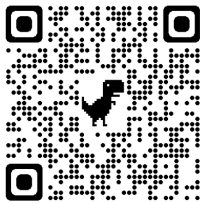




Annual Report

Academic Year 5
2024-2025

<https://mfprecision.ucsf.edu/basic-training/>



A Note from the Course Directors

“Basic Training” aims to build knowledge and skills in genetics through a curriculum that begins with the basics of genetics, moves into implementation of clinical testing, and includes content on important social and policy implications of genomic medicine. Recorded lectures, case presentations, interactive live workshops, and supplemental readings create a varied learning experience; more than 80 outstanding faculty contribute expertise from across the U.S. Each week includes quiz questions, office hours with the genetic counselors, and “rounds with the geneticists” to review concepts and intriguing cases.

The 4-week fall curriculum covers the basics of genetics from underlying principles to gene structure and function, embryology, cytogenetics, and molecular laboratory techniques. In the 4-week spring curriculum, we delve into prenatal screening and diagnostics; preimplantation genetic testing; the genetics of infertility and recurrent pregnancy loss; maternal genetic disorders; ethical, legal and social issues; and adult and complex diseases. Lectures are reviewed and updated to assure the content is current, and that new and emerging technologies and concepts are covered.

This annual report summarizes the curriculum, pretest and posttest scores over the five years of the program, and provides feedback from MFM and REI fellows and their program directors. The course has been met with great enthusiasm, and we believe it has become an integral component of reproductive genetics education for many fellowship programs. We are grateful to the program directors who have encouraged their fellows to participate.

Each year, we discuss how to expand our reach, and in addition to MFM and REI fellows, last year we began to offer participation to practicing OBGYN providers in the U.S. We have considered the value of this program for a more global audience, and have met with colleagues in Europe and beyond to discuss how to extend this education. This will likely involve some additional and different options for a global obstetrical audience, changes that will also benefit our U.S. colleagues. Importantly, our core mission will continue to be training of MFM fellows and the structure and content of Basic Training will remain unchanged.

The remarkable faculty and genetic counselors who generously donated their time and expertise have made this course unlike any other. Unrestricted educational grants from Labcorp Genetics & Women’s Health, Natera, Illumina, and Fulgent Therapeutics have fueled the effort for this year. We are grateful for the shared vision of physician education in medical genetics.

Finally, as we reported last year, we have now established the **Foundation for Reproductive Genetics Education (FoRGE), Inc.** as an independent nonprofit organization. The FoRGE Board of Directors oversees our Basic Training activities and sets our strategic direction, provides

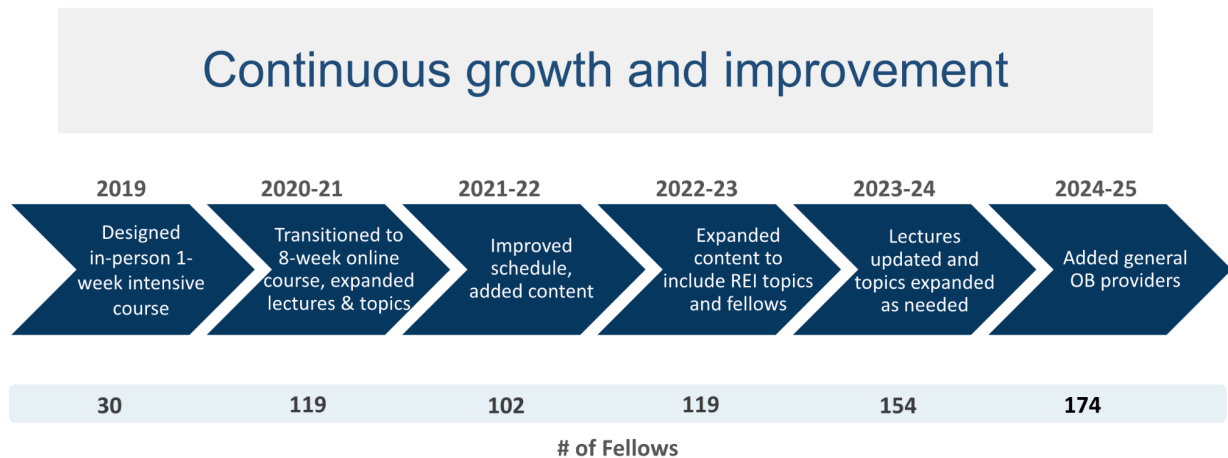
oversight, and acts as a steward of our resources. FoRGE seeks to provide unbiased, comprehensive education on reproductive genetics and genomics to healthcare providers. We envision a day when all clinicians who practice reproductive medicine will have a strong foundation in medical genetics and genomics.

We are very proud of this program and believe it has been a tremendous success – we hope you agree. We look forward to offering “Basic Training, A Course in Reproductive Medical Genetics” again for the 2025-26 academic year and beyond.

Mary Norton, MD and Ron Wapner, MD
Basic Training Course Directors

Our Story

The importance of genetics is increasingly recognized in reproductive and perinatal medicine, yet fellowship programs have been challenged to provide comprehensive education and training in this complex and rapidly evolving field. Several years ago, we conceived the idea of an intensive short course in reproductive genetics and teamed up with two outstanding genetic counselors to produce a one-week program that took place in the New York Genome Center in 2019. While the initial Reproductive Genetics “Bootcamp” was a great success, in 2020 we pivoted to a virtual course with much greater reach and potential to catalyze genetics education for OBGYN providers.



Keeping up with FoRGE

- **Since 2024, obstetricians in practice and other reproductive health care providers seeking depth in understanding of reproductive medical genetics have been encouraged to enroll.** The curriculum is available for one year from course launch. Follow it from start to finish to earn a certificate of completion, or simply choose topics of interest and explore the content according to your schedule.
- **New in 2026! A two-part course dedicated to obstetricians in practice.** Registration will open soon on our website.

Foundations in Genomics, launches January 2026

Advanced Applications in Genomics, launches April 2026

Practicing providers will gain substantial knowledge of genetic concepts and applications, and for those seeking more, the opportunity to explore advanced challenges in reproductive genomics.

Curious about the new course?

Please join us for a brief overview, including an example genomics lesson!

Saturday, October 11, 2025, 9:00-11:00 am EST.

Register for this free introductory event by scanning the QR code below.



- **Follow us on LinkedIn:**
www.linkedin.com/company/the-foundation-for-reproductive-genetics-education
- **Contact our course facilitators** with your questions, anytime!

Melissa Stosic, MS, CGC
Janice Edwards, MS, CGC

melissastosic@gmail.com
jedwards@uscmed.sc.edu

Course Overview

Week 1: Principles of Genetics

Week 2: Gene Structure and Function

Week 3: Cytogenetic Laboratory Techniques

Week 4: Molecular Laboratory Techniques

Week 5: Prenatal Screening and Diagnostics I

Week 6: Prenatal Screening and Diagnostics II

Week 7: Genetics “Puttanesca”

Week 8: Adult and Complex Disease

Each week, the course builds knowledge and skills by laying foundation through lectures, case presentations, supplemental reading, quiz questions, interactive LIVE workshops and rounds. To view our specific learning outcomes for this course, please visit our website.

Here’s a sample of topics:

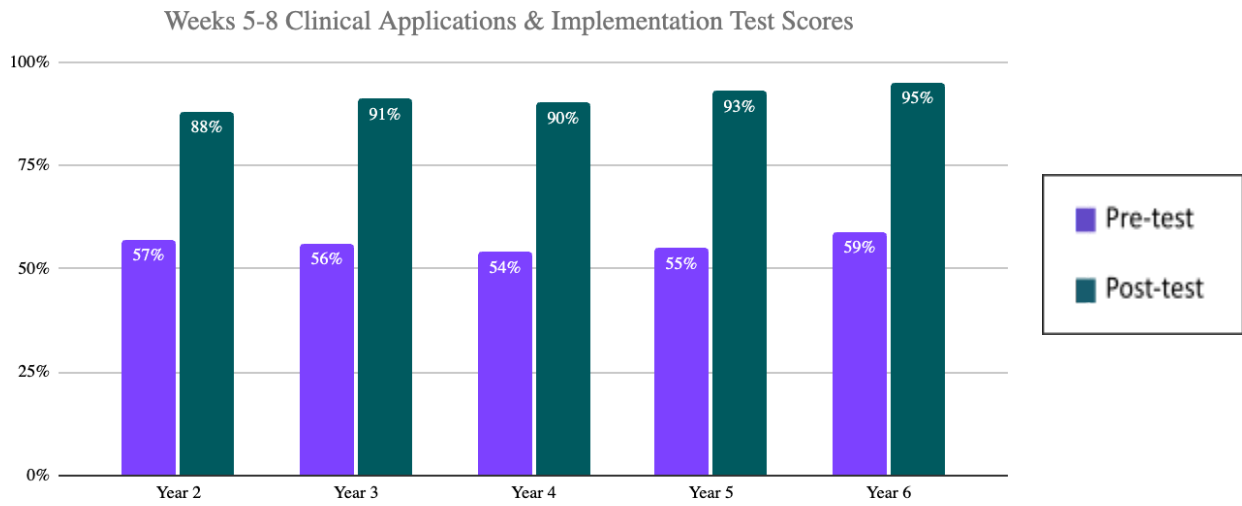
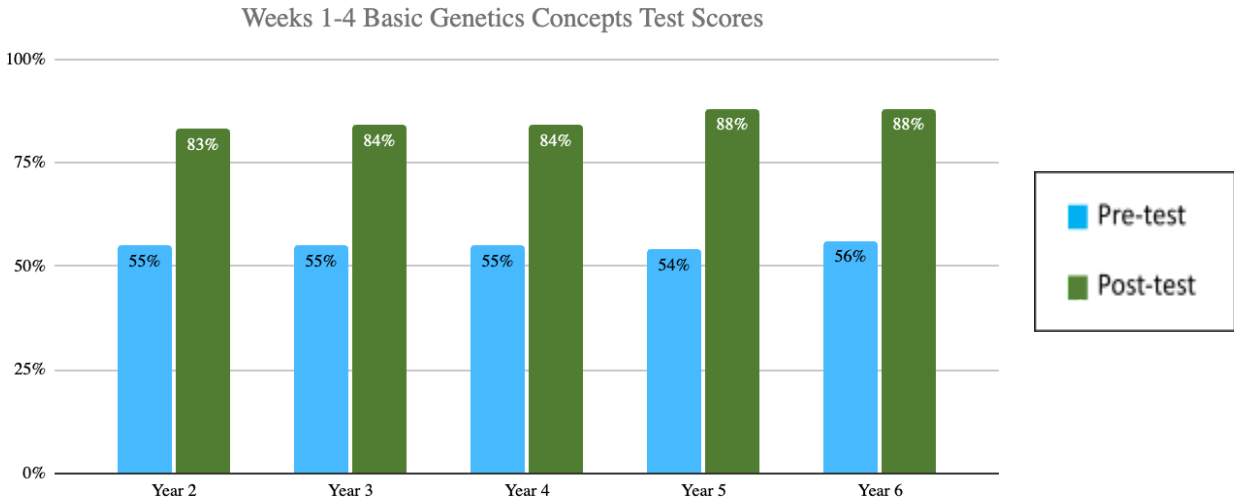
Enrolled participants spent an average of 12 hours per week interacting with the online content; this does not include time in supplemental reading or individual study time. Over the eight weeks, the average time invested was 94 hours, with 79 hours engaged in recorded online content and 15 in LIVE events.

Course Outcomes: Pre-test Versus Post-test Score Distribution

Scores for the current year:

| 2024-25 | Weeks 1-4 | | Weeks 5-8 | |
|---------------|-----------|-----------|-----------|-----------|
| | PRE-test | POST-test | PRE-test | POST-test |
| Average Score | 56% | 88% | 59% | 95% |
| Median Score | 57% | 92% | 61% | 97% |

Average scores for each year of the course:



Course Feedback

We continuously review and update our content to ensure it remains relevant and includes the leading edge of technology and clinical applications. Feedback from course attendees and their program directors also helps to improve and create the best teaching space possible. Here is a snapshot of recent course feedback:

From the Fellows:

- *This is the best course for MFM genetics. I am not aware of any other course that is so comprehensive and targeted for maternal fetal medicine. It is well balanced and incredibly well taught. Great faculty, inspiring and extremely supportive.*
- *Live rounds with the geneticists and live workshops were a fun way to really try to think through and apply the material. I also learned a lot just from hearing the discussion between attendings during rounds with the geneticists.*
- *I learned so much from this course. I feel much better prepared to counsel patients, interpret results and come up with a comprehensive plan.*
- *This was an outstanding experience, and I highly recommend this course to my colleagues. It has greatly enhanced my knowledge and confidence to counsel patients effectively. It has sparked a deeper interest in genetics and a commitment to further expand my expertise and exposure to clinical genetics!*

From Program Directors:

- *We absolutely love this program. It provides the backbone of genetic experience and is then able to complement discussions with our genetic counselors. We also often use the cases for the fellows to take to the genetic counselors and discuss again or discuss from a different angle.*
- *This program provides foundational support for our REI fellows' genetic education. They get clinical education from our genetic counselors, but this course has been critical in providing a lot of both basic science and clinical genetics education.*
- *Very helpful for board preparation, expansion of knowledge and exposure to rare cases they may not encounter during fellowship.*
- *The course has had a profound impact on written boards as well as preparation for oral boards. Our fellows' highest scores were in the genetics section!!*

Course Leadership

Course Directors



Ron Wapner, MD
Columbia University
rw2191@cumc.columbia.edu



Mary Norton, MD
UC San Francisco
Mary.Norton@ucsf.edu

Course Facilitators



Janice Edwards, MS, CGC
University of South Carolina
jedwards@uscmed.sc.edu



Melissa Stosic, MS, CGC
Stosic Consulting
melissastosic@gmail.com

The Faculty

These faculty donated their time and expertise in recorded and LIVE content. We are grateful for these experts, who each contributed to the vision of an outstanding online reproductive medical genetics education resource. These faculty have made Basic Training a reality.

| | |
|--------------------------------|--|
| Vimla Aggarwal, MBBS | Columbia University |
| Paul S. Appelbaum, MD | Columbia University |
| Caitlin Baptiste, MD | Columbia University |
| Andrea Besser, MS, CGC | New York University |
| Joseph Biggio, Jr, MD, MS | Ochsner Health |
| Kara Bui, MS, CGC | Caris Life Sciences |
| Jalas Chaim, PhD | Foundation for Embryonic Competence |
| Lyn Chitty, MD | UCL Great Ormond Street Institute of Child Health |
| Wendy Chung, MD, PhD | Columbia University |
| Jennifer Cohen, MD, PhD | Duke University |
| Sandra Darilek, MS, CGC | Baylor College of Medicine |
| Panchu Deshpande, MS | Columbia University |
| Jamie Dokson, MS, LCGC | Kaiser Southeast Permanente Medical Group |
| Lorraine Dugoff, MD | University of Pennsylvania |
| Michael Duyzend, MD, PhD | Massachusetts General Hospital |
| Jessica Fairey, MS, CGC | University of South Carolina |
| Cori Feist MS, CGC | Oregon Health & Science University |
| Lindsay Freud, MD | The Hospital for Sick Children |
| Stephanie Galloway, MS, CGC | Columbia University |
| Kelly Gilmore, MS, CGC | University of North Carolina-Chapel Hill |
| Jessica L. Giordano, MS, CGC | Columbia University |
| Nina Gold, MD | Massachusetts General Hospital |
| Francesca Romana Grati, PhD | TOMA Advanced Biomedical Assays S.p.A., Impact Lab |
| Kathryn J. Gray, MD, PhD | Brigham and Women's Hospital |
| Nina Harkavy, ScM, CGC | Columbia University |
| Thomas Hays, MD, PhD | Columbia University |
| Ginger Hocutt, MS, CGC | University of North Carolina at Chapel Hill |
| Heather Huddleston, MD | University of California, San Francisco |
| Katherine M. Hyland, PhD | University of California, San Francisco |
| Lauren Isley, MS, CGC | Generate Life Sciences |
| Jennifer James, PhD, MSW, MSSP | University of California, San Francisco |
| Angie Jelin, MD | Johns Hopkins University |
| Vaidehi Jobanputra, PhD | Columbia University |

| | |
|-------------------------------|--|
| Ellen Johnson, MGCS, CGC | Sanford Health |
| Sinem Karipcin, MD | Columbia University |
| Stephen F. Kingsmore, MD, DSc | Rady Children's Institute for Genomic Medicine |
| Barbie Klein, PhD, MS | University of California, San Francisco |
| Krzysztof Kiryluk, MD | Columbia University |
| Joann Kurtzberg, MD | Duke University |
| Dorothy Lamb, PhD | Weill Cornell Medicine |
| Ruth Lathi, MD | Stanford University |
| Louise Laurent, MD, PhD | University of California-San Diego |
| Brynn Levy, MSc (Med), PhD | Columbia University |
| Billie Lianoglou, LCGC MS | University of California, San Francisco |
| Carly Kenyon, MS, CGC | University of California, San Francisco |
| Tippi MacKenzie, MD | University of California, San Francisco |
| Savanie Maithripala, MS, LCGC | Reproductive Genetic Innovations |
| Tracy A. Manuck, MD, MSCI | University of North Carolina at Chapel Hill |
| Anne Mardy, MD | University of California, San Francisco |
| Simon Meagher, MB BCH | University of Melbourne |
| Holly Mueller, MS, CGC | University of California, San Francisco |
| Thomas J. Musci, MD | Deepcell Inc |
| Odelia Nahum | Columbia University |
| Paula Nassab, MS, CGC | Igenomix |
| Mary Norton, MD | University of California, San Francisco |
| W. Tony Parks, MD | University of Toronto |
| Christian Parobek,, MD, PhD | Brown University |
| Elvira Parravicini, MD | Columbia University |
| Alice B. Popejoy, PhD | Stanford University |
| Joe Qi, PhD | University of California, San Francisco |
| Svetlana Rechitsky, PhD | Reproductive Genetics Innovations |
| Britton D. Rink, MS, MD | Mount Carmel Health |
| Stephan Sanders, BMBS, PhD | University of California, San Francisco |
| Allyson Scott, MS, CGC | University of California, San Francisco |
| Brian Shaffer, MD | Sutter Bay Medical Foundation |
| Patrick Shannon, MD | Mount Sinai Hospital Canada |
| Matthew Shear, MD | University of California, San Francisco |
| Julia Silver, MS, LCGC | University of California, San Francisco |
| Joe Leigh Simpson, MD | Florida International University |
| Teresa Sparks, MD | University of California, San Francisco |
| Erica Spiegel, MS, CGC | Columbia University |
| Blair Stevens, MS, CGC | University of Texas-Houston |
| Katie Stoll, MS, CGC | Genetic Support Foundation |

| | |
|-------------------------------|---|
| Kate Swanson, MD | University of California, San Francisco |
| Joanne Taylor, MS, LCGC | University of California, San Francisco |
| Joanna Urli, MS, CGC | Columbia University |
| Mark C. Walters, MD | University of California, San Francisco |
| Ron Wapner, MD | Columbia University |
| Brette Wayman, MS, LCGC | University of California, San Francisco |
| Arun Wiita, MD, PhD | University of California, San Francisco |
| Louise Wilkins-Haug, MD, PhD | Harvard Medical School |
| Zev Williams, MD, PhD | Columbia University |
| Julianne Wojciak, MS, LGC | University of California, San Francisco |
| Ignatia B. Van den Veyver, MD | Baylor College of Medicine |
| Yuval Yaron, MD | Tel Aviv Sourasky Medical Center |
| Jessica Van Ziffle, PhD | University of California, San Francisco |

Course Sponsorship

The following companies provided unrestricted educational grants that made this course possible. We are grateful for their support of physician education in reproductive medical genetics.

Labcorp – Genetics & Women’s Health

Natera

Illumina

Fulgent Therapeutics

With in-kind support from

Columbia University

University of California, San Francisco

Please Join Us for Basic Training 2025-2026

Weeks 1-4: October 6- October 31, 2025

Weeks 5-8: March 2- March 27, 2026

Register by September 15 and February 15 online at:

[Basic Training | Center for Maternal-Fetal Precision Medicine | UCSF](#)