THE C.S. MOTT CENTER FOR HUMAN GROWTH AND DEVELOPMENT
ANNUAL REPORT 2013

ROBERT J. SOKOL, M.D., DIRECTOR
JOHN M. MALONE, JR., M.D. ENDOWED CHAIR & DISTINGUISHED PROFESSOR
FOUNDING CHAIR, DEPARTMENT OF CLINICAL AND TRANSLATIONAL SCIENCE

And

STEPHEN A. KRAWETZ, PH.D., ASSOCIATE DIRECTOR
CHARLOTTE B. FAILING PROFESSOR OF FETAL THERAPY AND DIAGNOSIS
DIRECTOR, CENTER FOR MOLECULAR MEDICINE AND GENETICS
OVERVIEW

Robert Sokol, M.D. – Director

Introduction

During the past several years our efforts have been directed towards achieving and maintaining a preeminent position in Reproductive Sciences Research in the nation, now and, more importantly, into the future. This has been a demanding and protracted process, as would be expected for a Center of this magnitude and research productivity and during a period of nearly unprecedented fiscal constraint, particularly in the Detroit area. Despite these challenges, we are building new area(s) and program(s) for the Mott consistent with the needs for a balanced research portfolio spanning areas of reproductive and perinatal science.

The Big News for 2013

With the assistance of many other individuals and university officers, including the Dean of the School of Medicine, the President of the University and the Board of Governors, Doctors Sokol and Hassan of the Department of Ob/Gyn were once again awarded as Project Site Managers a 10-year contract to house the Perinatology Research Branch of the NIH on the 3rd floor of the C.S. Mott Center for Human Growth and Development and at Hutzel Hospital. Over 10 years 3 months, this large award, including provision for space for the work of the Branch and collaborating Wayne faculty, has already helped and will help set strategic directions for recruitment and ongoing research in the Department of Ob/Gyn and at the Mott Center and will have an impact on research planning and execution for the entire University and investigators, not only at Wayne State, but also at the University of Michigan, Michigan State and the Henry Ford Health System.

Site Visit(s) – NIH, CAP, CLIA

In preparation for several site visits held throughout 2013, many preliminary steps to reconfigure or renovate portions of the building were focused on. This included reconfiguring major areas on the third floor in support of the PRB and perinatal research, as well as on the 2nd floor to accommodate the research program that houses some of the WRHR scholar research. Substantial movement of laboratory personnel and laboratory equipment to reorganize the research space throughout the building was planned and accomplished in early 2014 in preparation for new faculty joining the Mott and a third site visit to the PRB.

A CAP CLIA site visit was also held in 2013 for the AGTC Core Laboratory Facility. For the AGTC to provide specialized clinically applicable laboratory services for the future, it was imperative that CAP certification was approved. This process was very long with many steps and overall took approximately 2 years from the initial steps to completion. ISO and CAP accreditations were achieved opening the way to proceed with our Personalized (Precision) Medicine initiative, in conjunction with the Karmanos Cancer Institute.

Where We Are Scientifically

During 2013, the Mott Internal Advisory Committee continued to be chaired by Dr. Joseph Dunbar, Associate Vice President for Research; and the External Advisory Committee also continued to be chaired by Dr. Gloria Heppner, Associate Vice President for Research. Both the chairs and their committees contribute immensely
to guiding and enhancing the Mott’s operation and development. We continue to update membership on both committees to assure appropriate representation of Mott stakeholders.

The Mott Center continues to broaden collaboration by increasing interdisciplinary and multidisciplinary research in areas that include genomics, bioinformatics, perinatal epidemiology, reproductive sciences and genetics. Partnership with the PRB continues and extends to other centers and departments in Wayne State University, e.g., the Center for Molecular Medicine and Genetics and the Merrill Palmer Skillman Institute.

Publications: We continue to demonstrate excellent productivity as measured by publications, with 118 refereed articles published and in press this year. In other words, **that’s about one refereed paper from the Mott every three days!**

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Grants and Contracts: Grant and contract support is also in reasonable shape. Of course, with NIH paylines as unfavorable as they’ve ever been, maintaining an acceptable level of funding is a major challenge. Further, several of our investigators derive substantial support for their labs from the PRB contract (as they were recruited to do), though they also seek external grant support. As of the date of writing, based on information gleaned from the Ob/Gyn Department, investigators’ CVs and related documentation, these faculty members have the listed number of pending grant requests:

- Abu-Soud – 2
- Awonuga – 1
The total direct costs requested by Mott personnel are approximately $11.8 million in 30 requests. Over the calendar year, >50 grant requests were submitted. Last year at the time of this writing we had requests out for ~$12.5 million.

At the time of this writing in April, 2014, Mott faculty are involved with 40 active research grants with a total value of $4,183,535. At this time last year, this was figure was ~$2.5 million. If one includes the PRB contract, this year's grant and contract figure climbs to $20,683,535.

The Clinical Research Center (CRC)
A first floor patient-oriented CRC was renovated and reactivated a few years ago, after having served as the base for WSU’s participation in the Women’s Health Initiative, as part of our commitment to translational research. This area continues to be fully operational, and has many ongoing interdepartmental and interinstitutional clinical research projects. These include –

1. Human Skeletal Muscle Proteome and Phosphoproteome in Obesity and Type 2 Diabetes (College of Pharmacy and Health Sciences, Zhengping Yi - PI);
2. Asthma Phenotypes in the Inner City (HFHS, Edward M. Zoratti - PI);
3. A Biomarker-Based Pilot Study of Cockroach Sublingual Immunotherapy in Cockroach Sensitive Children with Asthma and/or Perennial Allergic Rhinitis (HFHS, Edward M. Zoratti - PI);
4. The Role of Epigenetics in Inner City Asthma (HFHS, Edward M. Zoratti - PI);
5. Registry for Asthma Characterization and Recruitment (HFHS, Edward M. Zoratti - PI);
6. Preventative Omalizumab or Step-Up Therapy for Severe Fall Exacerbations (HFHS, Edward M. Zoratti - PI);
7. A Phase 3/4, Multi-Center, Randomized, Double-Blind, Placebo-Controlled, 52-Week Study to Evaluate the Efficacy and Safety of Belimumab (HGS1006) in Adult Subjects of Black Race with Systemic Lupus Erythematosus (SLE) (Dept. Internal Medicine, Josephine P. Dhar - PI);
8. Phase I, Safety and Immunogenicity of Gardasil in Systemic Lupus Erythematosus (Dept. Internal Medicine, Josephine P. Dhar - PI);
9. A Randomized, Double-Blind, Placebo-Controlled 52-Week Study to Assess Adverse Events of Special Interest in Adults with Active, Autoantibody-Positive Systemic Lupus (Dept. Internal Medicine, Josephine P. Dhar – PI);
10. A Phase III, Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of Belimumab Plus Standard of Care vs.
Placebo Plus Standard of.... (Dept. Internal Medicine, Josephine P. Dhar - PI);
11. Uses of Propranolol to Block Memory Reconsolidation to Female OIF/OEF Veterans (Dept. Psychiatry, Deane Aikins – PI);
12. A Phase-3, Open Label, Randomized, Multi-Center Study to Assess the Safety and Tolerability of an Induction, Titration, and Maintenance Dose Regimen of BMN 165 Self (Department Pediatrics, Robert Conway – PI);
13. Adjunct Vitamin D Therapy as a Means to Reduce the Disparity in Subclinical Target Organ Cardiac Damage Among Vulnerable Hypertensive Patients (Dept. Emergency Medicine, Philip Levy – PI);

For 2013, the CRC supported 14 research studies with a total of 676 consented and enrolled subjects. One half were NIH funded and the other one half were pharmaceutical related.

Graduate Program
The Department’s doctoral program is housed in the Department of Physiology and noted as a concentration in Reproductive Sciences. The Reproductive Science Concentration represents an integrated Ph.D. program incorporating the teaching, research and physical resources of two departments, Obstetrics/Gynecology and Physiology. Program specific courses are taught by Ob/Gyn teaching faculty and dissertation research is performed in our departmental basic science laboratories at the Mott Center. The program presently offers 10 courses totaling 20 credit hours which cover a range of topics in the Reproductive Sciences field. In 2013, during the summer PSL 7710 was offered with a new course director (A. Awonuga, M.D.) for 1 credit, and the following courses that are offered every other year were PSL 7730 in the Fall semester - 3 credits (JH Hannigan, Ph.D.) and PSL 7700 in the winter semester - 3 credits with a new course director (DR Armant, Ph.D.). In 2014 we are offering an online course on Embryo Physics.

In addition, the program’s emphasis on bioinformatics was expanded by cross-listing 2 curriculum courses from the new Bioinformatics & Computational Biology Concentration offered by the Department of Computer Science and Center for Molecular Medicine and Genetics. This program had also been expanded for individuals with Medical Degrees to earn their Ph.D.’s through the Reproductive Sciences Concentration. This effort is directed primarily at our young M.D.s currently participating in clinical fellowships in Maternal Fetal Medicine (MFM), Reproductive Endocrinology and Infertility (REI), and Gynecologic Oncology, as well as Research Fellows in the Perinatology Research Branch (PRB). Juan Gonzalez, M.D. (Mentor: Roberto Romero, M.D. with Robert Sokol, M.D.) is ready to defend his dissertation. Jimmy Belotte, M.D., is now in his second year; Rani Fritz, D.O., is the third individual to enter this program and he is in his first year. Our program expanded in 2013 by three, to include eight students. Overall, there are 19 faculty that participate in this program with a total of 10 faculty that have mentored Reproductive Sciences graduate students. This is an increase in mentorship by seven since 2011.

In 2013, one student graduated with a Ph.D. Nicole Fletcher-King (Mentor: Ghassan Saed, Ph.D.) successfully defended her Ph.D. dissertation in July 2013. The thesis focused on “The Role of Oxidative Stress in the Pathogenesis of Epithelial Ovarian Cancer.” She will continue her postdoctoral training in Dr. Ghassan Saed’s
laboratory. The total number of students who have graduated from this program now number eight.

Selected “News”
The goal in this very selective reporting of what’s new and what is happening at the Mott is to provide some flavor of the day to day activities which contribute to moving the Center forward strategically.

Seminar Series and Journal Clubs: In 2013, the Mott Center continued to have one on-going seminar series and a journal club. The faculty member “Brown Bag” seminar series continued monthly presentations through June. The Reproductive Biology journal club joined Chromatin, Computers and Reproduction journal club and meets weekly.

Mott Center Scientific Retreat: Over the past few years, the Mott Center has held a yearly scientific retreat. This encompasses faculty and invited guests, including select faculty from other departments within WSU and outside WSU. All fellows, students and laboratory personnel are encouraged to attend. The purpose of the retreats are to foster interdisciplinary collaboration to initiate new research projects. The scientific retreat for 2013 was again held at the Detroit Yacht Club on Belle Isle. This time, there were 62 attendees, with 11 presentations and one keynote speaker. The theme for this year’s retreat focused on the new and/or junior faculty and the presentations spanned from Immunology – Genetics – Computational Genomics to Disease Pathways and Intervention. At this retreat, Dr. S.K. Dey, Lova Riekert Chair and Professor of Pediatrics, Cancer and Cell Biology, Cincinnati Children’s Hospital Medical Center served as guest reviewer and keynote speaker. The keynote presentation was “Gene-Environment Interactions in Preterm Birth.” The 2014 retreat is planned for May.

MARTS (Michigan Alliance for Reproductive Technologies and Science) Symposium: The Michigan Alliance for Reproductive Technologies and Science was created approximately five years ago. This is a consortium between three research universities to accelerate growth of the reproductive sciences in Michigan. It is focused on enhancing the communication and collaboration among researchers, clinicians, and educators. The alliance fosters a supportive environment for basic research, technological development, translational studies, and clinical implementation. University of Michigan hosted the 2013 event, as it was their turn in the rotation. The Mott, which hosted this meeting the previous year, participated actively and will again participate in 2014.

Honors/Awards/Highlights: The Mott Center investigators were very active this past year and were recognized by a number of rewards or events in the Year 2013. Some highlights, honors, awards, and events are as follows:

1. Ghassan Saed, Ph.D., Associate Professor, had a featured article on MDLinx “Uterine Fibroids are Characterized by An Impaired Antioxidant Cellular System: Potential Role of Hypoxia in the Pathophysiology of Uterine Fibroids” on July 16, 2013 and published in the Journal of Assisted Reproduction and Genetics. Dr. Saed also received the 2013 ASRM Star Award. This award is for the reproductive health care professional who has presented at 9 out of 10 ASRM annual meetings.
2. Robert Freedman, Ph.D., Professor, in collaboration with Vaibhav Diwadkar, Ph.D., had “Temporal Sequencing of Brain Activations during Naturally Occurring Thermoregulatory Events” published in the June 2013 issue of Cerebral Cortex (an Oxford University Press journal).

3. An article published in Fertility and Sterility 100:2m 578-584, e1, August 2013 with Jashoman Banerjee, M.D., REI Fellow, as lead author “Peroxynitrite Affects the Cumulus Cell Defense of Metaphase II Mouse Oocytes Leading to Disruption of the Spindle Structure In Vitro” became part of the discussion forum for this journal.

4. Dr. Hussam Abu-Soud, Associate Professor, had a Fulbright Scholar, Dr. Iyad Ali, Ph.D., join his laboratory on May 1, 2013 for one year. This Fulbright Scholar was fully funded for the entire year. Dr. Iyad Ali is an Assistant Professor of Biochemistry, Faculty of Medicine and Health Sciences, An-Najah National University, Nablus, Palestine.

5. Kang Chen, Ph.D., Assistant Professor, published “Mucus Enhances Gut Homeostasis and Oral Tolerance by Delivering Immunoregulatory Signals” in Science. This collaboration was between his current and former laboratories. This article was also broadcast by the BBC.

6. Dr. Daniel Rappolee, Associate Professor, had a published article “Stress Induces AMPK-Dependent Loss of Potency Factors Id2 and Cdx2 in Early Embryos and Stem Cells” as the featured journal cover in “Stem Cells and Development” (May 15, 2013).

7. Dr. Stephen Krawetz, Professor, continued to welcome a Visiting Scholar from India. With co-authors, Dr. Krawetz published in Human Reproduction Update “The Presence, Role and Clinical Use of Spermatozoal RNA’s.” This was featured on the cover of the November/December 2013 issue. He was also quoted in April, 2014 as a world expert in sperm RNA in a commentary in Nature.

8. Dr. D. Randall Armant, Professor, published a major review paper on embryonic implantation in a special issue of Molecular Aspects of Medicine (high impact journal – IF: 10.8). He also organized a very successful satellite meeting of the Society for Gynecologic Investigation – March 2013.

New Faculty News: At the beginning of 2013, we welcomed Sascha Drewlo, Ph.D., Assistant Professor, who joined the Mott Center (University of Toronto) as the newest faculty member. Dr. Drewlo’s research interests focuses on molecular mechanisms of placenta related pregnancy disorders and the development of in vitro models of disease and intervention strategies. By the end of the year, Dr. Drewlo had a fully functioning laboratory in place.

In addition, we welcomed two adjunct faculty members. Susan Dombrowski, Ph.D., Adjunct Assistant Professor, is a senior Next Generation Sequencing (NGS) scientist at Genomatix Software, Inc. which is one of the world’s leading suppliers of technologies to analyze and interpret genomic data. Dr. Dombrowski’s research interests focuses on the analysis of microarray and NGS data, such as RNA-Seq and DNA-Seq. Richard Gordon, Ph.D., Adjunct Professor, is a theoretical biologist who had an extensive and prominent academic career at the University of Manitoba, and recently established the Embryogenesis Center at the Gulf Specimen Marine Laboratory in Panacea, Florida. Dr. Gordon’s research focuses on algal biofuels, diatom nanotechnology, embryo physics, breast cancer detection and HIV/AIDS prevention.
The Perinatal Initiative: As a continuation of the Perinatology Research Initiative for Year 2013, two more junior faculty and one more senior faculty have been hired and will be joining us this summer on the third floor of the Mott Center. This initiative is one of the primary reasons that all the building space reconfiguration process has commenced. Overall, the Perinatal Initiative, funded by the WSU Board of Governors, instituted by Dr. Roberto Romero and managed by Dr. Sonia Hassan, has led to a rebalancing of research at the Mott with increased emphasis in perinatal research and a net increase in five PIs at the Mott.

Where Should We Go? – A Strategic Reassessment of Future Directions
A strategic view toward making the Mott and its scientists more competitive in an increasingly competitive funding environment was undertaken about nine years ago and has engendered a large number of steps, all of which have been described in previous summaries. We started with administrative structure, physical plant, fixed and major equipment and have proceeded to program enhancement and creation of the graduate program concentration and M.D./Ph.D. program. Indeed, we updated the plan in moving toward Systems Biology in the Reproductive Sciences about five years ago, as we moved the Applied Genomics Technology Center and some epigenomic expertise to the Mott and activated a named endowed Chair in bioinformatics, now held by Sorin Draghici, Ph.D. We have closely related the AGTC to the PRB, as well as to the Karmanos Cancer Institute, upgraded our Next Generation Sequencing capabilities and have moved toward our vision of Personalized Medicine by attaining CAP certification for the genomics facility and working with KCI in profiling lung cancers.

The Systems Biology Program initiative was and is only possible because of the continued support of the School of Medicine, the Office of the Vice President for Research and the Provost. Just as important to this effort are our partners in the Karmanos Cancer Center, the Center for Molecular Medicine and Genetics, the Department of Computer Sciences, Computer and Information Technology, the Department of Physiology and several other academic areas.

The future success of the Mott will be grounded in its interdisciplinarity and cooperation and collaboration with the National Institute of Child Health and Human Development, across Wayne State University, our sister institutions in Michigan and the new initiatives that will be spun from our current and planned research endeavors. BUT, times have changed. Recruitment of new talent is likely nearly complete and there are major environmental limitations nationally and locally for medical schools and academic health systems. We await a new Reproductive Endocrinology and Infertility Division Director and continue to experience a lack of clear emerging themes both in some areas of our team research and our graduate concentration. The current challenge will be to create a strategic thinking and action process sensitive to our stakeholders, specifically and primarily the Department of Obstetrics and Gynecology and the Perinatology Research Branch, as well as our Advisory Committees and most importantly our Scientists.
RESEARCH FUNDING

Ernest L Abel, PhD

Active:
None

Pending:
None

Husam M Abu-Soud, PhD

Active:
Source: Children's Hospital of Michigan, Detroit Medical Center
Amount/Date: $4,000 01/13 – 12/13
Title: Role of Myeloperoxidase in Cystic Fibrosis
Role: Principal Investigator

Source: University of Michigan — Service Subcontract
[Analyze the heme degradation products in biological samples]
Amount/Date: $30,000 07/11 – 06/13
Role: Principal Investigator

Pending:
Source: NIH/NICHD R01
Title: Chemoresistance Induces a Genotype Switch in Redox Enzymes in Ovarian Cancer
Amount/Date: $2,932,687 07/13 06/19
Role: Co-Investigator; Saed, Principal Investigator

Source: NIH/NICHD R03
Title: The Impact of Nitric Oxide on Oocyte Aging
Amount/Date: $100,000 07/14 06/16
Role: Principal Investigator

Source: NIH/NICHD R03
Title: The Effect of Myeloperoxidase on Oocyte Quality
Amount/Date: $100,000 07/14 06/16
Role: Principal Investigator

Source: Cystic Fibrosis Foundation
Title: Myeloperoxidase Functions as a Source of Free Iron which Maintains the Persistence of Bacterial Infection in Cystic Fibrosis
Amount/Date: $120,000 07/14 06/16
Role: Principal Investigator

Source: National Aeronautical Space Administration (NASA), NAG
Title: Microgravity on the ISS Improves Derivation and Maintenance of Potency and Proliferation in Induced Pluripotent Stem Cells
Amount/Date: $500,000 07/14 06/16
Role: Co-Investigator; Rappolee, Principal Investigator
D Randall Armant, PhD

Active:

Source: NIH/NICHD R21HD071408-01A1
Title: Genetic Analysis of Human First Trimester Trophoblast in Ongoing Pregnancies
Amount/Date: $275,000 08/12 07/14
Role: Co-Principal Investigator; Diamond, Co-Principal Investigator

Source: NIH/NICHD K12HD001254-14
Title: Women’s Reproductive Health Research Program/Detroit Reproductive Career Development Research Center
Amount: $439,505 [annually] 09/01/09 08/31/14
Role: Program Director (as of 02/12/13); Puscheck, Principal Investigator

Source: Perinatology Virtual Discovery Grant, Wayne State University OVPR and the WK Kellogg Foundation
Amount/Date: $125,000 08/01/13 01/31/15
Title: Non-Invasive Trophoblasts Retrieval to Identify Biomarkers of Placental Disorders
Role: Principal Investigator

Source: Ascendant MDx, Inc. 13081028
Title: TCPD Feasibility for Prenatal Genetic Analysis
Amount/Date: $40,300 06/2013 11/2013
Role: Principal Investigator

Source: Office of the Vice President for Research (OVPR), Wayne State University
Title: Bridge Fund Program
Amount/Date: $49,340 05/11 01/13
Role: Principal Investigator

IRB-Approved Clinical Trials:

Source: HIC, Wayne State University, Protocol 100206M1F
Title: Use of Cervical Secretions to Predict Pregnancy Outcomes
Amount/Date: 10/06 10/13
Role: Principal Investigator

Source: HIC, Wayne State University, Protocol 051812MP2F
Title: Genetic Analysis of Human First Trimester Trophoblast in Ongoing Pregnancies
Amount/Date: 06/12 05/14
Role: Principal Investigator

Pending:

Source: NIH/NICHD R01HD00000000
Title: Epigenetic Mediators of Maternal Obesity during Pregnancy
Amount/Date: $2,498,335 01/14 06/19
Role: Co-Investigator; Misra & Straughen, Co-Principal Investigators
Source: American Heart Association 14PRE20380458
Predoctoral Fellowship
Title: Molecular Regulation of Trophoblast Survival in Placentation and Placental Insufficiency
Amount/Date: $23,000 07/14 06/16
Role: Mentor; Jain, Principal Investigator

Source: Undergraduate Research and Creative Projects Grant, Wayne State University
Title: MAPK Regulation of Human Trophoblast Survival at Low Oxygen
Amount/Date: $3,050 01/14 08/14
Role: Mentor; Barrak, Trainee

Aliccia B Bollig-Fischer, PhD

Active:
Source: Fund for Cancer Research, Karmanos Cancer Center
Title: Identifying Transcript-Level Distinctions for Aggressive Prostate Cancer in African American Men
Amount/Date: $75,000 07/13 06/14
Role: Principal Investigator

Source: Strategic Research Initiative Grant
Title: Identification of Candidate Driver Oncogenes from Cytogenomic Analysis of Metastatic Brain Tumors
Amount/Date: $50,000 10/13 09/14
Role: Principal Investigator; Mittal S, Co-Principal Investigator

Source: Wayne State University Grants Plus Program
Title: Characterizing Glycosylated DNA in Human Cells
Amount/Date: $75,000 01/13 08/14
Role: Co-Investigator; Ruden D, Principal Investigator

Source: ACS Pilot Project IRG
Title: Characterization of 5-Hydroxymethylcytosine in Breast Cancer
Amount/Date: $30,000 09/12 08/13

Pending:
Source: NIH/NCI PAR-12-039 R03; Resubmission
Title: Merging Tissue Microarray and Genetic Algorithms to Advance Lung Cancer Treatment
Amount/Date: $100,000 07/13 06/15
Role: Principal Investigator

Kang Chen, PhD

Active:
Source: NIH/NIAID U01 Mucosal Immunology Studies Team (MIST)
Title: Regulation of Maternal-Fetal Mucosal Immunity by HEXIM1 and Extrathymic AIRE
Amount/Date: $150,000 07/13 06/15
Role: Principal Investigator
Source: National Natural Science Foundation of China
Title: Regulation of Regulatory B cell Functions by PPAR-
Amount/Date: $150,000 01/14 12/17
Role: Co-Investigator; Li X, Principal Investigator

Source: Wayne State University Perinatal Initiative Start-Up Grant
Title: Immunology of Pregnancy and Mucosal Immunity of the Reproductive Tract
Amount/Date: $700,000 07/12 03/16
Role: Principal Investigator

Pending:
Source: NIH/NIAID R21
Title: Unraveling the Mystery of AIRE in Antibody Diversification and Humoral Immunodeficiency
Amount/Date: $500,000 09/14 08/16
Role: Principal Investigator

Source: Burroughs Wellcome Fund — Preterm Birth Initiative
Title: Functions of B Cell in Pregnancy and the Pathogenesis of Preterm Birth
Amount/Date: $600,000 06/14 05/18
Role: Principal Investigator

Source: Burroughs Wellcome Fund — Postdoctoral Enrichment Program
Title: Functions of B Cell in Pregnancy and the Pathogenesis of Preterm Birth
Amount/Date: $50,000 06/14 05/17
Role: Principal Investigator

Source: March of Dimes Prematurity Initiative
Title: Immunoregulatory Functions of B Cells in Pregnancy and Preterm Birth
Amount: $450,000 04/14 03/17
Role: Principal Investigator

Source: BD Biosciences Immunology Grant
Title: Immunoregulatory Functions of B Cells in Pregnancy and Preterm Birth
Amount/Date: $10,000 2014 2015
Role: Principal Investigator

Source: NIH/NICHD, R01 HD78326
Title: Immunoregulatory Functions of B cells in Pregnancy and Preterm Birth
Amount/Date: $1,250,000 07/13 06/18
Role: Principal Investigator

Source: NIH/NCI R21
Title: Maspin-Based Cancer Immunotherapy
Amount/Date: $500,000 06/14 05/16
Role: Consultant; Sheng S and Lun LG, Principal Investigators
Source: Dr. Jack Ryan Interdisciplinary Research Award
Title: *A Combined Chemical Biology and Immunology Approach Towards Unraveling the Mystery of Autoimmune Regulator in Antibody Diversification and Immunodeficiency*
Amount/Date: $10,000 06/14 05/15
Role: Principal Investigator

Source: Karmanos Cancer Institute, Research Core Incentive Program
Amount: $2,000 06/14 08/14
Role: Principal Investigator

**Sorin Draghici, PhD**

**Active:**
Source: NIH/NIGMS, STTR [R41/R42] Innovations in Biomedical Computational Science & Technology Initiative
Title: *Pathway-Guide: A Novel Tool for the Analysis of Signaling and Metabolic Pathways*
Amount/Date: $2,229,094 09/11 – 08/14
Role: Principal Investigator

Source: NIH/National Institute of Diabetes and Digestive and Kidney Diseases
Title: *Novel Methods for the Analysis of Gene Signaling Pathways with Applications in Obesity and Diabetes*
Amount/Date: $1,316,175 07/10 – 06/14
Role: Principal Investigator; Granneman & McKenzie, Co-Principal Investigators

Source: National Science Foundation, Advances in Biological Informatics
Title: *Novel Tools for the Analysis and Interpretation of Gene Signaling Pathways*
Amount/Date: $1,539,055 08/10 – 07/14
Role: Principal Investigator; Grossman & Goodman, Co-Principal Investigators

**Pending:**
Source: NIH, NICHD R01
Title: *Onto-Tools Integration into the caBIG Architecture*
Amount/Date: $3,000,000 2013 – 2016
Role: Principal Investigator

**Sascha Drewlo, PhD**

**Active:**
Source: Perinatology Virtual Discovery Program, Wayne State University
Title: *Non-Invasive Trophoblast Retrieval to Identify Biomarkers of Placental Disorders*
Amount/Date: $125,096 2013 – 2014
Role: Co-Principal Investigator

**Pending:**
Source: NIH/NICHD RO1
Title: *The Role of PPARy in Human Placental Development and Preeclampsia*
Amount/Date: $1,025,000
Role: Principal Investigator

Source: Basil O’Connor Starter Scholar Research Award
Title:
Amount/Date:
Role: Principal Investigator

Source: Preeclampsia Foundation
Amount/Date: $25,000
Role: Principal Investigator

Source: March of Dimes
Amount/Date: $150,000
Role: Principal Investigator

Robert R Freedman, PhD

Active:
Source: NIH, NR013959
Title: Behavioral Treatment of Menopausal Insomnia: Sleep, Depression, Daytime Outcomes
Amount/Date: $2,181,168 09/13 – 08/18
Role: Co-Investigator; Drake, Principal Investigator

Pending
Source: American Cancer Society
Title: Behavioral Treatments for Sleep Disruption in Women with Breast Cancer
Amount/Date: $1,750,000 07/01/14 – 07/01/19
Role: Principal Investigator

Nardhy Y Gomez-Lopez, PhD

Active
Source: OVPR, Wayne State University
Title: Research Mentors Program for New Faculty
Amount/Date: $4,000 2013
Role: Junior Faculty, Principal Investigator; Krawetz & Tse, Mentors

Source: Canadian Institutes of Health Research
Title: The Pivotal Roles of IL1B and IL6 in the Timing of Birth
Amount/Date: $758,072 2013 – 2016
Role: Postdoctoral Fellow; Olson, Principal Investigator

Pending
Source: NIH/NICHD R21
Title: The Role of Fetal Innae CD4+ T-Cells in Maternal-Fetal Immune Tolerance
Amount/Date: $437,309 2013 – 2014
Role: Co-Principal Investigator
John H Hannigan, PhD

Active
Source: Kresge Foundation
Title: Promoting High-Quality Early Childhood Education in the Woodward Corridor of Detroit
Amount/Date: $245,970 01/13 — 12/15
Role: Co-Principal Investigator; Miller & Elliott, Co-Principal Investigators

Source: Colina Foundation
Title: Support for Children Having Adventures through Merrill Palmer Skillman (CHAMPS) Summer Camp Community Intervention Project
Amount/Date: $3,000 06/13 — 12/13
Role: Principal Investigator

Source: PNC Foundation
Title: Coaching for Excellence in Early Childhood Education Practice in Detroit
Amount/Date: $15,000 09/13 — 08/14
Role: Co-Principal Investigator; Miller & Elliott, Co-Principal Investigators

Source: Carls Foundation
Title: Support for Fetal Alcohol Spectrum Disorders Community Intervention Project (Originally “FAStar”)
Amount/Date: $150,000 01/05 — 12/13
Role: Principal Investigator

Source: NIH/NIDA R01 DA022419-01
Title: Teens at Risk: Prenatal Cocaine and Postnatal Challenges
Amount/Date: $3,745,437 06/08 — 05/13
Role: Key Investigator; Delaney-Black, Principal Investigator

Source: First Children’s Finance
Title: Multiservice Growth and Fiscal Management for WSU Early Childhood Centers
Amount: $50,000 10/11 — 09/13
Role: Co-Principal Investigator; Miller, Co-Principal Investigator

Source: INPHAASE, Wayne State University & Henry Ford Health System
Title: Translating Research into Practice: Improving Pregnancy Alcohol Screening
Amount/Date: $75,000 09/11 — 08/13
Role: Co-Principal Investigator; Chiodo, Co-Principal Investigator; Mehta S, Co-Investigator

Pending
Source: NIH/NIEHS P30-EH
Title: Community Outreach and Engagement Core
Amount/Date: $702,667 04/14 — 03/18
Role: Co-Principal Investigator for Core; Lichtenberg, Co-Principal Investigator
Source: NIH
Title: Community Outreach and Engagement Core Center for Urban Responses to Environmental Stressors (CURES)
Amount/Date: $4,561,329
Role: Co-Principal Investigator; Runge-Morris, Principal Investigator/Program Director

Source: NIH/NIAAA R01 AA
Title: Improving Pregnancy Alcohol Screening: Translating Research to Effective Practice
Amount/Date: $2,629,016 09/14 – 08/18
Role: Co- & Site Principal Investigator; Chiodo, Co-Principal Investigator

Source: NIH/NICHD R01 HD081449-01
Title: Transmitting Self-Regulation across Generations: Parenting and Poverty Risk
Amount/Date: 04/14 03/19
Role: Investigator; Trentacosta & Delaney-Black, Co-Principal Investigators

**Stephen A Krawetz, PhD**

**Active**
Source: EMD Serono, Collaborative Translational Research Project (CTRP)
Title: Targeted Markers of Sperm Potential
Amount/Date: $375,000 2012 – 2014
Role: Principal Investigator

Source: NIH/NICHD
Title: SPERM-Selection of Paternal Elements of RNA (Messenger)
Amount/Date: $133,372 2012 – 2013
Role: Principal Investigator

Source: NIH/NICHD ES017285
Title: Crossover Study on Human Exposure to Phthalates and Male Fertility
Amount/Date: $917,105 2010 – 2015
Role: Co-Investigator

Source: NIH/NCC RO1CA131990-01
Title: Proteolytic Pathways in Progression of Pre-Malignant Breast Disease
Amount/Date: 2008 – 2013
Role: Co-Investigator

Source: NIH/NICHD U10 HD-39005; Renewal
Title: WSU Cooperative Reproductive Medicine Network Center
Amount/Date: $600,000 2013 – 2018
Role: Principal Investigator

Source: NIH/NICHD U10 HD-39005
Title: WSU Cooperative Reproductive Medicine Network Center
Amount/Date: $1,510,000 2007 – 2013
Role: Principal Investigator
Source: Office of the Vice President for Research (OVPR), Wayne State University
Title: Research Mentors Program for New Faculty
Amount/Date: ($2,000) 2013
Role: Krawetz & Tse, Mentors; Gomez-Lopez, Junior Faculty & Principal Investigator

Source: Wayne State University
Amount/Date: $10,000 2013 – 2014
Role: Principal Investigator

Source: Wayne State University, Perinatology Virtual Discovery Program
Title: Non-Invasive Trophoblasts Retrieval to Identify Biomarkers of Placental Disorders
Amount/Date: $125,096 2013 – 2014
Role: Co-Principal Investigator

Pending
Source: NIH/NCC R01CA131990-01, Competitive Renewal
Title: Proteolytic Pathways in Progression of Pre-Malignant Breast Disease
Amount/Date: 2013
Role: Co-Investigator

Source: NIH/NICHD
Title: Genome Chaos Mediated Cancer Evolution: The Mechanism of Drug Resistance
Amount/Date: 2013
Role: Co-Principal Investigator

Susan J Land, PhD

Active
Source: NIH/NCI, 2P30 CA22453-24
Title: Cancer Center Support Grant – Genetics/Genomics Core
Amount/Date: $304,559 (Genomics Facility) 12/10 – 11/15
Role: Program Director, AGTC Lab; Bepler, Principal Investigator

Source: NIH/NICHD
Title: Inflammation Pathways and COPD in the Development of Lung Cancer
Amount/Date: $11,552,203 04/10 – 07/15
Role: Co-Principal Investigator; Schwartz, Principal Investigator

Source: NIH/NICHD R21HD071408-01A1
Title: Genetic Analysis of Human First Trimester Trophoblast in Ongoing Pregnancies
Amount/Date: $125,000 08/12 – 07/14
Role: Co-Investigator; Armant & Diamond (Co-PIs)

Pending
None

Daniel A Rappolee, PhD

Active
None
Pending
Source: NIH/NICHD R01
Title: *Stress Enzyme and Respiratory Mediators of Hypoxic Stem Cell Differentiation*
Amount/Date: $1,250,000
Role: Principal Investigator; Huttemann, Co-Investigator

Source: NIH/NICHD R21
Title: *Modeling Optimal IVF O2 Levels Using Human and Mouse Stem Cells and Embryos*
Amount/Date: $275,000
Role: Principal Investigator

Source: NIH/NIEMS R41, Phase I STTR
Title: *Developing Tests for Prioritized Differentiation in Human Embryonic Stem Cells*
Amount/Date: $154,957
Role: Principal Investigator; D&L Research and Consulting, LLC

Source: NIH/NIGMS R41, Phase I STTR
Title: *Developing Tests for Prioritized Differentiation in Human Trophoblast Stem Cells*
Amount/Date: $100,000
Role: Principal Investigator; D&L Research and Consulting, LLC

Source: National Aeronautical Space Administration (NASA), NAG
Title: *Microgravity on the ISS Improves Derivation and Maintenance of Potency and Proliferation in Induced Pluripotent Stem Cells*
Amount/Date: $500,000 07/14 06/16
Role: Principal Investigator; Abu-Soud, Co-Investigator

Source: National Aeronautical Space Administration (NASA), NAG
Title: *Stressful Microgravity on the ISS Slows Development, Induces Potency Loss and Epigenetic Changes in Pre-Implantation Mouse Embryos*
Amount/Date: $500,000
Role: Principal Investigator

Douglas M Ruden, PhD

Active
Source: NIH/NIEHS R01 ES012933-06
Title: *QTL and Microarray Mapping Lead Sensitivity Genes*
Amount/Date: $2,750,000 2004 – 2016
Role: Principal Investigator

Source: NIH/NIEHS 1 R21 ES 021983-01
Title: *Effects of Lead on Neuronal Differentiation in Human Embryonic Stem Cells*
Amount/Date: $275,000 10/12 – 09/14
Role: Principal Investigator

Source: Wayne State University, President’s Research Enhancement Program: Brain Research
Title: *Epigenetics of Traumatic Brain Injury*
Amount/Date: $150,000 2013
Role: Principal Investigator
Source: University Research Corridor Grant  
Title: *The Michigan Bloodspot Environmental Epidemiology Project (BLEEP)*  
Amount/Date: $450,000 05/11 – 04/14  
Role: Principal Investigator; Hu & Paneth, Co-Principal Investigators

Source: The Michigan Bloodspot Environmental Epidemiology Project (BLEEP) Pilot Grant  
Title: *Multigenerational Effects of Lead Exposure in Humans*  
Amount/Date: $25,000 2013  
Role: Principal Investigator

Source: WSU/Research Enhancement Program (Grants Plus)  
Title: *Utility of Epigenomic Exposure Signatures in Quantifying War-Related Environmental Exposures*  
Amount/Date: $100,000 05/12 – 10/13  
Role: Co-Investigator; Arnetz, Principal Investigator

Source: WSU/Research Enhancement Program (Grants Plus)  
Title: *Characterization of Glycosylated DNA in Human Cells*  
Amount/Date: $100,000 05/13 – 10/14  
Role: Principal Investigator

**Pending**  
Source: NIH/NICHD R21  
Title: *Multigenerational Inheritance of Epigenetic Changes in Humans Caused by Exposure to Lead*  
Amount/Date: 2013  
Role: Principal Investigator

Source: NIH/NIEHS P30  
Title: *Center for Urban Responses to Environmental Stressors (CURES)*  
Amount/Date: $2,500,000 2014-2019  
Role: Core Director; Land, Co-Investigator

Source: NIH/NIEHS R01  
Title: *Using Neurons and Astrocytes from ApoE4/E4 Human Embryonic Stem Cells to Model the Effects of Lead on the Development of Alzheimer’s Disease*  
Amount/Date: 2013  
Role: Principal Investigator

Source: NIH/NICHD 1R21HD080155-01  
Title: *Neurotoxicity of Gold Nanoparticles using Human Embryonic Stem Cells*  
Amount/Date: $550,000  
Role: Principal Investigator

Source: NIH RO1  
Title: *Development of Mitochondrial DNA Oxidation Assays in Cancer Diagnosis and Treatment*  
Amount/Date: 2013  
Role: Principal Investigator
### Ghassan M. Saed, PhD

**Active**

Source: NIH/NICHD HD-09-008  
Title: *WSU-UPR Research Partnership to Promote Diversity in the Reproductive Sciences (CPDR)*  
Amount/Date: $3,020,000  
08/10 – 07/15  
Role: Co-Principal Investigator; Diamond & Kraiselburd, Principal Investigators

**Pending:**

Source: NIH, NICHD RO1  
Title: *Chemoresistance Induces a Genotype Switch in Redox Enzymes in Ovarian Cancer*  
Amount/Date: $2,932,687  
07/14 – 06/19  
Role: Principal Investigator; Diamond & Ghamande, Co-Principal Investigators

Source: NIH, NICHD RO3  
Title: *Chemoresistance in Ovarian Cancer is Attributed to Enhanced Oxidative Stress*  
Amount/Date: $152,000  
07/14 – 06/16  
Role: Principal Investigator

Source: NIH, NICHD RO3  
Title: *Chemoresistance in Ovarian Cancer Manifests a Genotype Switch in Oxidant Enzymes*  
Amount/Date: $152,000  
07/14 – 06/16  
Role: Principal Investigator

Source: NIH, NICHD RO3  
Title: *Characterization of Epithelial Ovarian Cancer Stem Cells*  
Amount/Date: $152,000  
07/01/14 – 06/16  
Role: Mentor; Belotte, Principal Investigator

Source: NIH, NICHD RO3  
Title: *Catalase SNP as a Genetic Predictor for Epithelial Ovarian Cancer*  
Amount/Date: $152,000  
07/14 – 06/16  
Role: Mentor; Belotte, Principal Investigator

Source: Rivkin Center Grant, Scientific Scholar Award – Postdoctoral Fellowship  
Title: *Novel biomarkers for Detection of Early Ovarian Cancer*  
Amount/Date: $60,000  
04/14 – 3/15  
Role: Mentor; Fletcher-King, Principal Investigator

Source: Rivkin Center Grant, Scientific Scholar Award – Postdoctoral Fellowship  
Title: *Catalase SNP as a Genetic Predictor for Epithelial Ovarian Cancer*  
Amount/Date: $60,000  
04/14 – 03/15  
Role: Mentor; Belotte, Principal Investigator

Source: Hope Funds Cancer Research, Postdoctoral Fellowship  
Amount/Date: $100,000  
2014 – 2016  
*Novel Biomarkers for the Early Detection of Ovarian Cancer*  
Role: Mentor; Fletcher-King, Principal Investigator

Source: Rivkin Center Grant, Pilot Study
Title: Chemoresistance in Ovarian Cancer Manifests a Genotype Switch in Oxidant Enzymes  
Amount/Date: $75,000  04/14 – 03/15  
Role: Principal Investigator  

Source: Prevent Cancer – Postdoctoral Fellowship  
Title: New Insights into the Pathogenesis of Ovarian Cancer  
Amount/Date: $80,000  01/14 – 01/16  
Role: Mentor; Fletcher-King, Principal Investigator  

Robert J Sokol, MD  

Active:  
Source: NIH/NIDA 1R01 DA022419-01  
Title: Teens at Risk: Prenatal Cocaine and Postnatal Challenges  
Amount/Date: $2,315,905  06/08 – 04/13 [no cost extension until 4/30/14]  
Role: Co-Principal Investigator; Delaney-Black, Principal Investigator  

Source: Merck Vaccine Division  
Title: The Safety and Immunogenicity of Gardasil in Systemic Lupus Erythematosus  
Amount/Date: $348,952  06/12 – 12/13  
Role: Co-Principal Investigator, Biostatistics; Dhar, Principal Investigator  

Source: NIH/NICHD 2 K12-HD 001254-10  
Title: Detroit Reproductive Career Development Research Center (WRHR)  
Amount/Date: $2,374,571  09/09 – 08/14  
Role: Mentor; Puscheck, Principal Investigator  

Source: NIH/NIAAA 1R34AA020056-01  
Title: Computer-Delivered SBIRT for Alcohol Use in Pregnancy: Planning a Stage II Trial  
Amount/Date: $655,500  04/11 – 03/14  
Role: Co-Investigator; Ondersma, Principal Investigator  

Source: INPHAASE Grant, Wayne State University & Henry Ford Health System  
Title: Translating Research Into Practice: Improving Pregnancy Alcohol Screening  
Amount/Date: $75,000  12/11 – 05/13 [no cost extension to 11/30/13]  
Role: Investigator; Chiodo, Principal Investigator  

Source: WK Kellogg Foundation P3018205  
Title: Improving Maternal-Child Health via Support for WSU Critical Programs  
Amount/Date: $750,000  01/12 – 12/14  
Role: Project Director  

Source: NIH/NICHD HHSN275201300000 6C  
Title: Services in Support of the Perinatology Research Branch, NICHD  
Amount/Date: $165,856,250  02/13 – 01/23  
Role: Project Site Manager I/II (02/14 – 01/23; Hassan, Project Site Manager II
Source: NIH/NICHHD LO13-RT-01-N
Title: GC/MS Methods to Determine Environmental Factors on Fetal and Newborn Gene Expression
Amount/Date: $409,000  02/13 – 07/13
Role: Consultant, Co-Investigator on extension; Lyman, Principal Investigator

Source: NIH/NICHHD HHSN267200700034C/Amendment for Vanguard Study
Title: Michigan Alliance for The National Children’s Study (MANCS) in Response to RFP HIH East #NIH-NICHD-NCS-07-11E for Wayne County
Amount/Date: $18,581,901  09/07 – 03/13
Role: Principal Investigator at Wayne State University, Co-Principal Investigator for Obstetrics Subcontract; Paneth, Principal Investigator

Source: NIH/NICHHD HHSN275201200024C
Title: Michigan Alliance for The National Children’s Study (6 Months Follow on Contract)
Amount/Date: $821,898  09/12 – 03/13
Role: Principal Investigator at Wayne State University; Paneth, Principal Investigator, Michigan State University

Source: NIH/NICHHD HHSN27520080007C
Title: Michigan Alliance for The National Children’s Study (MANCS) in Response to RFP HIH East #NIH-NICHD-NCS-08-21E for Grand Traverse, Genesee, Lenawee and Macomb Counties
Amount/Date: $57,068,253  09/08 – 09/14
Role: Principal Investigator at Wayne State University/Co-Principal Investigator for Obstetrics Subcontract; Paneth, Principal Investigator

Pending:
Source: RAIND Competition, Michigan State University
Title: Perinatal Risk Factors, Developmental Delay and Autism Spectrum Disorders in Offspring
Amount/Date: $150,000 (combined with Iodine grant) 02/14 – 01/17
Role: Investigator; Paneth, Principal Investigator & Mehta, Co-Principal Investigator

Source: RAIND Competition, Michigan State University
Title: Effect of Iodine Insufficiency during Pregnancy on Cognitive and Behavioral Outcomes in Offspring
Amount/Date: $100,000 (combined with Autism grant) 02/14 – 01/17
Role: Investigator; Kerver, Principal Investigator

Source: NIH/NICHHD
Title: Breastfeeding Support and Weight Management for Black Women: A Dual Intervention
Amount/Date: $3,744,187  12/14  11/19
Role: Co-Investigator (subcontract to WSU); Kerver, Principal Investigator (MSU)

Source: Michigan State University
Title: Investigating the Prenatal Origins of Human Disease
Amount/Date: $400,000  01/14  06/17
Role: Investigator; Paneth, Principal Investigator
Source: NIH/NICHD Parent R01, Research Project Grant
Title: *Improving Pregnancy Alcohol Screening: Translating Research to Effective Practice*
Amount/Date: $3,076,443 07/14  06/18
Role: Co-Investigator; Chiodo & Hannigan, Principal Investigators
PUBLICATIONS

**Peer-Reviewed (Published)**


Belotte J, †Fletcher NM, Awonuga AO, Alexis M, **Abu-Soud HM**, Saed MG, **Diamond MP**, **Saed GM**. The role of oxidative stress in the development of cisplatin resistance in epithelial ovarian cancer. Reproductive Sciences 2013 October 23. [Epub ahead of print] †Denotes co-authorship


Chiodo L, **Sokol RJ**. Women who drink heavily during pregnancy have increased stillbirth risk. Commentary on, ‘O’Leary C, Jacoby P, D’Antoine H, Bartu A, Bower C.
Heavy prenatal alcohol exposure and increased risk of stillbirth.’ Evidence Based Nursing 2013 July;16(3):76-77. doi: 10.1136/eb-2012-101005. Epub 2012 November 17.


Diwadkar VA, Murphy ER, Freedman RR. Temporal sequencing of brain activations during naturally occurring thermoregulatory events. Cerebral Cortex 2013 June 19. [Epub ahead of print]


Fletcher NM, Awonuga AO, Saed MG, Abu-Soud HM, Diamond MP, Saed GM. Lycopene, a powerful antioxidant, significantly reduces the development of the adhesion phenotype. Systems Biology in Reproductive Medicine 2013 November 12. [Epub ahead of print]

Fletcher NM, Saed MG, Abu-Soud HM, Al-Hendy A, Diamond MP, Saed GM. Uterine fibroids are characterized by an impaired antioxidant cellular system: potential role of hypoxia in the pathophysiology of uterine fibroids. MDLinx.com/obstetrics-gynecology/news-article, 2013. Featured Article


Jougleux JL, Rioux FM, Church MW, Fiset S, Surette ME. Mild iron deficiency anaemia during pregnancy and lactation in guinea pigs alters amplitudes and auditory nerve velocity, but not brainstem transmission times in the offspring’s auditory brainstem response. Nutritional Neurosciences 2013 April 19. [Epub ahead of print]


**Sokol RJ.** More for less – if only we could get them to do it! Healthcare Papers 2013;13(2):46-50; discussion 52-55.


**Peer-Reviewed (In Press)**


**Abel EL.** Medical eponym angst. Names: A Journal of Onomastics.


Detti L, Fletcher NM, Saed GM. Goserelin fosters bone elongation, but does not prevent ovarian damage in cyclophosphamide-treated pre-pubertal mice. Fertility and Sterility.

Diwadkar V, Freedman RR. Temporal sequencing of brain activations during naturally occurring thermoregulatory events. Cerebral Cortex.

Fletcher NM, Awongua AO, Saed MG, Abu-Soud HM, Diamond MP, Saed GM. Lycopene, a powerful antioxidant, significantly reduces the development of the adhesion phenotype. Systems Biology in Reproductive Medicine.

Fletcher NM, Saed MG, Abu-Soud HM, Al-Hendy A, Diamond MP, Saed GM. Uterine fibroids are characterized by an impaired antioxidant cellular system: potential role of hypoxia in the pathophysiology of uterine fibroids. Journal of Assisted Reproductive Genetics.


Jougleux JL, Rioux FM, Church MW, Fiset S, Surette ME. Mild iron deficiency anemia during pregnancy and lactation in guinea pigs alters amplitudes and auditory nerve velocity, but not brainstem transmission times in the offspring’s auditory brainstem response. Nutritional Neuroscience.

Levytska K, **Drewlo S**, Baczyk D, Kingdom JC. PPAR-γ regulates trophoblast differentiation in the BeWo cell model. PPAR Research.


**Ruden DM**. Intronic non-CG DNA hydroxymethylation and alternative mRNA splicing in honey bees. BMC Genomics.


**Books/Chapters (Published)**


**Books/Chapters (In Press)**


**Reviews, Editorials, Other Scholarly Work (Published)**


**Armant DR.** Embryo implantation and implantation failure. Molecular Aspects of Medicine 2013;1-42.


Fletcher NM, Saed MG, **Abu-Soud HM, Al-Hendy A, Diamond MP, Saed GM.** Uterine fibroids are characterized by an impaired antioxidant cellular system: potential role of hypoxia in the pathophysiology of uterine fibroids. MDLinx.com/obstetrics-gynecology/news-article, 2013. **Featured Article**


**Krawetz SA.** Series Deposited in Databases:

2013 GSE43586: Evaluation of the effectiveness of semen collection and sperm purification methods for spermatozoa transcript profiling [Homo sapiens].

2013 GSE42326: Stability, delivery and functions of human sperm RNAs at fertilization [Homo sapiens].

2013 GSE39528: Identification of microarray probe signals constantly present in multiple sample types [Homo sapiens].

2013 GSE39527: Identification of microarray probe signals constantly present in multiple sample types [Homo sapiens].


**Sokol RJ.** Commentary on Murphy and MacKenzie’s “Using evidence to meet population health care needs: successes and challenges.” Healthcare Papers 2013 May.

**Sokol RJ.** More for less. If we can only get them to do it! Healthcare Papers 2013;13(2):45-47. Commentary.


**Reviews, Editorials, Other Scholarly Work (In Press)**


Faucette AN, Unger BL, Ceruttia, Gonik B, **Chen K.** Maternal vaccination in pregnancy. Human Reproduction Update. Review.


Abstracts (Published)

Abu-Soud HM. Free radicals and oxidative stress. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings;1.


Armant DR, Angoa-Perez M, Kilburn BA, Francescutti D, Kuhn DM. Oocyte and cleavage-stage expression of Tph2 impacts implantation and pregnancy failure. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings;2.


Belotte J, Alexis M, Belotte J, Saed GM, Diamond MP. Sox2 gene copy number alteration (CAN) significantly impact overall survival (OS) in serous epithelial ovarian cancer. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings;6.


Belotte J, Fletcher NM, Levin NK, Simon MS, Abu-Soud HM, Diamond MP, Tainsky MA, Saed GM. Catalase and NADPH oxidase single nucleotide polymorphisms are associated with increased risk and serve as potential targets for breast and ovarian cancers. 104th Annual Meeting of The American Association for Cancer Research, April 6-10, 2013, Washington, DC, USA. Poster presentation. Proceedings 2013.


Bolnick JM, Kilburn BA, Diamond MP, Jeelani R, Armant DR. Trophoblast cells obtained by noninvasive transcervical sampling during early pregnancy has an extravillous phenotype. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings;23.


Bolnick JM, Kilburn BA, Singh M, Diamond MP, Awonuga A, Armant DR. Sildenafil stimulates extravillous trophoblast differentiation through cGMP downstream signaling. 68th Annual Meeting of the American Society for Reproductive Medicine, October 12-17, 2013, Boston, MA, USA. Poster presentation. Fertility and Sterility;100(3) Suppl:2013.

Bolnick JM, Kilburn BA, Singh M, Diamond MP, Hertz M, Armant DR. Sildenafil prevents apoptosis of first trimester trophoblast cells exposed to environmental stress. 68th Annual Meeting of the American Society for Reproductive Medicine, October 12-17, 2013, Boston, MA, USA. Poster presentation. Fertility and Sterility;100(3) Suppl: 2013.


Bolnick JM, Zhou Y, Kilburn BA, Fisher SJ, Arment DR. HBEGF can induce cell invasion and promote survival of first trimester trophoblast cells. 68th Annual Meeting of the American Society for Reproductive Medicine, October 12-17, 2013, Boston, MA, USA. Poster presentation. Fertility and Sterility;100(3) Suppl:2013.


Fletcher NM, Abuanzeh S, Saed MG, Abu-Soud HM, Diamond MP, Saed GM. Postoperative adhesions are characterized by a unique oxidative stress profile which is responsible for creation and persistence of the adhesion phenotype. Conjoint Meeting of the International Federation of Fertility Societies and the 69th American Society for Reproductive Medicine, October 12-17, 2013, Boston, MA, USA. Poster presentation. Fertility and Sterility;100(3) Suppl:S31, 2013.

Fletcher NM, Saed GM. Differential expression of glutathione peroxidase and glutathione reductase in chemoresistant epithelial ovarian cancer cells. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings;26.


Rappolee DA. Stress induces placental differentiation from stem cells that is different in seven ways compared with normal differentiation. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings;18, 2013.

Ruden D. Cytosine modifications are regulated by oxidative stress in stem cells. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Oral/poster presentation. Proceedings;19, 2013.

Saed GM. The role of oxidative stress in the pathophysiology of gynecologic fibrotic disorders. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings;20, 2013.

Selvaraju S, Goodrich R, **Diamond MP, Krawetz SA.** Quantification of miR34c-5p in human spermatozoa for predicting fertile semen sample. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings; 33, 2013.


Shaeib F, Banerjee J, Maitra D, **Diamond MP, Abu-Soud HM.** Hydroxyl radical and oocyte quality. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings; 34, 2013.


Shaeib F, Banerjee J, Thakur M, Saed MG, Awonuga AO, **Diamond MP, Saed GM, Abu-Soud HM.**Cumulus cells significantly reduce hydrogen peroxide induced damage to metaphase-II mouse oocyte spindle and chromosomal alignment. 17th Annual Graduate Student Research Day, Wayne State University, September 19, 2013, Detroit, MI, USA. Poster presentation. Proceedings 2013.


Shaeib F, Banerjee J, Thakur M, Saed MG, **Diamond MP, Saed GM, Abu-Soud HM.** Confocal 3-dimensional reconstruction can serve as a useful tool to quantify oxidative stress induced oocyte spindle damage. 4th Annual Michigan Alliance for Reproductive Technologies and Science (MARTS) Symposium, University of Michigan, May 10, 2013, Ann Arbor, MI, USA. Poster presentation. Proceedings 2013.
Shaeib F, Banerjee J, Thakur M, Saed MG, Diamond MP, Saed GM, Abu-Soud HM. Confocal 3-dimensional reconstruction can serve as a useful tool to quantify oxidative stress induced oocyte spindle damage. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, May 15, 2013, Detroit, MI, USA. Poster presentation. Proceedings;35, 2013.


Thakur M, Banerjee J, Shaeib F, Diamond MP, Saed GM, Abu-Soud HM. Confocal 3-dimensional reconstruction can serve as a useful tool to quantify oxidative stress induced oocyte spindle damage. Conjoint Meeting of the International Federation of Fertility Societies and the 68th American Society for Reproductive Medicine, October 12-17, 2013, Boston, MA, USA. Poster presentation. Fertility and Sterility;100(3) Suppl:2013.

Trussell JC, Christman GM, Ohl DA, Krawetz SA, Snyder PJ. Nearly all surveyed reproductive urologists feel a prospective varicocelectomy trial is important and worthwhile. Conjoint Meeting of the International Federation of Fertility Societies and the 68th American Society for Reproductive Medicine, October 12-17, 2013, Boston, MA, USA. Poster presentation. Fertility and Sterility;100(3) Suppl:2013.


Abstracts (In Press)


Saed GM, Fletcher NM, Belotte J, Levin NK, Simon MS, Abu-Soud HM, Diamond MP. SNPs in key oxidants and antioxidants are associated with increased risk and serve as potential targets for ovarian cancer. 61st Annual Meeting of the


PERINATAL RESEARCH BRANCH (PRB)

Peer-Reviewed (Published)


Romero R, et al., The diagnostic performance of the Mass Restricted (MR) score in the identification of microbial invasion of the amniotic cavity or intra-amniotic inflammation is not superior to amniotic fluid interleukin-6. Journal of Maternal and Fetal Neonatal Medicine, 2013. [Epub ahead of print]


PRESENTATIONS

Ernest L Abel, PhD


Invited Keynote Speaker. Fetal Alcohol Canadian Expertise (FACE) Annual Meeting, Newfoundland, Canada, September 2013.

Media Interviews —


Husam M Abu-Soud, PhD


Confocal 3-Dimensional Reconstruction Can Serve as a Useful Tool to Quantify Oxidative Stress Induced Oocyte Spindle Damage, Shaeib F, et al. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, Detroit, MI, May 2013.
Free Radicals and Oxidative Stress. 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.


Hydroxyl Radical and Oocyte Quality, Shaeib F, et al. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, Detroit, MI, May 2013.


Postoperative Adhesions are Characterized by a Unique Oxidative Stress Profile Which is Responsible for Creation and Persistence of the Adhesion Phenotype, Fletcher NM, et al. Conjoint Meeting of the International Federation of Fertility Societies and the 69th American Society for Reproductive Medicine, Boston, MA, October 2013.


Confocal 3-Dimensional Reconstruction Can Serve As a Useful Tool to Quantify Oxidative Stress Induced Oocyte Spindle Damage, Thakur M, et al. Conjoint Meeting of the International Federation of Fertility Societies and the 68th American Society for Reproductive Medicine, Boston, MA, October 2013.


Cumulus Cells Significantly Reduces Hydrogen Peroxide Induced Damage to Metaphase-II Mouse Oocyte Spindle and Chromosomal Alignment, Shaeib F, et al. 20th Annual
Meeting of the Society for Free Radical Biology and Medicine, San Antonio, TX, November 2013.


**D Randall Armant, PhD**  
*Invited Speaker.* Institute of Environmental Health Sciences, Wayne State University, Detroit, MI, February 2013.


*Invited Speaker.* Grand Rounds, Department of Obstetrics and Gynecology, Georgia Regents University, Augusta, GA, April 2013.


**Allicia B Bollig-Fischer, PhD**  
*Oncogenomics.* National Oncogenomics and Molecular Imaging Center Retreat of the Karmanos Cancer Institute, Detroit Medical Center, Detroit, MI, January 2013.

*Modeling the Transcription Effects of HER2 Oncogene Signaling and A Novel Role for E2F2 in Breast Cancer.* Department of Computer Science, Wayne State University College of Engineering, Bioinformatics Research Group Meeting, Detroit, MI, March 2013.


*Molecular Basis for Prostate Cancer Health Disparities.* 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.

*Focusing Cytogenomic Analysis of Metastatic Brain Tumors for Clinical Relevance.* The C.S. Mott Center for Human Growth and Development Brown Bag Seminar Series, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.
Translational Genomics: Development of a Novel ROS1 and RET Gene Fusion Assay. Annual Research Symposium of the Karmanos Cancer Institute Molecular Therapeutics Program, Detroit Medical Center, Detroit, MI, June 2013.

Focused Cytogenomic Analysis of Cancer to Gain Actionable Insights. Agilent Technologies eSeminar, world-wide audience, Detroit, MI, June 2013.

Characterizing Cancer Driver Mutations in Metastatic Brain Tumors. Clinical Genomics for Cancer Diagnostics Conference, Cambridge Healthtech Institute, Boston, MA, September 2013.

Characterization of 5-Hydroxymethyl-Cytosine in Breast Cancer. ACS Annual Progress Report-IRG of the Karmanos Cancer Institute, Detroit Medical Center, Detroit, MI, September 2013.

Molecular Oncology of Metastatic Brain Tumors. Neurological Surgery Grand Rounds, Wayne State University School of Medicine, Detroit, MI, October 2013.


Characterizing Cancer Gene Mutations in Non-Small Cell Lung Cancer from African American Patients. Karmanos Cancer Institute-Wide Retreat, Detroit Medical Center, Detroit, MI, November 2013.


Applicant Interviews –
John Wilkinson, PhD, Faculty Candidate, Karmanos Cancer Institute Molecular Therapeutics Program, Detroit Medical Center and the Department of Oncology, Wayne State University School of Medicine, Detroit, MI, March 2013.

Kristen Purrington, PhD, Faculty Candidate, Karmanos Cancer Institute Epidemiology Program, Detroit Medical Center and the Department of Oncology, Wayne State University School of Medicine, Detroit, MI, March 2013.

Kang Chen, PhD
Invited Speaker. 100th Annual Meeting of the American Association of Immunologists, Honolulu, HI, 2013.

Invited Speaker. NIH/NIAID Mucosal Immunology Studies Team (MIST) Group Meeting, Washington, DC, 2013.

Invited Speaker. Barbara Ann Karmanos Cancer Center Institute-Wide Retreat, Detroit Medical Center, Detroit, MI, 2013.
Invited Speaker. Barbara Ann Karmanos Cancer Center Tumor and Microenvironment Program Retreat, Detroit Medical Center, Detroit, MI, 2013.

Invited Speaker. Department of Chemistry, Wayne State University, Detroit, MI, 2013.
Defective Regulatory B-Cell Function Underlies the Pathogenesis of Preterm Birth. 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.

Invited Speaker. Barbara Ann Karmanos Cancer Center, Bone Marrow Transplant Program, Detroit Medical Center, Detroit, MI, 2013.


Jing Dai, PhD


Sorin Dragichi, PhD
Some Systems Biology Approaches for the Analysis of Gene Signaling Pathways. Department of Biochemistry and Molecular Biology, Wayne State University, Detroit MI, November 2013.

Sascha Drewlo, PhD
The Role of PPARG in Human Placentation. Advisory Board Meeting, The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, March 2013.

Emerging Role of the SUMOylation in Placental Pathology. 60th Annual Meeting of the Society for Gynecologic Investigation, Orlando, FL, March 2013.

Molecular Pathology of the Placenta in Severe Preeclampsia and IUGR. 60th Annual Meeting of the Society for Gynecologic Investigation, Orlando, FL, March 20-23, 2013. Referee. 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.

PPRG in Human Placentation and Disease. 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.

Invited Lecturer. The C.S. Mott Center Brown Bag Seminar Series, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, June 2013.

Molecular Pathology of the Placenta in Severe Preeclampsia and IUGR. Perinatal Research Branch Research Rounds, NIH/NICHD/DHHS, Hutzel Women’s Hospital, Detroit Medical Center, Detroit, MI, July 2013.


PPARG and the Underlying Mechanism of Human Placentation. Department of Physiology, Wayne State University School of Medicine, Detroit, MI, October 2013.
**Robert R Freedman, PhD**

*Physiological Mechanisms of Menopausal Hot Flashes and Their Effects upon Sleep.*


**Nardhy Gomez-Lopez, PhD**


*The Role of Macrophages during Pregnancy.* Maternal-Fetal Medicine Fellows Lectureship Series, Perinatology Research Branch, NIH/NICHD/DHHS, Hutzel Women’s Hospital, Detroit Medical Center and Wayne State University School of Medicine, Detroit, MI, 2013.

*Acute Depletion of Maternal CD11b+ Promotes Preterm Birth in Mice.* 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.

**John H Hannigan, PhD**

*Fetal Alcohol Spectrum Disorder.* City of Detroit, Mayor’s Task Force for the Well-Being of Children and Families at the Institute for Population Health, Detroit, MI, May 2013.


**Stephen A Krawetz, PhD**


*From the Paternal Contribution to Personalized Medicine.* Department of Obstetrics and Gynecology Grand Rounds, Georgia Regents University, Augusta, GA, 2013.

*Messages to the Next Generation from Dads Genome.* The Functional and Computational Genomics Discussion Group, Wayne State University School of Medicine, Detroit, MI, 2013.

*Next Generation Sequencing Compatible SeqPlex Whole Transcriptome Amplification Kit Suitable for Limited Amounts of RNA from Multiple Sources.* Annual Meeting of the Association of Biomedical Resource Facilities, Palm Springs, CA, 2013.

*Form Follows Function: Opportunities and Challenges during the Next Decade of Personalized Medicine.* Annual K-INBRE Kansas IDeA Network of Biomedical Research

*From Chromatin to the Delivery of RNA: The Paternal Contribution.* The Dr. John T. MacDonald Foundation, Department of Human Genetics, University of Miami Miller School of Medicine, Miami, FL, 2013.


*The Message is in the Sperm.* 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.

*Can Sperm Contribute to Poor Embryo Quality?* The Role of Sperm RNA SMRU Mini-Symposium. The Conjoint Meeting of the International Federation of Fertility Societies and the 69th American Society for Reproductive Medicine, Boston, MA, October 2013.

*Sperm RNAs as Markers for the Quality of the Paternal Contribution.* Determinants of Gamete and Embryo Quality Conference, The Conjoint Meeting of the International Federation of Fertility Societies and the 69th American Society for Reproductive Medicine, Boston, MA, October 2013.

**Susan J Land, PhD**

Recruitment Tours and Interviews —

Yuan Wu, PhD, candidate for Department of Oncology faculty position, January 4, 2013.

Paras Mishra, PhD, candidate for Department of Physiology faculty position, January 14, 2013.

Jeffrey Han, PhD, candidate for Department of Biology faculty position, January 17, 2013.

Seongho Kim, PhD, candidate for Department of Oncology faculty position, February 4, 2013.

Emmanouil Karagiannis, candidate for Department of Biomedical Engineering, February 27, 2013.

Drs. Angela Brown and Mike Gallager, Department of Engineering and Materials Science, March 9, 2013.

Kristen Purrington, PhD, candidate for Department of Oncology faculty position, March 25, 2013.

Haipeng Liu, PhD, candidate for Department of Biomedical Engineering faculty position, April 11, 2013.
Hong-Xiang Liu, PhD, candidate for Department of Oncology faculty position, April 26, 2013.
Dr. Lesinski, Department of Oncology, May 6, 2013.

Dr. Ted Corey, candidate for Department of Pharmacy/Paul Kilgore, MD MPH, August 13, 2013.

Candidates for Division of Reproductive Endocrinology and Infertility Fellowship Program, September 10, 2013.

Srikumar Chellappan, PhD, Department of Oncology, September 19, 2013.

**Sponsored Seminars**


*Enabling a New Era of Genomics.* Presented by Jonathan Bell, Illumina, Karmanos Cancer Center, Detroit Medical Center, Detroit, MI, July 2013.

**Teaching – Genomics Lectures and Facility Tours**


*Bio6020* – Dr. Friedrich, October 16, 2013.

*BMB Masters* students for Robert Akins, Masters Program Director, Department of Biochemistry & Molecular Biology, October 24, 2013.

*Bio 5150/7150 Genomics Course* – Chuanzhu Fan, November 19, 2013.

**Letters of Support for Grant Submissions FY13** – As director of the Applied Genomics Technology Center, I work with investigators to design their genomics projects, provide methods sections, cost estimates, preliminary data, and support letters. Not all investigators require all of these services.


Francesca Luca, PhD and Roger Piqui-Regi, PhD, *Functional Characterization of the Genetic and Environmental Determinants of Complex Traits*, February 18, 2013.


Maria Worsham, PhD, *CIC-Specific Epigenetic Modulation in OSCC*, August 8, 2013.

Maria Worsham, PhD, *Epigenetic Predictors of Breast Cancer Growth and Recurrence/Metastasis from Benign Breast Disease*, September 12, 2013.

Christine Neslund-Dudas, PhD, *Exploration of Cadmium as an Endocrine Disruptor in Prostate Cancer Disparities*, October 2, 2013.

Qing-Sheng MI, MD, PhD, *Serum miRNAs as Biomarkers for T1D*, October 4, 2013.

**Daniel A Rappolee, PhD**


*Stress Induces Placental Differentiation from Stem Cells that is Different in Seven Ways Compared with Normal Differentiation*. The 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.


*Poster Presentation*. Conjoint Meeting of the International Federation of Fertility Societies and the 68th American Society for Reproductive Medicine, Boston, MA, October 2013.

**Douglas R Ruden, PhD**


*Epigenetic Effects of Lead Exposure in Humans*. University of Michigan School of Public Health, Ann Arbor, MI, January 2013.


*Introduction to the Exposures Science Facility Core*. Center for Urban Research in Environmental Sciences (CURES) Retreat Seminar, Detroit, MI, June 2013.

*Neurotoxicity of Gold Nanoparticles in Human Embryonic Stem Cells*. Wayne State University Nanoincubator Program Retreat, Detroit, MI, July 2013.

*Epigenetics of Traumatic Brain Injury in a Mouse Model of Repetitive Mild TBI*. Dr. Donald Kuhn’s Laboratory, Wayne State University, Detroit, MI, August 2013.
Epigenetics Studies Using 3rd Generation DNA Sequencing. Department of Pharmacology, Wayne State University School of Medicine, December 2013.

Ghassan M Saed, PhD
New Insights into the Pathogenesis of Ovarian Cancer. The C.S. Mott Center for Human Growth and Development Brown Bag Seminar Series, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, February 2013.


Confocal 3-Dimensional Reconstruction Can Serve as a Useful Tool to Quantify Oxidative Stress Induced Oocyte Spindle Damage, Shaeib F, et al. 3rd Annual C.S. Mott Center for Human Growth and Development Scientific Retreat, Wayne State University School of Medicine, Detroit, MI, May 2013.


Investigation of the Role of Oxidative Stress in the Pathophysiology of Gynecologic Fibrotic Disorders Including Postoperative Adhesions, Fibroids, and Endometriosis As Well As Ovarian Cancer — laboratory research. The 3rd Annual Scientific Retreat of The C.S. Mott Center for Human Growth and Development, Department of Obstetrics and Gynecology, Wayne State University School of Medicine, Detroit, MI, May 2013.


Postoperative Adhesions are Characterized by a Unique Oxidative Stress Profile which is Responsible for Creation and Persistence of the Adhesion Phenotype, Fletcher-King NM, et al. The Conjoint Meeting of the International Federation of Fertility Societies and the 69th American Society for Reproductive Medicine, Boston, MA, October 2013.


Confocal 3-Dimensional Reconstruction Can Serve As a Useful Tool to Quantify Oxidative Stress Induced Oocyte Spindle Damage, Thakur M, et al. Conjoint Meeting of the International Federation of Fertility Societies and the 68th American Society for Reproductive Medicine, Boston, MA, October 2013.


SNPs in Key Oxidants and Antioxidants are Associated with Increased Risk and Serve as Potential Targets for Ovarian Cancer, Saed GM, et al. 61st Annual Meeting of the Society for Gynecologic Investigation, March 26-29, 2014, Florence, Italy. Accepted 2013.

Robert J Sokol, MD


