candidate, Interdisciplinary Program
2016 Meredith Juncker, Ph.D. candidate, Interdisciplinary Program
2016 Ngozi Ogbonnaya, Ph.D. candidate, Interdisciplinary Program
2017 Katherine (Katie) Adler, M.S. candidate, Interdisciplinary Program

Postgraduate Summer Intern Advisor:

2009 Jack DePaolo, LSUHSC M.D./Ph.D. candidate
2012 Vilija Vaitaitis, LSUHSC M.D. student
2012 Claire Noell, Tulane University M.D. student

Undergraduate Summer Intern Advisor:

2015-2017 Denicka Wilson, Undergraduate REU student, Howard University

High School Summer Intern Advisor:

2017 Alina Mohiuddin, high school senior, Ursuline Academy

Other Mentoring Activities:

2012-2013&
2015-present **Basic Science Facilitator and House Faculty Mentor** for first and second year medical students, Science and the Practice of Medicine, Decatur House

2014-present **Co-coordinator and Mentor, Sci-Fly Speed Mentoring** event for summer students on the LSUHSC campus. This is a mentoring event for high school and undergraduate summer students that is akin to speed dating. Each mentee spends 8 minutes with a mentor before moving to a new mentor in a round-robin format.

2016 **AACR Faculty Mentor**, American Association for Cancer Research 11th Annual Undergraduate Student Caucus and Poster Competition, AACR Annual Meeting, New Orleans, LA on April 16-20, 2017. I mentored 15 high school students by walking them through the poster session, vendor booths and attending the mentor luncheon.

2015-2017 **REU Faculty Mentor**, National Science Foundation. I have been a faculty mentor for the same REU student for three years. In 2016, I attended the NSF Council on Undergraduate Research's "Research Experiences for Undergraduates" National Symposium as mentor to my summer student Denicka Wilson. Denicka was selected in a competitive application process to attend this two day mentoring

meeting held in Washington, D.C. This mentoring experience included the didactic workshop and meeting held at the NSF, but as part of my mentoring activities I also took Denicka to the campus of the National Institutes of Health. She was able to meet successful NIH researchers and learn about the many internship programs available at the NIH.

RESEARCH AND SCHOLARSHIP

Grants and Contracts:

Funded, Ongoing:

1. "CC* Networking Infrastructure: Science DMZ and Research Network Upgrade for LSU Health Sciences Center New Orleans"
   Funding Agency: National Science Foundation NSF ACI 1657895
   Role on Grant: Co-Primary Investigator (Co-PIs M. Qayoom, B. Owens, J. Zabaleta, C.M. Taylor)
   Funding Period: 03/2017-2/2019
   Direct Costs: $499,640
   The *major purpose* of this grant is to support an IT infrastructure hardware upgrade. The *major goal* of this project is to increase the speed and ability of our network to handle big data from large genomics projects and to establish a Science DMZ (demilitarized zone) within the LSUHSC firewall for increased data sharing capability. My role on this grant is as co-PI and Director of the School of Medicine Genomics Core, justifying the need for improved infrastructure as an end user of big data. *There is no percent effort associated with this grant – it is exclusively to upgrade the campus-wide physical hardware within our IT infrastructure to support the use and transfer of large datasets.*

Funded, Completed:

1. "miRNA Regulation of Menin in Obesity."
   Funding Agency: RFP Seed Grant #104631 LSUHSC, Department of Genetics
   Role on Grant: Primary Investigator, 20% effort
   Funding Period: 07/01/10-06/30/11
   Direct Costs: $14,555
   The *major purpose* of this grant was to provide supplies to develop a project for extramural funding applications. The *major goal* of this project was to perform initial confirmatory studies of miRNAs predicted to inhibit menin function in the hyperplastic pancreatic islet in response to obesity.

2. "Mouse xenograft model generation to support *in vivo* investigations of CARM1 function."
   Funding Agency: Louisiana State Board of Regents, LEQSF (2011)-PFUND-249
   Role on Grant: Primary Investigator, 20% effort
   Funding Period: 03/01/11-02/29/12
   Direct Costs: $10,000
   The *major purpose* of this grant was to support animal model studies as preliminary data for an extramural R01 grant submission. The *major goal* of this study was to investigate the role of CARM1 in uterine leiomyoma tumorigenesis.

3. "MicroRNA profiling of expanded pancreatic islets as a result of increased metabolic demand in the mouse."
   Funding Agency: Louisiana State Board of Regents Research Competitiveness Program, LEQSF (2013-15)-RD-A-04

Role on Grant: Primary Investigator, 25% effort
Funding Period: 06/01/13 – 06/31/15
Direct Costs: $94,438
The *major purpose* of this grant was to support supplies and personnel to develop a project to apply for extramural funding. The *major goal* of this project was to perform mRNA and miRNA sequencing to identify which miRNA and mRNAs are dysregulated in the hyperplastic islet of the pancreas in response to obesity.

Pending applications:

1. "RBP2 as a Mediator of Notch/ER Crosstalk in Tamoxifen-Resistant Breast Cancer"
   Funding Agency: Johnson & Johnson, WiSTEM^{2}D Program
   Role on Grant: Principal Investigator
   Direct Costs: $150,000
   Submitted November 2017
   The *major purpose* of this grant is to support studies and personnel to obtain preliminary data to support a national grant submission. The *major goal* of this project is to understand the role of RBP2 in tamoxifen resistant, ER+ breast cancer.

Non-funded applications (last three years)

1. "CC*IIE Networking Infrastructure: High Speed Local Area Network for Clinical Sciences Research"
   Funding Agency: National Science Foundation
   Role on Grant: Co-Principal Investigator
   Direct Costs: $499,999
   Submitted March 2015
   The *major purpose* of this grant was to support an IT infrastructure hardware upgrade. The *major goal* of this project is to increase the speed and ability of our network to handle big data from large genomics projects for increased data sharing capabilities. (Note: this grant was funded upon resubmission in December 2015, see above.)

2. "Precision Medicine Research in Southern Minorities (PRISM)"
   Funding Agency: National Institute of Minority Health and Disparities, NIH
   Funding Mechanism: U54
   Role on Grant: Collaborator, 5% effort (PI: L. Miele)
   Direct Costs: $6,957,730
   Funding Period: 04/01/16-03/31/21
   Submitted September 2015
   The *major purpose* of this grant was to bring together three major institutions in the southern region to address health disparities. The *major goal* of this project was to generate a center for Precision Medicine (PRISM) that worked hand in hand with community outreach and education to understand the health disparities, genetic variation and impact of these on comorbidities and outcomes in the minority population of the Gulf South.

3. "RBP2 as a Mediator of Notch/ER Crosstalk in Tamoxifen Resistant Breast Cancer"
   Funding Agency: Mary Kay Foundation
   Role on Grant: Principal Investigator, 10% effort
   Direct Costs: $86,957
   Funding Period: 06/01/17-05/31/19
   Submitted February 2017

The *major purpose* of this grant is to provide salary stipend for one graduate student and supply money to investigate a new hypothesis and generate preliminary data for an extramural NIH grant submission. The *major goal* of this grant was to investigate the role of RBP2 in facilitating crosstalk between the estrogen receptor and Notch signaling pathways in chemotherapy resistant breast cancer.

Planned funding:

See Research Interests in Appendix

Journal Publications:

Refereed

1. S.L. Chissoe, Y.F. Wang, S.W. Clifton, N. Ma, H.J. Sun, **J.S. Lobsinger**, S.M. Kenton, J.D. White and B.A. Roe. Strategies for rapid and accurate DNA sequencing. Methods: A Companion to Methods in Enzymology 3(1), 55-65 (1991).
2. H.Q. Pan, Y.P. Wang, S.L. Chissoe, A. Bodenteich, Z. Wang, K. Iyer, S.W. Clifton, **J.S. Crabtree** and B.A. Roe. The complete nucleotide sequences of the SacBII Kan domain of the P1 pAD10-SacBII cloning vector and three cosmid cloning vectors: pTCF, svPHEP, and LAWRIST16. Gene Analysis Techniques 11(5-6), 181-186 (1994).
3. S.L. Chissoe, A. Bodenteich, Y.F. Wang, Y.P. Wang, D. Burian, S.W. Clifton, **J.S. Crabtree**, A. Freeman, K. Iyer, L. Jian, Y. Ma, H.J. McLaury, H.Q. Pan, O.H. Sarhan, S. Toth, Z. Wang, G. Zhang, N. Heistercamp, J. Groffen, and B.A. Roe. Sequence and analysis of the human *ABL* gene, the *BCR* gene, and regions involved in the Philadelphia Chromosomal translocation. Genomics 27(1), 67-82 (1995). PMID: 7665185.
4. J. Ballard, **J. Crabtree**, B. A. Roe and R. K. Tweten. The primary structure of *Clostridium septicum* alpha toxin exhibits similarity with *Aeromonas hydrophila* aerolysin. Infect. Immun. 63(1), 340-344 (1995). PMID: 7806374.
5. X. Wu, C.E. Robinson, H.W. Fong, **J.S. Crabtree**, B.R. Rodriguez, B.A. Roe and J.M. Gimble. Cloning and characterization of the murine activin receptor like kinase-1 (ALK-1) homolog. Biochemistry and Biophysics Research Communications 216, 78-83 (1995). PMID: 7488127.
6. S.C. Guru, S.E. Olufemi, P. Manickam, C. Cummings, L.M. Gieser, B.L. Pike, M.L. Bittner, Y. Jiang, A.C. Chinault, N.J. Nowak, A. Brzozowska, **J.S. Crabtree**, Y. Wang, B.A. Roe, J.M. Weismann, M.S. Boguski, S.K. Agarwal, A.L. Burns, A.M. Spiegel, S.J. Marx, W.L. Flejter, P.J. deJong, F.S. Collins, S.C. Chandrasekharappa. A 2.8 Mb clone contig of the multiple endocrine neoplasia, type 1 (MEN1) region at 11q13. Genomics 42:436-445 (1997). PMID: 9205115.
7. S.C. Chandrasekharappa, S.C. Guru, P. Manickam, S.E. Olufemi, F.S. Collins, M.R. Emmert-Buck, L.V. Debelenko, Z. Zhuang, I.A. Lubensky, L.A. Liotta, **J.S. Crabtree**, Y. Wang, B.A. Roe, J. Weismann, M.S. Boguski, S.K. Agarwal, M.B. Kester, Y.S. Kim, C. Heppner, Q. Dong, A.M. Spiegel, A.L. Burns, S.J. Marx. Positional cloning of the gene for multiple endocrine neoplasia, type 1. Science 276(5311):404-407 (1997). PMID: 9103196.
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44. E.C. Maggi and **J.S. Crabtree.** Novel Targets in the Treatment of Neuroendocrine Tumors: RBP2. International Journal of Endocrine Oncology 4(1):31-41 (2017). DOI: 10.2217/ije-2016-0022 ***Invited Review***
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Books:

B. Roe, **J. Crabtree** and A. Khan. *DNA Isolation and Sequencing*. John Wiley and Sons Ltd, New York, NY, 1996.

Book Chapters:

1. S.J. Marx, S.K. Agarwal, M.B. Kester, Y.S. Kim, C. Heppner, A.M. Spiegel, A.L. Burns, M.R. Emmert-Buck, L.V. Debelenko, Z. Zhuang, I. Lubensky, L.A. Liotta, **J.S. Crabtree**, Y. Wang, B.A. Roe, J. Weismann, M.S. Boguski, J.L. Doppman, M.C. Skarulis, R.H. Alexander, S.C. Guru, P. Manickam, S.E. Olufemi, F.S. Collins and S.C. Chandrasekharappa. "Multiple Endocrine Neoplasia, Type 1: From Clinical Physiology to the Gene" in Parathyroid Diseases: From the Gene to the Cure. (Edited by M.L. Brandi) SEE Editrice-Firenze, Firenze, 1997.
2. **J.S. Crabtree**. "Ovarian Steroids and Notch in Cancer" in Targeting Notch in Cancer: From the Fruit Fly to the Clinic (Edited by L. Miele) Springer Nature Publishing Group, 2017. *In press*.

Videos, Electronic Media, and Multimedia:

2002 Discovery Channel School online interactive education session called "Ask Dr. Judy." This was a genetics question/answer forum wherein junior high and high school students could ask me questions online to aid in their understanding of basic genetics and the Human Genome Project. (links no longer active)

2012 Louisiana Genetics and Hereditary Health Care Education Center – Obesity section: http://www.medschool.lsuhsc.edu/genetics/louisiana_genetics_and_hereditary_health_care.aspx (information has been updated and link is no longer active for my contribution).

2012 Louisiana Genetics and Hereditary Health Care Education Center – Pancreatic neuroendocrine tumors section: http://www.medschool.lsuhsc.edu/genetics/louisiana_genetics_and_hereditary_health_care.aspx

2014 Gennovations – LSUHSC School of Medicine Genomics Core Newsletter produced and distributed to faculty and students. This quarterly newsletter was produced as a function of the SOM Genomics Core to educate on the latest advances in genome-wide technologies. http://www.medschool.lsuhsc.edu/research/genomics_core/newsletters.aspx

2017 The Pulse – LSUHSC School of Medicine Newsletter produced and distributed bimonthly to faculty and students. I serve as Associate Editor and copy editor for the SOM bimonthly newsletter. https://lsuhscpulse.wordpress.com/

Press Interviews:

2000 The Charlie Rose Show, interview of Dr. Francis S. Collins with Drs. Steven Lipkin, Olli-P. Kallioniemi, **Judy Crabtree** and David Duggan. This was a multi-part interview and commentary on the Human Genome Project and future implications.
Part II: https://charlierose.com/videos/20458

2000 Applied Genetics News, "Mouse Model of Multiple Endocrine Neoplasia." This was an interview regarding the phenotype of MEN1 knockout mice that I generated and the utility of this model for understanding MEN1 pathogenesis and treatment.

2007 Interviewed by John Dougherty, The Valley Item News, Collegeville, PA. "Wyeth Partners with PVSD Teachers" This was an interview to publicize the Wyeth Scholars Program and to provide a commentary on the benefits of this program for the Perkiomen Valley School District and the local community. I was selected from the pool of 20 Wyeth Scholars to be the public "face" of this program.
http://www.montgomerynews.com/articles/2007/01/18/valley%20item%20news/17726539.txt?viewmode=fullstory

2010 Interviewed by Shana Rose, WWL Radio, AM870/FM105.3, New Orleans, LA. "Bad news for wannabe dads living the typical bachelor lifestyle." Commentary on heritable epigenetic reprogramming in male rodents and how this may translate to humans.

2014 Interviewed by Oliver Thomas, WBOK Radio, AM1230, New Orleans, LA. Interview promoting the 2014 Breast Cancer Awareness Campaign at LSUHSC.

Published Abstracts:

1. **J.S. Crabtree**, E.A. Novotny, L. Garrett-Beal, A. Chen, K.A. Edgemon, S.J. Marx, A.M. Spiegel, S.C. Chandrasekharappa and F.S. Collins. "Knockout of the mouse

Men1 gene gives a lethal phenotype in the heterozygous chimera." American Society of Human Genetics Annual Meeting, Philadelphia, PA (2000).

2. **J.S. Crabtree**, P.C. Scacheri, J.M. Ward, S.R. McNally, G.P. Swain, J.H. Hager, D. Hanahan, H. Edlund, M.A. Magnuson, L. Garrett-Beal, A.L. Burns, S.C. Chandrasekharappa, S.J. Marx, A.M. Spiegel and F.S. Collins. "Mouse knockout models of MEN1." American Society of Human Genetics Annual Meeting, San Diego, CA (2001).
3. E.A. Novotny, **J.S. Crabtree**, S.K Agarwal, S. Chandrasekharappa, A. Spiegel, S.J. Marx and F.S. Collins. "Characterization of murine MEN1-/- cell lines established to study the function of menin." Eighth International Workshop on Multiple Endocrine Neoplasia, Grand Rapids, MI (2002).
4. S.K. Agarwal, K. Sukhodolets, **J.S. Crabtree**, S.C. Guru, L. Burns, A. Spiegel, F.S. Collins and S.J. Marx. "Menin-JunD Interaction." Eighth International Workshop on Multiple Endocrine Neoplasia, Grand Rapids, MI (2002).
5. S.C. Guru, P. Manickam, S.K. Agarwal, S. Chandrasekharappa, L.V. Debelenko, S.E. Olufemi, J.M. Weismann, M.S. Boguski, **J.S. Crabtree**, Y. Wang, B.A. Roe, I.A. Lubensky, Z. Zhuang, M.B. Kester, A.L. Burns, A.M. Spiegel, S.J. Marx, L.A. Liotta, M.R. Emmert-Buck, F.S. Collins, and S. C. Chandrasekharappa. "Germline MEN1 Mutations." Eighth International Workshop on Multiple Endocrine Neoplasia, Grand Rapids, MI (2002).
6. S.K. Agarwal, K. Sukhodolets, **J.S. Crabtree**, S.C. Guru, E.A. Novotny, L. Burns, S. Chandrasekharappa, A. Spiegel, F.S. Collins, S.J. Marx "JunD and other menin partners: Relations to MEN tumorigenesis" Endocrine Society Annual Meeting, New Orleans, LA (2004).
7. P.C. Scacheri*, **J.S. Crabtree***, A.L. Kennedy, G.P. Swain, J.M. Ward, S.J. Marx, A.M. Spiegel and F.S. Collins. "Tissue specificity of a tumor suppressor: homozygous loss of menin is well tolerated in hepatocytes." Journal of Internal Medicine 255:696-730. Ninth International Workshop on Multiple Endocrine Neoplasia (2004). *equal contribution
8. P.C. Scacheri, **J.S. Crabtree**, A.L. Kennedy, G.P. Swain, J.M. Ward, S.J. Marx, A.M. Spiegel and F.S. Collins. "V804M RET mutation in MEN2A: first report." Journal of Internal Medicine 255:696-730. Ninth International Workshop on Multiple Endocrine Neoplasia (2004).
9. S.K. Agarwal, E.A. Novotny, A. Cerrato, A.B. Hickman, **J.S. Crabtree**, P.C. Scacheri, J.B. Weitzman, P.A. Kennedy, T. Rice, J.B. Moore, K.E. Sukhodolets, S. Rao, Y. Ji, M. Yaniv, A.L. Burns, B. Oliver, S.C. Chandrasekharappa, F.S. Collins, A.M. Spiegel and S.J. Marx. "Partnering and functioning of the MEN1 tumor suppressor gene." Journal of Internal Medicine 255:696-730. Ninth International Workshop on Multiple Endocrine Neoplasia (2004).
10. **J.S. Crabtree**, B.J. Peano, X. Zhang, B.S. Komm, R.C. Winneker and H.A. Harris. "Estradiol and Progesterone Regulated Gene Markers in the Mouse Mammary Gland." The Endocrine Society Annual Meeting, San Diego, CA (2005).
11. **J.S. Crabtree**, S.A. Jelinsky, S.E. Choe, M.M. Cotreau, E. Wilson, K. Saraf, A.J. Dorner, E.L. Brown, X. Zhang, R.C. Winneker and H.A. Harris. "Comparison of Vaginal Response to Estradiol in Human and Rat." The Endocrine Society Annual Meeting, Boston, MA (2006).
12. **J.S. Crabtree**, S.A. Jelinsky, H.A. Harris, S.E. Choe, M.M. Cotreau, M.L. Kimberland, E. Wilson, K.A. Saraf, W. Liu, A.S. McCampbell, B. Dave, R. Broaddus, E. Brown, W. Kao, J.S. Skotnicki, M. Abou-Gharbia, R.C. Winneker and C.L. Walker. "Identification of dysregulated mTOR pathway in human and rat uterine leiomyoma." The Endocrine Society Annual Meeting, San Francisco, CA (2008).

13. V. Chennathukuzhi, X. Zhang, J.A. Jelinsky, S.H. Schelling, **J.S. Crabtree**, B.J. Peano, R.C. Winneker, H.A. Harris. "Development of an early biomarker for the ovarian liability of selective estrogen receptor modulators in rats." The Endocrine Society Annual Meeting, San Francisco, CA (2008).
14. J. Vijayaraghavan, E.C. Maggi and **J.S. Crabtree**. "MicroRNA-24-1 Targets MEN1 to Enhance Beta Cell Expansion in Pancreatic Islets." Endocrine Rev 33: MON-106. The Endocrine Society Annual Meeting, Houston, TX. (2012).
15. E.C. Maggi, J. Vijayaraghavan and **J.S. Crabtree. "**Dysregulation of RBP2 in Neuroendocrine Tumors." Abstract #1693. American Society of Cell Biology, New Orleans, LA (2013).
16. J. Vijayaraghavan, E.C. Maggi, and **J.S. Crabtree**. "MicroRNA-24 promotes beta cell proliferation by targeting MEN1." Abstract #1786. American Society of Cell Biology, New Orleans, LA (2013).
17. J. Vijayaraghavan, E.C. Maggi, and **J.S. Crabtree** "MicroRNA-24 promotes beta cell proliferation by targeting MEN1." Abstract SAT#0954. The Endocrine Society Annual Meeting, Chicago, IL (2014).
18. E.C. Maggi, J. Trillo-Tinoco, J. Vijayaraghavan, L. Del Valle and **J.S. Crabtree.** "Dysregulation of RBP2 in Neuroendocrine Tumors." Abstract SUN#0331. The Endocrine Society Annual Meeting, Chicago, IL (2014).
19. J. Vijayaraghavan, E. Blanchard, J. Trillo-Tinoco, E.C. Maggi, J. Garai, J. Zabaleta, C.M. Taylor, L. Del Valle and **J.S. Crabtree.** "MicroRNA expression profiling in mouse models of compensatory beta cell mass expansion." Abstract SAT#667. The Endocrine Society Annual Meeting, San Diego, CA (2015).
20. C. Singleton, L. Miele, and **J.S. Crabtree**. "Notch Signaling in SCLC and other Lung NET Cell Lines." Abstract #4624 American Association for Cancer Research Annual Meeting, New Orleans, LA (2016).
21. A.D. Hollenbach, J.M. Loupe, P.J. Miller, B.P. Bonner, E.C. Maggi, J. Vijayaraghavan, J. Zabaleta, C.M. Taylor, F. Tsien and **J.S. Crabtree.** "The PAX3-FOXO1 oncogene drives aneuploidy and overrides aneuploidy associated proliferation defects in alveolar rhabdomyosarcoma." Abstract #2013. American Association for Cancer Research Annual Meeting, New Orleans, LA (2016) Cancer Research 76 (14 Supplement):2013.
22. F. Hassan, C. Sorrentino, A. Bilyeu, **J.S. Crabtree**, A. Pannuti, T. Golde, B.A. Osborne, and L. Miele. "Targeting cancer stem-like cells in triple negative breast cancer cells through non-canonical notch signaling." Abstract #2904. American Association for Cancer Research Annual Meeting, Chicago, IL (2017) Cancer Research 77(13 Supplement):2904.

Research Review Committee:

International Review Panels:

2015-present **Reviewer**, The Netherlands Organization for Health Research and Development (ZonMw), Innovational Research Incentives Scheme. (1-5 grants/year)

National Review Panels:

2012-present Selected for the **National Institutes of Health Early Career Reviewer** program at the Center for Scientific Review, Bethesda, MD.

2013-present **Reviewer**, Oklahoma Center for the Advancement of Science and Technology (OCAST) Health Research Grant Program, Oklahoma City, OK. I perform *ad hoc* progress report assessments as needed, typically

2-3 per year, and participate in an annual study section where I review 8-12 grants per year.

2014-present **Reviewer**, The Endocrine Society's Annual Meeting. I review 40 abstracts per year for suitability for the annual meeting and make recommendations on oral and poster presentations, and those abstracts of significant interest to the lay press.

2015-present **Subject Matter Expert in Endocrinology** for The Jackson Laboratory. I review mouse strains/model submissions for suitability and validity of model prior to acceptance as a Jackson Labs Genetically Modified Mouse Model. I review 1-2 submissions per year.

2017 **National Science Foundation**, Research at the Interface of the Biological and Mathematical Sciences (DMS/NIGMS) study section, panel B (Panel ID P180576), December 6-8, 2017

Statewide and Local Review Panels:

2013-present **Reviewer**, Louisiana Clinical and Translational Science Center (LACaTS), Pilot Grants Program, New Orleans, LA. I review 1-2 grants per year for this program.

2014-present **Reviewer**, LSUHSC School of Medicine Research Enhancement grant program, New Orleans, LA. As an *ad hoc* reviewer on this panel, I review 2-4 grants per year.

2015-present **Reviewer**, LSUHSC/LSU Collaborative Grants Program, New Orleans, LA. I review 2 grants per year for this program.

Inventions and Patents:

1. Invention: A mouse model of Multiple Endocrine Neoplasia, Type I (2002). Patent application was filed but protection not pursued by the NIH.
2. Inventor: WO2006099610A3/US20060216295 Patent Application entitled "Methods of identifying therapeutic targets for the treatment of vulvovaginal atrophy" (2006).

Scientific Presentations:

Scientific Poster Presentations at National/International Meetings

1. **J.S. Crabtree**, E.A. Novotny, L. Garrett-Beal, A. Chen, K.A. Edgemon, S.J. Marx, A.M. Spiegel, S.C. Chandrasekharappa and F.S. Collins. "Knockout of the mouse Men1 gene gives a lethal phenotype in the heterozygous chimera." American Society of Human Genetics Annual Meeting, Philadelphia, PA (2000).
2. **J.S. Crabtree**, P.C. Scacheri, J.M. Ward, S.R. McNally, G.P. Swain, J.H. Hager, D. Hanahan, H. Edlund, M.A. Magnuson, L. Garrett-Beal, A.L. Burns, S.C. Chandrasekharappa, S.J. Marx, A.M. Spiegel and F.S. Collins. "Mouse knockout models of MEN1." American Society of Human Genetics Annual Meeting, San Diego, CA (2001).
3. E.A. Novotny, **J.S. Crabtree**, S.K Agarwal, S. Chandrasekharappa, A. Spiegel, S.J. Marx and F.S. Collins. "Characterization of murine MEN1-/- cell lines established to study the function of menin." Eighth International Workshop on Multiple Endocrine Neoplasia, Grand Rapids, MI (2002).
4. S.K. Agarwal, K. Sukhodolets, **J.S. Crabtree**, S.C. Guru, L. Burns, A. Spiegel, F.S. Collins and S.J. Marx. "Menin-JunD Interaction." Eighth International Workshop on Multiple Endocrine Neoplasia, Grand Rapids, MI (2002).
5. S.C. Guru, P. Manickam, S.K. Agarwal, S. Chandrasekharappa, L.V. Debelenko, S.E. Olufemi, J.M. Weismann, M.S. Boguski, **J.S. Crabtree**, Y. Wang, B.A. Roe, I.A. Lubensky, Z. Zhuang, M.B. Kester, A.L. Burns, A.M. Spiegel, S.J. Marx, L.A. Liotta,

M.R. Emmert-Buck, F.S. Collins, and S.C. Chandrasekharappa. "Germline MEN1 Mutations." Eighth International Workshop on Multiple Endocrine Neoplasia, Grand Rapids, MI (2002).

6. S.K. Agarwal, K. Sukhodolets, **J.S. Crabtree**, S.C. Guru, E.A. Novotny, L. Burns, S. Chandrasekharappa, A. Spiegel, F.S. Collins, S.J. Marx "JunD and other menin partners: Relations to MEN tumorigenesis." The Endocrine Society Annual Meeting, New Orleans, LA (2004).
7. P.C. Scacheri*, **J.S. Crabtree***, A.L. Kennedy, G.P. Swain, J.M. Ward, S.J. Marx, A.M. Spiegel and F.S. Collins. "Tissue specificity of a tumor suppressor: homozygous loss of menin is well tolerated in hepatocytes." Journal of Internal Medicine 255:696-730. Ninth International Workshop on Multiple Endocrine Neoplasia (2004). *equal contribution
8. **J.S. Crabtree**, B.J. Peano, X. Zhang, B.S. Komm, R.C. Winneker and H.A. Harris. "Estradiol and Progesterone Regulated Gene Markers in the Mouse Mammary Gland." The Endocrine Society Annual Meeting, San Diego, CA (2005).
9. **J.S. Crabtree**, S.A. Jelinsky, S.E. Choe, M.M. Cotreau, E. Wilson, K. Saraf, A.J. Dorner, E.L. Brown, X. Zhang, R.C. Winneker and H.A. Harris. "Comparison of Vaginal Response to Estradiol in Human and Rat." The Endocrine Society Annual Meeting, Boston, MA (2006).
10. **J.S. Crabtree**, S.A. Jelinsky, H.A. Harris, S.E. Choe, M.M. Cotreau, M.L. Kimberland, E. Wilson, K.A. Saraf, W. Liu, A.S. McCampbell, B. Dave, R. Broaddus, E. Brown, W. Kao, J.S. Skotnicki, M. Abou-Gharbia, R.C. Winneker and C.L. Walker "Identification of dysregulated mTOR pathway in human and rat uterine leiomyoma." The Endocrine Society Annual Meeting, San Francisco, CA (2008).
11. V. Chennathukuzhi, X. Zhang, J.A. Jelinsky, S.H. Schelling, **J.S. Crabtree**, B.J. Peano, R.C. Winneker, H.A. Harris. "Development of an early biomarker for the ovarian liability of selective estrogen receptor modulators in rats." The Endocrine Society Annual Meeting, San Francisco, CA (2008).
12. J. Vijayaraghavan, E.C. Maggi and **J.S. Crabtree**. "miR24-1 Targets MEN1 To Enhance Beta Cell Expansion in Pancreatic Islets." Endocrine Rev 33: MON-106. The Endocrine Society Annual Meeting, Houston, TX (2012).
13. E.C. Maggi, J. Vijayaraghavan and **J.S. Crabtree** "Dysregulation of RBP2 in Neuroendocrine Tumors" #1693 American Society of Cell Biology, New Orleans, LA (2013).
14. J. Vijayaraghavan, E.C. Maggi, and **J.S. Crabtree** "MicroRNA-24 promotes beta cell proliferation by targeting MEN1" #1786. American Society of Cell Biology, New Orleans, LA (2013).
15. J. Vijayaraghavan, E.C. Maggi, and **J.S. Crabtree** "MicroRNA-24 promotes beta cell proliferation by targeting MEN1" SAT#0954 The Endocrine Society Annual Meeting, Chicago, IL (2014).
16. E.C. Maggi, J. Trillo-Tinoco, J. Vijayaraghavan, L. Del Valle and **J.S. Crabtree** "Dysregulation of RBP2 in Neuroendocrine Tumors" SUN#0331. The Endocrine Society Annual Meeting, Chicago, IL (2014).

Presidential Award winning poster

17. J. Vijayaraghavan, E. Blanchard, J. Trillo-Tinoco, E.C. Maggi, J. Garai, J. Zabaleta, C.M. Taylor, L. Del Valle and **J.S. Crabtree.** "MicroRNA expression profiling in mouse models of compensatory beta cell mass expansion." SAT#667. The Endocrine Society Annual Meeting, San Diego, CA (2015).

18. C. Singleton and **J.S. Crabtree** "Notch Signaling in SCLC and other Lung NET cell lines." #4624 American Association for Cancer Research Annual Meeting, New Orleans, LA (2016).
19. A.D. Hollenbach, J.M. Loupe, P.J. Miller, B.P. Bonner, E.C. Maggi, J. Vijayaraghavan, J. Zabaleta, C.M. Taylor, F. Tsien and **J.S. Crabtree.** "The PAX3-FOXO1 oncogene drives aneuploidy and overrides aneuploidy associated proliferation defects in alveolar rhabdomyosarcoma." #2013. American Association for Cancer Research Annual Meeting, New Orleans, LA (2016).
20. D.D. Wilson, C.S. Singleton, and **J.S. Crabtree**. "Notch signaling in pancreatic cell lines" #11. Council on Undergraduate Research's Research Experiences for Undergraduates National Symposium, National Science Foundation, Washington, D.C.(2016).

Scientific Poster Presentations at Local/Regional Meetings

1. E.C. Maggi, J. Vijayaraghavan, J.S. DePaolo, S. Aggarwal, W. Hansel, H. Allila and **J.S. Crabtree**. "Targeting LHRH Receptors as a Therapy for Uterine Fibroids." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2011).
2. J. Vijayaraghavan, E.C. Maggi, J.S. DePaolo and **J.S. Crabtree**. "miR24-1 targets MEN1 to enhance beta cell expansion in pancreatic islets." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2011).
3. J.S. DePaolo, E.C. Maggi, J. Vijayaraghavan and **J.S. Crabtree**. "Inhibition of HMGA2 by miR-26a may regulate uterine fibroid proliferation." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2011).
4. J.S. DePaolo, E.C. Maggi, J. Vijayaraghavan and **J.S. Crabtree.** "Inhibition of HMGA2 by miR-26a may regulate uterine fibroid proliferation." Medical Student Research Day Poster Session, LSUHSC, New Orleans, LA (2011).
5. D. Guo, D.J. Tate, Jr., J. Patterson, IV, A. Bedoya, **J.S. Crabtree** and A.H. Zea. "Eker rat cell line responses to IFNs as a model of RCC treatment." Summer Student Poster Session, Stanley S. Scott Cancer Center, LSUHSC, New Orleans, LA (2011).
6. E.C. Maggi, J. Vijayaraghavan, and **J.S. Crabtree**. "Dysregulation of RBP2 in Pancreatic Neuroendocrine Tumors." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2012).
7. J. Vijayaraghavan, E.C. Maggi, and **J.S. Crabtree**. "miR24-1 enhances beta cell expansion by targeting menin." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2012).
8. V. Vaitaitis, E.C. Maggi, J. Vijayaraghavan and **J.S. Crabtree**. "The impact of microRNA-24 on menin in mouse insulinoma 6 (MIN6) cells." Medical Student Research Day Poster Session, LSUHSC, New Orleans, LA (2012).
9. E.C. Maggi, J. Vijayaraghavan and **J.S. Crabtree**. "Dysregulation of RBP2 in Neuroendocrine Tumors." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2013).
10. J. Vijayaraghavan, E.C. Maggi, and **J.S. Crabtree**. "MicroRNA-24 promotes beta cell proliferation by targeting MEN1." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2013).
11. J. Vijayaraghavan, E. Blanchard IV, J. Trillo-Tinoco, E.C. Maggi, J. Garai, J. Zabaleta, C.M. Taylor, L. Del Valle and **J.S. Crabtree.** "MicroRNA profiles associated with adaptive islet expansion under different metabolic stress conditions." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2014). ****First Place Award-winning poster***

12. E.C. Maggi, J. Vijayaraghavan and **J.S. Crabtree** "Dysregulation of RBP2 in Neuroendocrine Tumors." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2014).

First Place Award-winning poster

13. E.C. Maggi, J. Trillo-Tinoco, A. Parker-Struckhoff, J. Vijayaraghavan, L. Del Valle, and **J.S. Crabtree**. "The Oncogenic Role of RBP2 Overexpression in Neuroendocrine Tumors." Louisiana Cancer Research Consortium Annual Retreat, LSUHSC, New Orleans, LA (2015).
14. D.D. Wilson, C.S. Singleton, L. Del Valle and **J.S. Crabtree**. "Expression of Notch in NETs." Summer Student Research Symposium, LSUHSC, New Orleans, LA (2015).
15. C. Singleton, and **J.S. Crabtree** "Notch Signaling in Lung NET Cell Lines." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2015).
16. D.D. Wilson, C.S. Singleton, and **J.S. Crabtree**. "Notch signaling in pancreatic cell lines." Summer Student Research Symposium, LSUHSC, New Orleans, LA (2016).

Third Place Award-winning poster

17. S. Khosravi, A.M. Rushing, A. Scarborough, J.S. Jenkins, J.P. Reilly, **J.S. Crabtree,** D.J. Lefer and T.T. Goodchild. "Impact of Catheter-based Renal Denervation on Blood Pressure and Gene Expression in an LDLr-/- Swine Model of Hypertension." Medical Student Research Day Poster Session, LSUHSC, New Orleans, LA (2016).

First Place Award-winning poster

18. C. Singleton, I. Espinoza, L. Miele and **J.S. Crabtree**. "Endocrine Therapy Resistant Breast Cancer Promotes the Notch Signaling Pathway" Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2016)
19. A. Mohiuddin and **J.S. Crabtree**. "RBP2 and Notch Signaling Crosstalk in ER+ Breast Cancer." Summer Student Research Symposium, LSUHSC, New Orleans, LA (2017).
20. D.D. Wilson and **J.S. Crabtree**. "Notch4 Signaling in NET Cellular Proliferation." Summer Student Research Symposium, LSUHSC, New Orleans, LA (2017).
21. C. Singleton, D. Ucar, F. Hossain, L. Miele and **J.S. Crabtree** "Upregulation of Notch 4 Signaling in ER+ Breast Cancer." Graduate Student Research Day Poster Session, LSUHSC, New Orleans, LA (2017).

CME Presentations:

1. "Of Mice and MEN1: Mouse knockout models of MEN1." NIH Clinical Center, Endocrinology Grand Rounds, Bethesda, MD. (2001). Certified for 1 hour of CME credit.
2. "Of Mice and MEN1: Mouse Models of Multiple Endocrine Neoplasia, type 1." Ochsner Endocrinology Department Grand Rounds, New Orleans, LA. (2010). Certified for 1 hour of CME credit.
3. "Genetics and Epigenetics of Uterine Leiomyoma." LSUHSC Obstetrics and Gynecology Grand Rounds, New Orleans, LA. (2011). Certified for 1 hour of CME credit.
4. "Precision Medicine: Integrating Genetics and Genomics into the Clinic." This is a stand-alone 4.5 hour CME course for physicians and other medical professionals (including PT, OT and NPs). The first session was held on April 7, 2017 and future sessions are planned on a regular recurring basis. The course includes didactic instruction on the fundamental concepts of genetics, chromosome structure, molecular biology and heredity, and then expands into the genetics of disease and

the role of genetic variation in drug metabolism and clinical decision-making. I organized this offering and teach one lecture during the event.

Invited Presentations and Seminars:

Plenary Sessions at National/International Meetings:

1. **J.S. Crabtree**, F.S. Collins. "A mouse model of MEN1 develops multiple endocrine tumors." American Society of Human Genetics Annual Meeting, Philadelphia, PA (2000). ***Late-Breaking Science plenary session***

2. **J.S. Crabtree**, F.S. Collins. "Mouse Models of MEN1." Eighth International Workshop on Multiple Endocrine Neoplasia (MEN2002), Grand Rapids, MI (2002).
3. **J.S. Crabtree**, F.S. Collins. "Of Mice and MEN1: Mouse knockout models of MEN1." American Society of Human Genetics Annual Meeting, Baltimore, MD (2002).
4. S.K. Agarwal, E.A. Novotny, A. Cerrato, A.B. Hickman, **J.S. Crabtree**, et al. "Partnering and functioning of the MEN1 tumor suppressor gene." Ninth International Workshop on Multiple Endocrine Neoplasia (MEN2004), Bethesda, MD (2004).
5. **J.S. Crabtree**, F.S. Collins. "Of Mice and MEN1 – Mouse models of multiple endocrine neoplasia, type I." The Endocrine Society Annual Meeting, New Orleans, LA (2004).
6. **J.S. Crabtree**, B.J. Peano, R.K. Winneker, B. Komm, H.A. Harris. "Activity of three selective estrogen receptor modulators on hormone-dependent responses in the mouse uterus and mammary gland." The Endocrine Society Annual Meeting, Toronto, CA (2007).

Invited seminars - International

1. **J.S. Crabtree** and B.A. Roe "Sequencing of Human Chromosome 22" Genetique Reproduction & Developpement (GReD), Université Blaise Pascal, Clermont-Ferrand, France (1994).

Invited seminars - National

1. "Of Mice and MEN1: Mouse knockout models of MEN1." Invited Endocrinology Grand Rounds (CME), NIH Clinical Center, Bethesda, MD (2001).
2. "MEN1 and cancer models" Cornell University School of Veterinary Medicine, Department of Pathology Seminar Series, Ithaca, NY (2002).
3. "MEN1 and cancer models." AIMM/ASBMR John Haddad Young Investigator's Meeting, Snowmass, CO (2002).

Young Investigator Award Winner Lecture

Invited seminars – Regional/Local

1. "Endocrine tumor biology: Uterine leiomyoma and multiple endocrine neoplasia, type I." LSUHSC Department of Biochemistry and Molecular Biology Seminar Series, New Orleans, LA (2009).
2. "Endocrine tumor biology: Uterine leiomyoma and multiple endocrine neoplasia, type I." LSUHSC Department of Physiology Seminar Series, New Orleans, LA (2009).
3. "Endocrine tumor biology: Uterine leiomyoma and multiple endocrine neoplasia, type I." Pennington Biomedical Research Center, Stem Cell Interest Group, Baton Rouge, LA (2009).
4. "Endocrine tumor biology: Uterine leiomyoma and multiple endocrine neoplasia, type I." Tulane University Pharmacology Department Seminar Series, New Orleans, LA (2010).

5. "Of Mice and MEN1: Mouse Models of Multiple Endocrine Neoplasia, type 1." Invited Grand Rounds Seminar (CME), Ochsner Endocrinology, New Orleans, LA (2010).
6. "Genetics and Epigenetics of Uterine Leiomyoma." Invited Grand Rounds Seminar (CME), LSUHSC Obstetrics and Gynecology, New Orleans, LA (2011).
7. "Of Mice and MEN1: Epigenetics of MEN1." Tulane University Human Genetics/COBRE Interest Group, New Orleans, LA (2011).
8. "LHRH Conjugates as Therapy for Uterine Fibroids and Ovarian Cancer." Pennington Biomedical Research Center Work In Progress Seminar Series, Baton Rouge, LA (2012).
9. "MEN1 and miRNAs in the pancreatic islet." LSUHSC Department of Physiology Seminar Series, New Orleans, LA (2013).
10. "MEN1 and miRNAs in the pancreatic islet." LSUHSC Department of Pharmacology Seminar Series, New Orleans, LA (2013).
11. "Pancreatic Islet Plasticity: diabetes to tumors." LSUHSC Department of Biochemistry Seminar Series, New Orleans, LA (2014).
12. "LSUHSC Genomics Core." LSUHSC Department of Biochemistry Seminar Series, New Orleans, LA (2014).
13. "Pancreatic Islet Plasticity: diabetes to tumors." LSUHSC Department of Cell Biology and Anatomy Seminar Series, New Orleans, LA (2014).
14. "LSUHSC Genomics Core.", LSUHSC Department of Pharmacology Seminar Series, New Orleans, LA (2014).
15. "LSUHSC Genomics Core." LSUHSC Department of Physiology Seminar Series, New Orleans, LA (2014).
16. "LSUHSC Genomics Core." LSUHSC Department of Microbiology, Immunology and Parasitology Seminar Series, New Orleans, LA (2014).

Editorial Posts and Activities:

Journal editorships or associate editorships

2013-present	**Academic Editor**, PLoS ONE (3-4 manuscripts/year)
2015	Review Editor, Frontiers in Aging Neuroscience (for genetics-based manuscripts only)
2015-present	Language Editor, Journal of Cancer Metastasis and Treatment (3-6 manuscripts/year)
2015-present	**Editorial Board**, Journal of Neoplasm
2016-present	**Editorial Board**, Journal of Cancer Metastasis and Treatment
2016-present	**Associate Editor**, BMC Cancer (25+ manuscripts/year)
2017-present	**Review Editor**, Frontiers in Endocrinology, Cancer Endocrinology section (5+ manuscripts/year)

Reviewer status

BMC Cancer
BMC Genomics
Cancer Letters
Cell and Tissue Repair
Clinical Cancer Research
Endocrinology
Experimental Biology and Medicine
Molecular Endocrinology
Frontiers in Endocrinology
Frontiers in Oncology
Human Reproduction

Journal of Cancer Metastasis and Treatment
Journal of Clinical Endocrinology and Metabolism
Journal of Neoplasm
Medicina
Molecular Cancer
Molecular and Cancer Therapeutics
Molecular and Cellular Biology
Nutrition and Diabetes
Oncogenesis
Oncotarget
PLoS Genetics
PLoS One

SERVICE ACTIVITIES

University/Institutional Service:

Departmental committees

2009-present	Emergency Response Floor Leader, Clinical Sciences Research Building, 7th floor
2010-present	Member, Department of Genetics Graduate Student Oversight Committee
2010-present	Member, Department of Genetics Graduate Student Curriculum Committee

School committees

2009-present	Member, LSUHSC School of Medicine Women's Affairs Committee
2011-present	Member, LSUHSC School of Medicine Communications Committee
2011-present	**Member, LSUHSC School of Medicine, Faculty Assembly** (elected position)
2011	Member, LSUHSC School of Medicine Faculty Assembly Promotion and Tenure subcommittee
2012-2013	Member, LSUHSC School of Medicine Faculty Assembly Awards subcommittee
2014-present	**Chair**, LSUHSC School of Medicine Faculty Assembly Awards subcommittee (appointed position)
2013-2016, 2017-present	**Basic Science Representative to Administrative Council**, LSUHSC School of Medicine Faculty Assembly (elected position)
2013-present	Member, LSUHSC School of Medicine Research Advisory Committee, LSUHSC School of Medicine
2013-present	Member, LSUHSC School of Medicine Research Advisory Committee Genomics Core Steering Subcommittee
2016-2017	Member, LCME Self Study Committee 3 – Academic and Learning Environment

LSUHSC (campus) committees

2016-present	**Faculty Senate Representative** of LSUHSC School of Medicine (elected position)
2017	Member, Search Committee for the Director of the LSUHSC Isché Library

Special Assignments:

Departmental Service:

2010-present **Copy editor**, The Department of Genetics. I was responsible for proofreading the Departmental Annual Report for the years 2010-2015. In addition, since 2016, I regularly proofread Genetics Department faculty meeting minutes.

2010-2015 **Examiner**, Department of Genetics Qualifying Exam

- 2010 Sun-Mi Choi, M.D./Ph.D. candidate
- 2011 Jacob Loupe, Ph.D. candidate
- 2012 Michael Ripple, M.D./Ph.D. candidate
- 2013 J. Gavin Daigle, Ph.D. candidate
- 2015 Kirsten Wood, Ph.D. candidate

2013-present **Professionalism seminar** for incoming graduate students. Within the Department of Genetics, I update and annually deliver a professionalism seminar to incoming graduate students to outline the Departmental code of conduct and professionalism expectations.

School of Medicine Service:

2013-present **Webmaster**, LSUHSC School of Medicine Research webpages. Since 2013, I have maintained, organized, and regularly update the Research web pages for Dr. Wayne Backes, Associate Dean for Research.

2017-present **Scientific and Education Director**, Precision Medicine Program (PMP), Department of Genetics. Between 2013 and 2014, I was instrumental in starting conversations with partner contract research organizations (i.e. Personalis) for genetic testing. It was my contacts with Personalis that initially brought this company to the Chancellor's attention. These conversations have resulted in an established contractual relationship with this company for both research and clinical utility. In collaboration with other PMP staff, I help facilitate the development of this program at LSUHSC by writing/submitting IRB and IBC protocols. I also perform other minor activities (for example, procuring letterhead and slide templates) on behalf of the Precision Medicine Program.

2017 **Member,** LCME Standard 3.5 subcommittee on Learning Environment and Professionalism. For the LCME reaccreditation process, I was invited to participate in the LCME committee for standard 3 that was chaired by Dr. Cathy Lazarus. This subcommittee entailed working with Dr. Murtuza Ali to describe the longitudinal thread of professionalism that is woven throughout our medical school curriculum.

2017-present **Director**, Dean's Research Seminar Series. I am responsible for identifying, scheduling and coordinating the LSUHSC School of Medicine Dean's Research Seminar Series. This includes working with the CME office in the School of Medicine to get lectures approved for CME credit, and maintaining an updated website.

Institutional Service:

2014-present **Co-coordinator and Mentor**, Sci-Fly Speed Mentoring event for summer students on the LSUHSC campus. This is a mentoring event for high school and undergraduate summer students that is akin to speed dating. Along with other coordinators, I have been responsible for recruitment and preparation of mentors, room setup/breakdown, and lunch catering for students and mentors.

2016-present **Faculty facilitator**, Annual Interprofessional Education Day. I serve as a faculty facilitator for students from all six schools on campus (Medicine, Dental, Allied Health, Public Health, Nursing, and Graduate Studies) working together on case studies. Along with other faculty mentors, I was responsible for 5 groups totaling 50 students in 2016, and for 12 groups totaling 120 students in 2017.

Administrative Responsibilities:

Departmental:

2012-present **Director**, Department of Genetics Seminar Series, LSUHSC School of Medicine. I have served as Co-director (with Dr. Hollenbach from 2012-2014) or as Director (2015-present) of the Departmental Invited Speaker Seminar Series since 2012. In this capacity, I establish the seminar series schedule each year, contact faculty to solicit potential local, regional or national speakers, and act as the faculty point of contact for scheduling and organization of the seminar speaker's visit.

School of Medicine:

2013-present **Director, School of Medicine Genomics Core.**
Core functions constitute 50% of my compensated effort. In this capacity, I assist investigators with large scale genomics-based projects including whole genome sequencing, exome sequencing, transcriptome and miRNA analysis. I have interacted with faculty from each of the basic science departments through seminars and individual meetings to advertise the core functions.

2014 I generated and produced a series of two-page educational newsletters on genomics-based technologies in a series called "Gennovations". These materials are available at http://www.medschool.lsuhsc.edu/research/genomics_core/newsletters.aspx.

2017-present **Director**, Dean's Seminar Series for the School of Medicine. I am responsible for identifying and scheduling internal faculty for this seminar series on behalf of Dean Steve Nelson. This activity is approved for CME credit (requiring my interaction with the CME Office) and is meant to foster collaboration between LSUHSC faculty.

2017-present **Associate Editor and Copy Editor**, The Pulse School of Medicine bimonthly newsletter. In this capacity, I assist the Head Editor with the production schedule, content, editing and layout of the wholly electronic newsletter that is distributed to the faculty base of the School of Medicine.

Community Service Activities:

2003 **NHGRI Ambassador to Science Education.** National DNA Day marked the completion of the human genome and the 50th anniversary of Watson/Crick's Nature paper on the structure of DNA. This program supported travel to my home state where I presented programs on the impact of the Human Genome Project.

2004-2007 **Science Fair Judge**, St. Vincent Elementary School, Phoenixville, PA

2006-2007 **Wyeth Scholars Program**, scientist mentor to program teachers. Perkiomen Valley High School, Collegeville, PA. Program Teachers were Amy Brecht and Janice Wagman. I visited high school classrooms and taught basic DNA biology to students through a hands-on activity isolating DNA from strawberries.

2009 **Poster judge**, LSUHSC Medical Student Research Day. I judged 5 posters from medical students who performed summer research.

2009-present **Poster and presentation judge**, LSUHSC Graduate Student Research Day. I score 5-6 poster presentations per year and in 1016, I additionally judged the 3 minute talks.

2009-present **Poster judge**, Annual LSUHSC Summer Student Research Day. At the end of the summer, our summer interns present the results of their research. I judge 5-6 poster presentations per year.

2012 **Laboratory tour/presentation**, Louise McGehee High School sophomores, LSUHSC Department of Genetics, New Orleans, LA. Students from this high school toured my laboratory and learned about our ongoing research in pancreatic neuroendocrine tumors.

2014- present **Organizer and chair**, the Breast Cancer Awareness campaign. This is a campus-wide effort to increase awareness of breast cancer. Held the entire month of October, this campaign includes educational outreach to our community, seminars, a survivor board, and a team for the Susan G. Komen 5k Race for the Cure (race organized by Dr. Donna Neumann). I was co-chair in 2014 and have been chair of this campaign since 2015.

2016 **LSU Health representative** for St. Martin's Episcopal High School Breast Cancer Research fundraiser volleyball Pink Match, Metairie, LA. Each year in October, the St. Martin's volleyball team holds its annual Pink Match, during which they sell T-shirts and accept donations as a fundraiser for breast cancer awareness. In 2016, all the money that was raised at this event ($1225.00) was donated to a special Foundation account for use by breast cancer researchers in the Department of Genetics. I facilitated the creation of the breast cancer Foundation account and attended the volleyball match as a representative of the LSUHSC department for whom they were raising research money.

2016 **LSU Health representative** at ¿Que Pasa? Latin Festival, Breast Cancer Awareness, Metairie, LA. I helped staff the booth and pass out literature regarding breast cancer risk and breast cancer screening that was specific to the Latino community. For the kids, we also had lab coats, masks and gloves to “dress up like a scientist” to encourage STEM.

2016 **Poster judge**, American Association for Cancer Research 11th Annual Undergraduate Student Caucus and Poster Competition, AACR Annual Meeting, New Orleans, LA on April 16-20, 2017. In this capacity I judged 95 poster abstracts prior to the meeting, 25 posters on site.

2017 **Poster judge**, Greater New Orleans Science and Engineering Fair, New Orleans, LA. I judged 20 posters at this event for high school students.

APPENDIX
Research Interests

The focus of my laboratory is to understand the molecular and biochemical mechanisms that result in hormone- and endocrine-dependent cancers. Specifically, my group works on pancreatic neuroendocrine tumors (pNETs) and ER+ breast cancers.

pNETs are a unique tumor type that is relatively indolent, slow growing and responds poorly to traditional chemotherapies. These tumors arise sporadically or as a part of a genetic syndrome such as Multiple Endocrine Neoplasia, type I (MEN1). Interest in these tumors started during my graduate work while I was doing DNA sequencing for the human genome project. My sequencing efforts led to the identification of the gene that when mutated, causes MEN1. I generated the mouse knockout models of these tumors in my postdoctoral study, and we continue to use these conditional and conventional knockout mice in my current laboratory as a model of pNETs.

Using these models, we found that the histone demethylase, RBP2/KDM5A was upregulated in tumors versus normal endocrine pancreas. We showed similar upregulation in human tumors through our collaboration with Dr. Eugene Woltering (LSUHSC Surgery, Kenner). Subsequent in vitro work in neuroendocrine cell lines further showed the importance of RBP2 in pNET tumorigenesis by impacting endpoints of tumorigenesis, including proliferation, migration, anchorage-independent growth, and cellular invasion. We demonstrated that the histone demethylase activity of RBP2 was only required for the proliferative activity of tumors, suggesting that the functionality of RBP2 in metastasis is driven more by binding partner interaction than chromatin remodeling. This work has been presented at several national conferences and was published in 2016.

Building on my experience with nuclear hormone receptors from my research at Wyeth (estrogen receptors in particular), my laboratory also studies the mechanisms of ER+ breast cancer resistance. We and others have shown that the Notch signaling pathway is activated in tamoxifen-resistant ER+ breast cancers and that this activation results in Notch binding at or near estrogen response elements to activate estrogen-dependent genes, even in the absence of estrogen. In addition to its role as a histone demethylase, RBP2 is also a repressive member of the CSL complex that regulates Notch signaling, and also functions as an activating cofactor for estrogen-dependent signaling. Therefore, I am actively studying the role of RBP2 and how this protein may be involved in mechanisms of resistance by mediating Notch and ER activity in the resistant ER+ breast cancer cell. Recent publications are setting the groundwork for planned grant applications to investigate this new area of research in my laboratory, and to demonstrate collaboration with the Miele laboratory that studies Notch signaling. I have begun generating preliminary data in support an R01 application to be submitted in collaboration with Dr. Lucio Miele in February 2018, along with a resubmission of the Mary Kay Foundation grant (also in February 2018). These grants will investigate the role and molecular mechanisms by which RBP2 contributes to promoting oncogenic phenotypes in tamoxifen resistant ER+ breast cancer.