Name	Research Interest	General research topics or specific ongoing projects available on which a resident could collaborate	Available datasets have a resident could use for research	Available sets of biospecimens that that a resident could us for research
Family Planning				
Sonalkar, Sarita, MD, MPH	-Postpartum family planning in domestic and international settings -Implementation of family planning interventions at the point of care -Post abortion contraception -Abortion stigma	-Mobile applications in family planning, interventions for pain management in abortion and contraception care, systematic reviews, increasing contraception access in subspecialty populations	-Second trimester uterine evacuation dataset	-N/A
Gyn Oncology				
Drapkin, Ronny, MD, PhD	-The Drapkin laboratory focuses on developing a comprehensive understanding of the genetic, molecular and physiological factors that drive the development of cancer, with a special focus on gynecologic malignancies. Recent work from our group and others has implicated the fallopian tube (FT) secretory cell as the likely cell-of-origin for a majority of high-grade serous ovarian carcinomas. This new concept of ovarian tumorigenesis has been a paradigm shift in the field and the Drapkin lab has been at the forefront in developing novel experimental platforms that address the role of the FT epithelium and its susceptibility to neoplastic transformation. These platforms include genetically engineered mouse (GEM) models, fallopian tube-derived cell lines, and patient-derived tumor xenografts. The lab is currently focused on utilizing these models to interrogate how genetic and epigenetic alterations influence lineage dependencies, genomic instability, DNA repair, replicative stress, and	-Whole exome characterization of precursors in the fallopian tube -Targeting Cyclin E in ovarian cancer (mechanism and animal models) -PAX8 as a lineage specific transcription factor for the female reproductive tract (ChIP-Seq, RNA Seq, protein complex) -Dysregulation of epigenetic marks drive metabolic perturbations in ovarian cancer -CRABP2 as a novel biomarker for ovarian cancer -BRCA mouse models of ovarian cancers derived from the fallopian tube	-RNA Seq data -ChIP Seq data -Reverse Phase -Protein Array (RPPA) data	-The Penn Ovarian Cancer Research Center houses the 'Living Tissue Bank'. This facility banks fresh tumor/normal tissues as well as biological fluids. -Clinically annotated tissue microarray

	metabolism. The goal is to define selective vulnerabilities that can guide novel therapeutic approaches and biomarker development.			
Haggerty, Ashley E., MD, MSCE	- Quality improvement - Obesity and endometrial cancer	- Continuing to develop the Penn Endometrial Cancer database, a warehouse for all cancer patients since 2009 (needing to be continuously updated) including surgical data, treatment/complication data, medical co-morbidities, vital statistics.	- NSQIP - SEER/Medicare - Endometrial cancer database (Penn) - Longitudinal prospective survey in a subset of endometrial cancer patients (Penn)	-N/A
Ko, Emily M., MD, MSCR	-Primary Research Interests: Population sciences research including observational studies utilizing administrative claims data sources, cancer registries, institutional data sources -Secondary Research: clinical pharmacologic and interventional trials -Research topics: gynecologic oncology with focus on endometrial cancer; cancer risk factors; quality and health service outcomes; clinical pharmacologic and interventional trials -Research methods: epidemiology; pharmacoepidemiology; health services; clinical trial conduct	-Gynecologic Oncology: Focus on endometrial, uterine, cervical cancer associated treatments, risk factors and outcomes including medical and surgical management -Quality and Outcomes/ Health services: including practice patterns; access; clinical pathways; payment reform -Use of national data sources as well as institutional data sources -Gynecology/Surgery: Preinvasive disease: lower genital tract dysplasia (cervix, vulva etc.) -Surgery: modality, outcomes -Teaching/ assessments	-SEER Medicare -PENN endometrial database /Penn Cancer Registry -National Surgical Quality Improvement Program (NSQIP) -National Cancer Database (NCDB) -Collaboration through Wharton/Leonard Davis Institute as a Senior Fellow: HCUP, NIS, OPTUM	-N/A
Powell, Daniel J., PhD	- Immunobiology of gynecologic cancer and testing the application of immune-based therapy for cancer. - Rare tumor-reactive T cells from tumor infiltrating lymphocyte populations in various cancers utilizing novel culture conditions and T cell capture techniques in order to rationally design future clinical studies.	-Tumor infiltrating lymphocyte functions in the presence of specific immune modulatory antibodies and/or pharmacologic agents. - CAR T cell studies - Studies on immune suppressor elements in the tumor microenvironment	- Clinically annotated tissue microarrays for IHC interrogations	- A viable tumor cell bank with a focus on resected ovarian cancer; viably stored tumor

	- Generating de novo tumor-reactive T cells through a variety of genetic engineering methods, primarily through the use of chimeric antigen receptors (CARs). Clinical studies are planned.			
Tanyi, Janos, MD, PhD	-CAR-T cell therapy or ovarian cancer -Early detection of ovarian cancer -Vaccine immunotherapy of ovarian cancer	-OTL 38 fluorescence intraoperative imaging for better debulking for ovarian cancer -Comparison the effectiveness of RECIST and irRS in immunotherapy trial patients	-Excel database of over 500 patient received Doxil chemotherapy -Excel database of over 100 ovarian cancer patient received Bevacizumab treatment	-Around 200 serum samples from patient with benign and malignant ovarian masses and around 50 serum samples from normal control women
Zhang, Lin, MD	- Non-coding RNAs to women's cancer initiation and progression. -Development of bioinformatic methods and databases for lncRNA studies. -Identification of the cancer driver lncRNA genes. -Evaluation of lncRNA-based diagnosis (biomarkers) and treatments (druggable targets) for patients with cancer.	-Circulating noncoding RNA as an early detection biomarker for gynecological cancers. -Pre-clinical development of epigenetic drugs targeting gynecological cancers. -Meta-analysis on women's diseases with focus on cancer or cancer-related diseases.	A large-scale human lncRNA database was developed recently in Zhang lab: The Cancer LncRNome Atlas http://tcla.fcgportal.org/	-N/A
MFM				
Dugoff, Lorraine, MD	-Cell-free DNA and adverse obstetric outcome -Prediction of first trimester preeclampsia and other adverse obstetric outcome -First trimester screening for aneuploidy	-Cell-free DNA fetal fraction and adverse obstetric outcome -Prediction of preterm birth	-PoPPS and PoPPT datasets (RCT pessary trial in women with mid trimester short cervix; database includes cervical length, pregnancy outcomes in singletons and twins) -Cell-free DNA fetal fraction and obstetric outcomes (3500+ women) -First trimester prediction of adverse obstetric outcome (1000+ women-1st trimester ultrasound (uterine artery Doppler and placental	-First trimester maternal plasma, serum and buffy white coat specimens from 1000+ women with well-characterized pregnancy outcomes

			volumes), Down syndrome screening results, pregnancy outcomes--very well characterized)	
Durnwald, Celeste, MD	-Diabetes in pregnancy, -Obesity in pregnancy -Breastfeeding	-Diabetes in pregnancy -Obesity in pregnancy -Breastfeeding	-Intensive Behavioral Education Program for GDM women	-N/A
Elovitz, Michal, MD	-Preterm birth -Microbiome -Preeclampsia	-Preterm birth: cohort and translational studies -Existing clinical databases focused on preterm birth and other adverse pregnancy outcomes	-Motherhood and Microbiome (2000 singleton cohort) -Biomarker study (1100 cohort with PTL) -STOP (600 cohort with PTL)	-See attached
Levine, Lisa D., MD, MSCE	-Induction of labor and labor management -Hypertensive disorders pregnancy -Preeclampsia and cardiovascular health – both in the immediate postpartum period and long-term -Cardiac disease and pregnancy -Global health and maternal morbidity and obstetrical care	-Induction of labor and labor management -Hypertensive disorders pregnancy -Preeclampsia and cardiovascular health – both in the immediate postpartum period and long-term -Cardiac disease and pregnancy -Global health and maternal morbidity and obstetrical care	-800-person cohort of women with 2 pregnancies within the Penn system – retrospectively collected - includes all labor and delivery information with maternal and neonatal outcomes for both pregnancies -490 women enrolled in the FOR MOMI RCT along with 380 women whose data was collected prospectively as the observational group – this includes all induction, labor, and delivery information with maternal and neonatal outcomes -300-person cohort of women with severe preeclampsia – labor and delivery information as well as comprehensive maternal outcomes and postpartum follow-up -400-person cohort of women at high risk for preterm birth – includes antenatal/prenatal care information along with labor and delivery outcomes	-N/A
Parry, Samuel I., MD	-Preterm birth prevention	-PDF listing the MFMU secondary studies;	-March of Dimes Preterm Birth Research Center - case-	-March of Dimes Preterm Birth Research Center - case-control

	-Placental dysfunction -Viral infections in pregnancy	-Secondary analysis proposal template; and -List of MFMU publications through March 2016. The deadline for secondary study proposals utilizing the BCC for data analysis is February; requests for data discs to perform other secondary studies may be submitted at any time. Secondary studies are strongly encouraged, and the MFMU investigators (Sehdev, Srinivas, Dugoff, Elovitz, and Parry) would be delighted to work with you to develop a secondary study. Look through the list of completed studies for ideas.	control study (CRIB, preterm births, term births) - biospeceimens and clinical data are available	study (CRIB, preterm births, term births) - biospeceimens and clinical data are available
Schwartz, Nadav L., MD	- Ultrasound-based research - Prenatal diagnosis - Placental imaging	- Mining the ultrasound database to address any clinically relevant and interesting research question	-Prospective cohort of ~800 singletons with clinical outcomes already collected and 2nd trimester serum available -The clinical ultrasound database for all out obstetric ultrasounds in MFM	- Maternal serum at ~11-14 and 16-18 weeks on prospective singleton cohort
Simmons, Rebecca, MD	-Molecular mechanisms that link an abnormal intrauterine milieu (such as uteroplacental insufficiency, obesity, diabetes in pregnancy, and toxicant exposure) to the later development of obesity and type 2 diabetes in adulthood. - Metabolic and mitochondrial dysfunction in the placenta plays in preterm birth.	-Residents can participate in any research project in our laboratory		
Srinivas, Sindhu K., MD, MSCE	-Hypertension in pregnancy -Cardiac disease -Critical Care Obstetrics	-Studying and developing obstetric quality measures and understanding the impact of practice changes (individual level and system level) on	-PMC-Preeclampsia mechanisms and Consequences-case control study 440 women with PRE, 600	-N/A

	-Care at the threshold of viability	maternal and neonatal outcomes -Understanding the etiology of hypertensive disorders of pregnancy -Evaluating new care delivery models in the women with pregnancy related hypertension -Evaluating the etiology of health disparities in obstetric outcomes	controls -Cervix study-prospective cohort approximately 400 women, two survey time points –discrimination and health care system distrust surveys; primary outcome PTB	
Wang, Eileen, MD	-Clinical obstetrics with ultrasound focus or simulation focus -Education research	-Simulation research topics/ ultrasound growth performance	-N/A	-N/A
REI				
Barnhart, Kurt T., MD, MSCE	-Early pregnancy -Ectopic pregnancy -Miscarriage -Outcome of children after conception with infertility -How infertility affects health -Biomarkers -Epidemiology -Endocrinology	-Biomarkers for women with a PUL -Methotrexate for the treatment of EP -Health outcomes of women after infertility treatment -Health outcomes of children after infertility treatment	-Large data base of women at risk for ectopic pregnancy followed until definitive diagnosis -Large database of children conceived after infertility treatment.	-Banked serum specimen form women with early pregnancy loss (biomarker research)
Butts, Samantha F., MD, MSCE	-Preconception health and reproductive outcomes, focusing on nutritional and environmental exposures -Preconception Vitamin D, fertility, reproductive outcomes. Performing secondary analysis from large completed randomized trials	-Preconception health and reproductive outcomes, focusing on nutritional and environmental exposures -Preconception Vitamin D, fertility, reproductive outcomes. Performing secondary analysis from large completed randomized trials	-Penn Ovarian Aging Study -- currently this is the resource for Lilli Zimmerman's resident research project A list of any sets of biospecimens that you have that a resident could us for research Analysis of biospecimen	

	Reproductive aging, menopause, biomarkers, and consequences. Performing secondary analysis of population based cohort focusing on gene-environment interactions, chronic exposures and outcomes.	Reproductive aging, menopause, biomarkers, and consequences. Performing secondary analysis of population based cohort focusing on gene-environment interactions, chronic exposures and outcomes.	from Reproductive Medicine Network trials to determine association between preconception vitamin D status in 1200+ women, fertility and pregnancy outcomes. Analysis currently ongoing.	
Dokras, Anuja, MD, PhD	Coutifaris, Christos, MD, PhD	-Mood and anxiety disorders in PCOS Cardiovascular and metabolic risk in PCOS	-PCOS subjects and controls available through the Penn biobank	
Gerton, George, L. PhD	-Mechanism of offspring sex ratio distortion caused by paternal exposure to 2,3,7,8-tetrachlorodibenzodioxin (TCDD, dioxin) -Roles of adenine nucleotides (ATP, ADP, AMP, cAMP) is regulating the flagellar waveforms of mammalian spermatozoa -The use of geographic information systems (GIS) to determine the impact of unconventional gas development in the Marcellus Shale Region of Pennsylvania on health care utilization -Role of progranulin on preimplantation embryo development and implantation (collaboration with MA Mainigi, MD)	-Sperm motility analysis in response to adenine nucleotides and pharmacological agents -Characterization of metabolic pathways in sperm that do not fit the canonical localizations -GIS mapping and examination of health effects	-PA Department of Environmental Protection oil and gas records -PA Department of Health statistics -PA Department of Conservation and Natural Resources water use database -US Centers for Disease Control and Prevention databases	-Could analyze histology and compare to tissues from untreated control mice Sperm from treated animals: -Could perform multi-probe fluorescent in situ hybridization to analyze sex chromosome present in individual sperm -Could perform quantitative RT-PCR to assess expression of specific genes in tissues from TCCD-treated and control animals.
Gracia, Clarisa R., MD, MSCE	-Ovarian reserve and reproductive capacity after cancer therapy -Fertility preservation -Reproductive aging -Surrogate measures of reproductive potential	-Ovarian reserve and reproductive capacity after cancer therapy -Fertility preservation -Reproductive aging -Surrogate measures of reproductive potential	-ORACLE -Ovarian reserve -Urinary Hormone -Fertility preservation -RHORS - late reproductive age women	-Frozen serum and urinary samples in cancer survivors, healthy controls and healthy late reproductive age women
Shah, Divya K., MD, MME	-Medical education -Outcomes in reproductive	-Medical education -Outcomes in reproductive	-N/A	-N/A

	surgery	surgery		
Urogynecology				
Arya, Lily, MD	-Overactive bladder -Brain imaging for bladder and bowel control -Fecal incontinence pelvic floor muscle anatomy and physiology -Physical activity and urinary incontinence urinary and fecal incontinence in older women prevention of urinary incontinence	-Brain imaging -Prevention of urinary incontinence -Using technology to improve care of older patients	-Urgency study database -Falls study -Fecal incontinence study database	-N/A
Andy, Uduak U., MD	-Fecal Incontinence in women -Pelvic floor disorders in Older women -Surgical outcomes in older women -Qualitative studies in women with pelvic floor disorders	-Happy to mentor on any Urogyn-related project -Have some expertise in conducting qualitative studies -Geriatric-related topics	-Nutrition data in women with and without FI -Stool metabolites in women with and without FI	-N/A
Gynecology				
James, Abike, MD, MPH	-Cervical Dysplasia - HPV vaccine, -Medical management of symptomatic fibroids.	-Not at this time, however if the HPV vaccine study proceeds I would be happy to collaborate on a resident with this.	-N/A	-N/A
Salva, Catherine, MD	-Educational research -Gyn surgery -Simulation -Quality improvement	-LEADS study (multicenter study, leadership training for residents through simulation)	LEADS study data	-N/A