Reproductive Endocrinology and Infertility Fellowship Prospectus
DUKE OB/GYN MISSION, VISION & VALUES

Mission
Deliver better health and hope to all women and their families through compassionate care, innovation, education and discovery

Vision
Set the global standard of excellence and lead the future of women’s healthcare
Core Values

Excellence
We set high standards and bring exceptional quality to all areas of women’s healthcare, research and education.

Integrity
We are honest and ethical in every situation, especially when it is not easy.

Innovation
We offer novel, creative ideas and pioneer discoveries that advance women’s healthcare.

Diversity & Inclusion
We value, respect, and engage our differences, enhancing our ability to make discoveries, educate tomorrow’s leaders, and deliver extraordinary care to our diverse patient population.

Teamwork
We work together to achieve shared goals over personal goals. We believe the best results come from integrating a mix of perspectives, talents, and experiences.

Continuous Improvement
We are never satisfied with the status quo; we all seek improvement in every aspect of delivering, researching and supporting women’s healthcare.

Community
We are in tune with and engage our community to make our care accessible for all who need women’s health services.

Advocacy
We advocate for better health for the women in our community and around the world.
Welcome to the Duke Reproductive Endocrinology and Infertility Program. Duke REI has a long tradition of offering broad-based clinical and research training. The Program is one of the oldest in the country, originating in the 1970s, and since that time has functioned without interruption and has never been placed on probation. We take pride in providing a thorough education in both reproductive endocrinology and infertility, with the belief that understanding endocrinology is key to successfully treating infertility. Currently, the Division consists of 3 MD faculty, 3 fellows, 1 PhD embryologist, 1 PhD clinical psychologist, and clinical nurses and assistants, including a radiology technologist and a sonographer. Others supporting the REI clinic include a business manager, clinical research coordinator and financial counselors. Faculty in other Divisions/Departments associated with REI include clinical geneticists, pediatric endocrinologists, medical endocrinologists, reproductive urologists and medical oncologists. The goal of the Duke REI program is to create leaders in the field, whether that be in academics or in private practice. In addition to the standard REI core curriculum, we place an emphasis on fertility preservation with a strong relationship with medical and pediatric oncology. Although there is a lot of work and learning in the Division, we also have a lot of fun! The Duke Fertility Clinic is a close-knit group with a collegial atmosphere, lots of food and likely the only program with weekly “relaxation time” coordinated by our clinical psychology team! We look forward to meeting you!
PROGRAM DEMOGRAPHICS

Duke University Medical Center
Reproductive Endocrinology and Infertility
Duke Fertility Center

704 Fayetteville Road
Durham, NC 27713

Program Coordinator
Allison Mooney, MBA
919-681-8381
FAX 919-668-5547

Learn more about our REI fellowship program
Web: https://obgyn.duke.edu/education-and-training/
fellowship-programs/reproductive-endocrinology-infertility

Email: obgyneducation@duke.edu
Twitter: @dukeobgyn

PROGRAM AIMS

At the completion of a fellowship program in Reproductive Endocrinology and Infertility, the physician will be able to:

• Manage complex endocrine problems related to function of the reproductive system and to select and conduct appropriate therapies for the infertile couple.

• Understand endocrine assay methodology and principles of molecular biology and be skilled in laboratory techniques, clinical research design and statistical analysis.

• Be proficient in the clinical diagnosis and in the surgical management of structural problems related to fertility and developmental abnormalities of the reproductive tract, as well as contemporary techniques involved in assisted reproductive technology.

• Have conducted investigative work leading to the production of a thesis, it is anticipated that the fellow will be capable of continued research endeavors and of preparation of research grants.

• By completion of a fellowship program, have demonstrated progressive professional and intellectual growth.
PROGRAM OVERVIEW

The Division of Reproductive Endocrinology and Infertility (REI) provides the highest level of patient care, outstanding education and advanced research in human reproduction including female and male infertility, assisted reproductive technologies, recurrent pregnancy loss, polycystic ovary syndrome, endometriosis, uterine fibroids, reproductive surgery, developmental issues and female hormonal problems during and after the reproductive years.

The Duke Reproductive Endocrinology and Infertility (REI) fellowship program is designed to provide outstanding clinical and investigative skills to pursue an academic career in REI. The skills include reproductive surgery, endoscopic and reconstructive surgery, assisted reproductive technology (~280 IVF cycles/year), andrology, pediatric endocrinology and medical endocrinology.

Fellows will have 18 months dedicated to research and 18 months devoted to clinical services. The first 12 months of the research rotation is entirely focused on research.

The majority of clinical time is spent in the Duke Fertility Center (DFC), a facility approximately 20 min. travel time from Duke Medical Center. Here, all patient visits occur along with services including ART, embryology, andrology, anatomic evaluation with HSG/SIS and surgical procedures of hysteroscopy, D&C and D&E. Duke anesthesiologists provide conscious sedation to DFC patients seven days a week.

Outpatient surgeries are performed at the Duke Ambulatory Surgical Center (ASC) and the Davis Ambulatory Surgical Center including laparoscopy, operative hysteroscopy, tubal anastomosis and genital surgeries.

Inpatient surgeries are performed at Duke Hospital and Duke Regional Hospital such as abdominal myomectomies and complicated reproductive tract abnormality corrections often requiring other services.
The **first year** of fellowship is primarily clinical. Fellows are active in monitoring of ART patients, performing transvaginal oocyte retrievals (TVOR), mock and live embryo transfers and observing andrology/embryology laboratory techniques. They also primarily perform office procedures of intrauterine insemination, hysterosalpingography, saline infusion ultrasound and hysteroscopy. Fellows participate, under supervision, in surgical procedures including laparoscopy, hysteroscopy, abdominal myomectomy, robotic-assisted myomectomy and correction of genital abnormalities. The 1st-year fellow will become adept at running the daily “IVF stimulation” meeting, the weekly “IVF review” meeting and participating in the weekly “Donor Oocyte meeting.” In addition, 1st-year fellows see patients with the faculty to gain clinical experience and they help supervise resident activities on their REI rotation.

The **second year** of fellowship is completely research with no routine clinical duties. For their thesis, fellows participate in basic science research or clinical research. Fellows take 2 graduate-level courses during the second year described below.

The **third year** of fellowship is a combination of research and clinical activities. Goals include completion of research activities, presentation of research data and manuscript(s) preparation. Further clinical expertise is gained in the above mentioned areas.
Research Training

The division is involved with multiple research projects investigating all aspects of reproductive endocrinology, and the fellow may consider clinical, translational, epidemiologic or classic basic science projects.

For clinical research, a clinical research coordinator (CRC) within the Division works closely with the fellow in preparing IRB submissions, recruiting research subjects, performing research protocols and analyzing research data.

Past examples of clinical research activities include:

- Novel ovulation induction techniques
- Adhesion prevention
- Prevention of chemotherapy induced ovarian failure
- Clinical parameters affecting IVF outcomes
- Relationship of chronic endometritis to IVF pregnancy rates and miscarriage
- Parents attitudes towards multiple gestations
- The effect of DMPA on metabolic rate
- The effect of postpartum administration of DMPA on cardiac function

For epidemiologic research, fellows have access to biostatisticians and numerous databases, including SART data; Time to Conceive; and Reproductive Medicine Network trials.

For basic science, the fellow has multiple opportunities of labs within which to work including:

- The Molecular Endocrinology Laboratory within the Division with Dr. Thomas Price
- The Epigenetics Laboratory run by Dr. Susan Murphy
- The Reproductive Biology Lab at the National Institute of Environmental Health Sciences run by Dr. Carmen Williams
- The Reproductive Biology Lab at Duke University run by Dr. Blanche Capel
- Other basic science labs within Duke University

Examples of past basic science thesis projects include:

- Progesterone regulation of cellular calcium entry
- The role of a mitochondrial PR in breast cancer
- Progesterone modulation of cardiac function and metabolism in a transgenic mouse model
- Identification of a mitochondrial PR in oocytes and embryos of the Rhesus primate
- The effect of obesity on epigenetic changes in spermatozoa
- The effect of cannabis on epigenetic changes in spermatozoa
- The role of a T-type calcium channel on myometrial function in a knockout mouse mode
- The effect of progesterone on the transcriptome and metabolome of the human blastocyst
Second-Year Courses

Two graduate school courses are taken during the Research Rotation (2nd-year):

1. The statistics course Introduction to Statistical Methods (CRP241 in the Clinical Research Training Program) is given by the Division of Biometry and Medical Informatics. A faculty member in the Department of Medicine teaches this course simultaneously for Duke and NIH in an electronic classroom. It meets Tuesdays and Thursdays from 3:00 to 4:30 p.m. It has minimum interference with the fellow's research schedule.

2. The second required course is at the fellow's discretion and need to be specifically within traditional “endocrinology” or “reproductive physiology” but must have some relevance to the general area of reproductive biology. Most fellows have elected to take Introduction to Medical Genetics through the Duke Clinical Research Training Program (CRTP). The course provides an in-depth analysis of cellular and molecular aspects of regulation, spermatogenesis and fertilization, oogenesis and oocyte maturation, cell cycle; cell cycle related to IVF, follicle development; gonadotropin structure/function, steroid and gonadotropin receptor regulation. Areas in which other courses have been taken include immunology, molecular genetics, neurobiology and cell biology.

Other fellows with an interest in clinical research have elected to take Principals of Clinical Research through the CRTP.
Clinical Training

The Endocrine/Fertility rotation includes the first year and six months of the third year. During this time, the fellow:

- Participates in the REI clinics with the faculty.
- Performs TVOR, ET, HSGs, SIS, office hysteroscopy, endometrial biopsies, endocrine testing, etc.
- Manages REI patients with ectopic pregnancies treated either with methotrexate or surgery.
- Participates in all surgical procedures in the Division.
- Counsels and manages couples where the male is considering sperm cryopreservation because of treatment for a malignancy.
- Is responsible for all the inpatient care of women with reproductive endocrine or infertility problems.
- Is responsible for the inpatient consultations from other services with appropriate oversight by the faculty.

Away Experiences:

**Thyroid clinic:** During the 1st and 3rd years, fellows attend clinic approximately 3-6 times with Dr. Jennifer Perkins. Dr. Perkins has a large clinic where fellows may obtain more experience with thyroid examination, thyroid biopsy and the medical management of thyroid disorders.

**Perinatal genetics:** During the 1st and 3rd years, fellows attend clinic approximately 6 times with Kristin Nunez, MS, CGC. Goals are to learn genetic disorders of preconception concern and preconception techniques of PGS and PGD.

**Pediatric endocrinology:** During the 1st and 3rd years, fellows attend clinic approximately 3-6 times with Dr. Nancy McIver. Dr. McIver specializes in the care of female pubertal abnormalities and hormone treatment of transgender patients.

**Reproductive Urology:** During the 1st and 3rd years, fellows attend clinic approximately 6 times with Dr. Karen Baker. Dr. Baker is a board-certified reproductive urologist. Goals are to learn the evaluation and treatment of male infertility.

**IVF laboratory:** 1-2 times each year the fellow will spend the day in the ART lab learning techniques, incubator gases, quality control efforts and culture conditions. On hand experience is gained by culturing and manipulating mouse embryos.
Didactic Teaching

The REI Division expects their fellows to attend the following:

Conferences and Seminars:
- Weekly divisional conference: Discuss clinical and research subjects (Thursday PM)
- Weekly Pre-Op Conference (Thursday PM)
- Daily IVF stimulation review (1st and 3rd-Years; M-F)
- Weekly donor egg screening conference (1st-Year; Wednesday PM)
- Weekly IVF success and failure conference (Thursday PM)
- Weekly departmental Grand Rounds (Wednesday AM)
- Weekly departmental M&M (Wednesday AM)
- Departmental journal club: The division has responsibility on a rotation basis
- Weekly Endocrine Grand Rounds, when applicable (Friday PM)
- Weekly basic science research conference (2nd-Year)
- Semi-Annual Pediatric Endocrinology joint conference

National Conferences:
- 1st and 3rd-Years attend the SREI Park City, Utah conference
- 2nd and 3rd-Years typically attend ASRM. Depending on thesis topic, other potential conferences include SRI, Pacific Coast Fertility and Endocrine Society.

Call Schedule and Moonlighting:
- Fellows determine their own schedule, which is typically weekly. Gynecology call may be taken and the fellows act as an attending. Those taking GYN call receive additional pay, which is prorated based on whether it is a weeknight or weekend. There is no obstetrical call required or allowed.
**FACULTY**

**Anne Steiner, MD, MPH**  
Professor, Division Chief of Reproductive Endocrinology and Infertility

**Clinical interests:** Ovulation induction, in-vitro fertilization, fertility surgery, management of reproductive endocrine disorders

**Research:** Reproductive aging, Antimüllerian hormone, predictors of infertility, time to pregnancy cohort studies, fecundity

**Kelly Acharya, MD**

**Clinical interests:** Fertility preservation/oncofertility, pediatric reproductive endocrine disorders, polycystic ovary syndrome

**Research:** Fertility preservation, environmental impact on fertility, epigenetics and infertility

**Thomas Price, MD**  
Professor, Fellowship Director

**Clinical interests:** All aspects of reproductive endocrinology including pediatrics, infertility, effect of chronic endometritis on ART outcomes, cardiac effects of postpartum DMPA administration

**Research:** Physiologic and pathologic actions of a mitochondria
Douglas Raburn, PhD  
Director of Embryology/Andrology

Dr. Raburn is key to the success of the Duke ART program and nationally known for his capabilities. He provides his laboratory knowledge to many projects, including optimization of extended embryo culture, the role of progesterone in embryo metabolism and factors in sperm activity.

Julia Woodward, PhD  
Director of Duke Fertility Psychology Services

Dr. Woodward is instrumental to the function of the DFC. She and her team provide screening for all oocyte donors, education to all couples using donor gametes and supportive services to all of our patients. She has a national reputation with interests in the relationship of stress to infertility.

Karen Baker, MD  
Assistant Professor, Department of Urology

Dr. Baker is a sub-speciality trained reproductive urologist. She provides all of the male infertility care, including surgical sperm harvesting. Her capabilities are essential for providing complete cutting-edge care for our male patients.

Jennifer Perkins, MD  
Associate Professor Medical Endocrinology

Dr. Perkins specializes in thyroid dysfunction and cancer. Fellows rotate through and gain experience with thyroid examination and palpation of nodules, observation of thyroid biopsy techniques and knowledge of treatment options for benign and malignant lesions.

Nance Maclver, MD  
Associate Professor Pediatric Endocrinology

Dr. Maclver specializes in pubertal abnormalities and hormone treatment for transgender patients. Fellows rotating through her clinic have described the experience as invaluable for acquiring their necessary knowledge of pediatric endocrine disorders.
DUKE FERTILITY CENTER STAFF

ADMINISTRATION
Melanie Hoy, Healthcare Administrator
Randa Blenden, RN, Nurse Manager
Tracey Zimmerman, Service Access Manager
Haley Riddle, Administrative Assistant

NURSING TEAM
Randa Blenden, RN, Nurse Manager
Cathy Gustafson, RN
Courtney Ravenell, RN
Verna Grice, RMA
Emane Pugh, RMA
Karen Mueller, LPN
Kimberly Briley, RN
Jenelle LePrevost, RN
Emily-Anne Martling, RMA
Constance Shifflett, Radiology Technologist
Ashleigh Sweat, Sonographer

FINANCE
Amy Medlin, FCC
Dawn Davis, Reimbursement Specialist

LABORATORY STAFF
Rita Murrell, Embyologist
Erin White, Embryologist
Michelle Moyer, Embryologist
Jessica Ball, Andrologist

FRONT DESK STAFF
Tracey Zimmerman, Service Access Manager
Lee McNeill, PSA
Rickia McKinney, PSA
Miranda Patrick, PSA
Kaleb Chamberlain, Andrology Staff Assistant

CLINICAL TRIALS AND RESEARCH TEAM
Caroline Nagle, Clinical Research Coordinator
 CURRENT FELLOWS

Kathryn Shaia, MD (3rd year fellow)  
Residency: Icahn School of Medicine at Mount Sinai

Benjamin Harris, MD, MPH (2nd year fellow)  
Residency: Duke University Hospital

Jessica Selter, MD (1st year fellow)  
Residency: Columbia University
I chose Duke REI fellowship because I knew I could be well-trained clinically and have the research opportunities to pursue a strong fellowship. The T-32 clinical research grant I had allowed me to get a masters in clinical research in one of the world’s best clinical training programs and at the same time I felt comfortable at the end of fellowship to be a fully functional clinician.

Anisha Shah, MD  
Graduated

I chose Duke because I wanted to experience excellence in both reproductive medicine and research. I knew that at Duke, I would be exposed to evidence-based medicine at its finest from some of the most caring and compassionate physicians, and I am fortunate to learn from them on a daily basis.

Kathryn Shaia, MD, MHA  
Current Fellow
I chose Duke for fellowship because of the world-class faculty, outstanding research, and positive learning environment. I was a resident at Duke, and I was very impressed by the kind and knowledgeable faculty members and the evidence-based patient care that they provide. I’m very happy with my decision to learn excellence in reproductive medicine from the best!

Kelly Acharya, MD
*Duke Faculty 2020*
I chose to train at Duke primarily due to the plethora of opportunities that I have here. Not only are the faculty and residents great to work with, but they are eager to help open doors for future research or clinical opportunities. At Duke, I am able to have opportunities for my research and clinical experience that are second to none.

Stephanie Smeltzer, MD
Current Fellow
Kathryn Shaia, MD; Suheil Muasher, MD; Kelly Acharya, MD; and Stephanie Smeltzer, MD
FELLOWSHIP PROGRAMS

Duke University Obstetrics and Gynecology is one of only 17 departments in the nation to have fellowship programs in all four subspecialties.

Maternal Fetal Medicine

The Maternal Fetal Medicine Fellowship Program at Duke University is designed to train fellows by providing a comprehensive experience in Maternal-Fetal Medicine while tailoring the program to each fellow's special interest. Read more about Maternal Fetal Medicine

Gynecologic Oncology

The primary goals of the Gynecologic Oncology Fellowship Program are to prepare trainees to deliver the best possible clinical care in the areas of diagnosis, treatment and prevention of gynecologic malignancies, and to provide a platform for trainees who aspire to careers in academics and research. Read more about Gynecologic Oncology

Reproductive Endocrinology & Infertility

The Duke Reproductive Endocrinology and Infertility (REI) fellowship program is designed to provide outstanding clinical and investigative skills to pursue an academic career in REI. Read more about Reproductive Endocrinology & Infertility

Female Pelvic Medicine & Reconstructive Surgery

This Duke fellowship is one of the first four accredited programs in Female Pelvic Medicine and Reconstructive Surgery in the U.S. Our goal is to train and develop pelvic surgeon/scientists who will pursue productive academic careers and who will be preeminent clinicians. Read more about Female Pelvic Medicine & Reconstructive Surgery
GETTING TO KNOW DUKE HEALTH

Duke Health conceptually integrates the Duke University Health System corporate.dukehealth.org, the Duke University School of Medicine medschool.duke.edu, and the Duke University School of Nursing nursing.duke.edu. It is the combination of research, clinical care and education that takes place through the efforts of our faculty, staff, students and trainees at many different sites throughout our region and worldwide.

As a world-class academic and health care system, Duke Medicine strives to transform medicine and health locally and globally through innovative scientific research, rapid translation of breakthrough discoveries, educating future clinical and scientific leaders, advocating and practicing evidence-based medicine to improve community health and leading efforts to eliminate health inequalities.
Duke University is home to some 13,000 undergraduate and graduate students and a world-class faculty helping to expand the frontiers of knowledge. The university has a strong commitment to applying knowledge in service to society, both near its North Carolina campus and around the world.

Duke University was created in 1924 by James Buchanan Duke as a memorial to his father, Washington Duke. The Dukes, a Durham family that built a worldwide financial empire in the manufacture of tobacco products and developed electricity production in the Carolinas, long had been interested in Trinity College. Trinity traced its roots to 1838 in nearby Randolph County when local Methodist and Quaker communities opened Union Institute. The school, then named Trinity College, moved to Durham in 1892, where Benjamin Newton Duke served as a primary benefactor and link with the Duke family until his death in 1929. In December 1924, the provisions of indenture by Benjamin’s brother, James B. Duke, created the family philanthropic foundation, The Duke Endowment, which provided for the expansion of Trinity College into Duke University.

Read more about Duke University at duke.edu

Duke Named a Forbes “Best Employer for Women” in 2020
DURHAM AND RTP

Durham is at the apex of North Carolina’s famed Research Triangle [rtp.org](http://rtp.org), an area formed by Duke University, North Carolina State University in Raleigh (20 miles from Duke), and the University of North Carolina at Chapel Hill (11 miles from Duke). Durham is also close to the coast and the mountains.

**Research Triangle Park - Inspiring Bold Ideas**

We believe that those who have the freedom and support to pursue bold ideas will change the course of history. We foster that potential by investing in the fabric of our community.

In the heart of the triangle, the Research Triangle Park covers 6,500 acres of rolling woodland dotted with some of the most sophisticated research facilities to be found anywhere. As a reporter for The *Wall Street Journal* once observed, the park is known for “pine trees and PhDs.”

There are many diverse activities within 30 minutes of Durham. The range and level of cultural attractions found here rival those in much larger (and more crowded and expensive) cities. The $20 million downtown Durham Performing Arts Center has become a national model for community arts programs. Other attractions include:

- The highly acclaimed American Dance Festival
- Outstanding art exhibits, libraries and concerts in the park
- Performances by renowned symphonies, opera, and ballet companies
Durham is well known from the movie *Bull Durham*, which featured our popular minor league baseball team, the Durham Bulls — a Class AAA farm club for the Tampa Bay Rays. The hot dogs always taste better at the ballpark, and rooting for the Bulls in the Durham Bulls Athletic Park is among the joys of summer. The term “bull pen” was coined by a sportswriter to describe the area where relief pitchers warm up, because their activity was overseen by a snorting, locomotive-size bull on a Bull Durham Tobacco billboard.

Durham has become a national trendsetter for its food scene. Durham was recently ranked as The South’s Tastiest Town by *Southern Living* and America’s Foodiest Small Town by *Bon Appétit. Gourmet Magazine*, the *New York Times*, and other publications have written about Durham’s locally produced food, traditional Southern cooking, and food trucks.

*Kingdom of Cool: Durham, North Carolina, smolders as a technology hub and culinary hotspot*
DUKE/DURHAM TOURISM

Find out why Durham is North Carolina’s hippest city or visit Duke University’s comprehensive website on living in Durham.

Explore our outstanding career path options. Check out our @dukeobgyn Twitter page. Come visit our campus and see our clinical and research facilities firsthand. Then, consider making Duke your Ob/Gyn match. You’ll emerge more than prepared to lead your field and enjoy career excellence, a lifetime of achievement, and make a difference in patients’ lives, every day.

About Duke and Durham | Duke Department of Medicine

Interested in learning more about Duke & Durham and the surrounding areas for when you visit Duke? Get everything you need on the Duke Department of Medicine website.

medicine.duke.edu/education-and-training/about-duke-and-durham

WE LOVE DURHAM

We love Durham. We live here. We work here. We play here. Enjoy this video that embraces the cultural diversity, celebrates the entrepreneurial spirit, and exhibits the strong sense of community that someone would find in Durham.

DO DURHAM

Eight Reasons to Move to Durham
US News Named the Triangle metro areas among the best places to live in the country.

US NEWS: RALEIGH/DURHAM

Brightleaf Square, Durham, NC

American Tobacco Campus, Durham, NC

Sarah P. Duke Gardens, Durham, NC
Learn more about our ob/gyn fellowship program:

Ob/Gyn Fellowship
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