American Center for Reproductive Medicine

Alumni

Research Fellows • Summer Interns • ART Trainees
Get To Know Our Center

The American Center for Reproductive Medicine is a research program of the Glickman Urological and Kidney Institute of the Cleveland Clinic. Established in 1993, the Center is dedicated to cutting-edge, disease-oriented translational research and to the education of physicians and scientists. Our Center is rated as a leading center of excellence at the world-class Cleveland Clinic and the Department of Urology reigns in its ranking as either No. 1 or 2 Urology program in the nation by U.S. News & World Report.

The American Center for Reproductive Medicine enjoys an international reputation for excellence and innovation in human reproduction and male infertility research and is dedicated to disseminating its results. Research papers from the Center’s staff are selected regularly for publication in distinguished medical journals. The Center’s website has been ranked No. 1 for research in reproductive medicine and andrology since 2001 by Google and other top search engines, attracting close to 1,009,920 visitors to date. Dr. Agarwal’s research group has produced the largest number of peer-reviewed, high-impact male infertility/andrology research articles in the world.

Over the past 25 years, more than 1,000 physicians, scientists, biologists and medical/pre-med students from over 50 countries worldwide have received their research and ART training at the American Center for Reproductive Medicine.


History, Mission and Vision

HISTORY

The American Center for Reproductive Medicine was founded in 1993 as the research program of the Glickman Urological & Kidney Institute, Cleveland Clinic. Our research fellowship, ART training and summer mentorship opportunities represent one of the largest and most comprehensive academic programs of its kind in the United States.

MISSION

Conduct cutting-edge research into the causes of human reproductive and sexual disorders, leading to the development of new treatments and cures, as well as training of physicians and scientists to advance the understanding of human reproduction, infertility and sexual function.

VISION

Mentor and train each research fellow, trainee and summer intern using an individualized approach, to develop technical expertise and the ability to work independently.

Ashok Agarwal, PhD, HCLD (ABB), EMB (ACE) | Professor and Director

Ashok Agarwal is the Director of Research at the American Center for Reproductive Medicine and the Director of the Andrology Center. He holds these positions at Cleveland Clinic, where he is a Professor at the Lerner College of Medicine of Case Western Reserve University and, since 1993, Senior Staff in the Glickman Urological and Kidney Institute. Dr. Agarwal did his post-doctorate training in Reproductive Biology under a fellowship from The Rockefeller Foundation at Harvard Medical School in Boston, Massachusetts. He was an Instructor in Surgery and then an Assistant Professor of Urology at Harvard Medical School from 1988 to 1992. Dr. Agarwal was appointed in 1993 by the Cleveland Clinic Foundation, Ohio, as the Head of the Clinical Andrology Center, which over the years under his leadership, has become a center of excellence for the diagnosis of male infertility and fertility preservation of men with oncological conditions in the United States. He is board certified as a Clinical Laboratory Director in Andrology by the American Board of Bioanalysis and serves as an Inspector for the College of American Pathologists “Reproductive Laboratory Program” for accreditation of Andrology & IVF Laboratories.

Dr. Agarwal’s h-index is 119 on Google Scholar and 79 on Scopus while his citation count is nearly 57,224 on Google Scholar as of March 2018. His RG score is 53.13 on 1,930 publications (1,041 articles, 46 books, 200 chapters and 750 conference papers). Dr. Agarwal is ranked as the #1 Author in Andrology/Male Infertility and ART-related research, based on a Global Ranking of Authors in Andrology or Male Infertility reporting exhaustive searches of the Scopus database. Dr. Agarwal received the 2011 and 2012 Innovator Award for the development of “Remote Sperm Banking Kits” from the Cleveland Clinic Innovations. He was thrice-awarded the Scholarship in Teaching Award in 2011, 2013 and 2014 by the Case Western Reserve University Medical School in recognition of his innovative Summer Internship Course in Reproductive Medicine, which has been held annually since 2008. Dr. Agarwal was recognized by a second Scholarship in Teaching Award in 2013 and 2014 for his distinctive Hands on Training Program in Advanced Reproductive Techniques, which has been conducted yearly since 2003. Dr. Agarwal’s current research interests are identifying biological markers of oxidative stress, DNA damage and apoptosis using proteomic research tools and bioinformatics analysis as well as preserving fertility in patients with cancer. He is actively involved in laboratory and clinical studies assessing the efficacy of certain antioxidants in improving the fertility of male patients.


Meet the Director

Google Scholar

Search results from Dec 2016

Updated on Feb, 2018
Research Fellows
Our Research Fellowship and training opportunities represent one of the most active, state-of-the-art and comprehensive programs in human reproduction and infertility in the United States.

Our Fellows gain priceless research experience under the strong mentorship of world-renowned experts in reproductive medicine and biology at our Center in the Cleveland Clinic.
Research Fellowship in Human Reproduction and Male Infertility

Our Research Fellowship and training opportunities represent one of the most active, state-of-the-art and comprehensive programs in human reproduction and infertility in the United States.

Our Fellows gain priceless research experience under the strong mentorship of world-renowned experts in reproductive medicine and biology at our Center in the Cleveland Clinic.

Our Mission

Our unique and methodical mentorship approach develops the researchers into independent and dynamic scientists of the highest caliber.

Who We Are

Ashok Agarwal, PhD
Professor, Lerner College of Medicine
Director, American Center for Reproductive Medicine
Director, Andrology Center Department of Urology
Cleveland Clinic

Rakesh Sharma, PhD
Associate Professor, Department of Urology
Research Coordinator
American Center for Reproductive Medicine
Cleveland Clinic

Sajal Gupta, MD
Assistant Professor, Department of Urology
Research Coordinator
American Center for Reproductive Medicine
Cleveland Clinic

Edmund Sabanegh, MD
President, Main Campus & Regional Hospitals
Professor, Lerner College of Medicine
Cleveland Clinic
Our Research Fellows will

- Receive personalized mentoring by well-known experts in Reproductive Research
- Receive intensive hands-on training to master various basic and advanced research skills
- Learn the basics of Good Laboratory Practices
- Learn how to conduct a thorough literature review/critical analysis of published research
- Develop superior communication and presentation skills
- Participate actively in cutting-edge reproductive research
- Develop a strong foundation in human reproduction, assisted reproduction and infertility
- Learn the process of developing a novel scientific research idea
- Learn the techniques of writing a scientific bench research proposal
- Master the art of writing high quality scientific articles
- Publish research findings in top-tier scientific journals
- Learn the fundamentals of research involving human subjects
- Learn the basics of data management and biostatistical analysis
- Learn to be an independent, confident and resourceful researcher

Develop Valuable Research Skills

- Scientific integrity and accountability
- Professionalism and leadership
- Discipline and time management
- Motivation and self-direction
- Team work and collaboration
- Creativity and innovation
- Organization and methodical planning
- Effective interpersonal communication
- Critical thinking and judgement
- Problem solving and trouble shooting

Research & Training Methods

- Personal mentorship approach with daily supervision
- Practical demonstration and hands-on training in laboratory techniques
- Weekly research meetings for project planning and development
- On-site and online courses on various research procedures
- Training in literature review/search strategies and tools
- Training in writing of scientific articles for publication
- Lectures and presentations
- Journal Club and group discussions

During their Fellowship year at ACRM, our Research Fellows receive value added opportunities to participate in and...

- Serve as a Mentor/Advisor during the Summer Mentorship program in Reproductive Medicine held annually in June and July. Go to http://www.clevelandclinic.org/reproductiveresearchcenter/summmain.html to read more about our Mentorship Program.

- Receive systematic and comprehensive hands-on ART Training completely free of charge during the Advanced Reproductive Techniques course held annually in Sept and Oct. Fellows who successfully complete their ART Training will receive a Certificate. Go to http://www.clevelandclinic.org/reproductiveresearchcenter/artmain.html to read more about our ART Training Program.
BOOKS PUBLISHED

1. A Clinician’s Guide to Sperm DNA and Chromatin Damage
   - Armand Zini, Ashok Agarwal
   - Publication Date: 2018
   - Table of Contents

2. The Complete Guide to Male Fertility Preservation
   - Ahmad Majzoub, Ashok Agarwal
   - Publication Date: 2018
   - Table of Contents

3. The Diagnosis and Treatment of Male Infertility: A Case-Based Guide for Clinicians
   - Nabil Aziz, Ashok Agarwal
   - Publication Date: 2017
   - Table of Contents

4. Cryopreservation of Mammalian Gametes and Embryos: Methods and Protocols
   - Zsolt Peter Nagy, Alex C. Varghese, Ashok Agarwal
   - Publication Date: 2017
   - Table of Contents

5. Oxidative Stress in Human Reproduction: Shedding Light on a Complicated Phenomenon
   - Ashok Agarwal, Rakesh Sharma, Sajal Gupta, Avi Harlev, Gulfar Ahmed, Stefan S. du Plessis, Sandro C. Esteves, Siew May Wang, Damayanthi Durairajanayagam
   - Publication Date: 2017
   - Table of Contents

   - Ashok Agarwal, Luna Samanta, Ricardo P. Bertolla, Damayanthi Durairajanayagam, Paula Intasqui
   - Publication Date: 2016
   - Table of Contents

7. Andrological Evaluation of Male Infertility: A Laboratory Guide
   - Ashok Agarwal, Sajal Gupta, Rakesh Sharma (Editors)
   - Publication Date: 2016
   - Table of Contents

8. Exercise and Human Reproduction: Induced Fertility Disorders and Possible Therapies
   - Diana Vaamonde, Stefan S. du Plessis, Ashok Agarwal
   - Publication Date: 2016
   - Table of Contents

9. Recurrent Pregnancy Loss: Evidence-Based Evaluation, Diagnosis and Treatment
   - Asher Bashiri, Avi Harlev, Ashok Agarwal (Editors)
   - Publication Date: 2016
   - Table of Contents

10. Puberty: Physiology and Abnormalities
    - Philip Kumanov, Ashok Agarwal (Editors)
    - Publication Date: 2016
    - Table of Contents

    - Ala Amada, Sandro C. Esteves, Ashok Agarwal
    - Publication Date: 2015
    - Table of Contents

12. Endometriosis: A Comprehensive Update
    - Sajal Gupta, Avi Harlev, Ashok Agarwal
    - Publication Date: 2015
    - Table of Contents
BOOKS PUBLISHED

Unexplained Infertility
Glen L. Schattman, Sandro C. Esteves, Ashok Agarwal (Editors)
Publication Date: 2015
Table of Contents

Non-Invasive Sperm Selection for In Vitro Fertilization: Novel Concepts and Methods
Ashok Agarwal, Edson Borges Jr., Amanda S. Setti (Editors)
Publication Date: 2015
Table of Contents

Strategies to Ameliorate Oxidative Stress During Assisted Reproduction
Ashok Agarwal, Damayantini Durairajanyagam, Gurpreet V. K., Stefan du Plessis
Publication Date: 2015
Table of Contents

Male Infertility: A Complete Guide to Lifestyle and Environmental Factors
Stefan S. du Plessis, Ashok Agarwal, Edmund S. Sabanegh Jr. (Editors)
Publication Date: 2014
Table of Contents

Male Infertility for the Clinician: A Practical Guide
Sijo J. Parekattil, Ashok Agarwal (Editors)
Publication Date: August 2013
Table of Contents

Medical and Surgical Management of Male Infertility
Botros RMB Rizk, Nabil Aziz, Ashok Agarwal, Edmund Sabanegh (Editors)
Publication Date: September 2013
Table of Contents

Unexplained Infertility Global Practices and Indian Perspective
Sonia Malik, Ashok Agarwal (Editors)
Publication Date: 2014
Table of Contents

Antioxidants in Male Infertility: A Guide for Clinicians and Researchers
Sijo Parekattil, Ashok Agarwal (Editors)
Publication Date: November 2013
Table of Contents

Building and Managing an IVF Laboratory: A Practical Guide
Zsolt Peter Nagy, Alex C. Varghese, Ashok Agarwal (Editors)
Publication Date: October 2013
Table of Contents

Clinical Embryology: A Practical Guide
Zsolt Peter Nagy, Alex C. Varghese, Ashok Agarwal (Editors)
Publication Date: October 2013
Table of Contents

Gamete Assessment, Selection and Micromanipulation in ART
Zsolt Peter Nagy, Alex C. Varghese, Ashok Agarwal (Editors)
Publication Date: October 2013
Table of Contents

Male Infertility for the Clinician: A Practical Guide
Sijo J. Parekattil, Ashok Agarwal (Editors)
Publication Date: August 2013
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Medical and Surgical Management of Male Infertility
Botros RMB Rizk, Nabil Aziz, Ashok Agarwal, Edmund Sabanegh (Editors)
Publication Date: September 2013
Table of Contents

Sperm Chromatin for the Researcher: A Practical Guide
Armand Zini, Ashok Agarwal (Editors)
Publication Date: September 2013
Table of Contents
BOOKS PUBLISHED

Ashok Agarwal, PhD, HCLD
Director, American Center for Reproductive Medicine (ACRM)
Cleveland Clinic
United States of America

Sperm Chromatin for the Clinician: A Practical Guide
Armand Zini, Ashok Agarwal (Editors)
Publication Date: August 2013
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Quality Management in ART Clinics: A Practical Guide
Fabiola Benito, Sandra Esteves, Ashok Agarwal (Editors)
Publication Date: November 13, 2012
Table of Contents

Fertility Preservation in Males: Emerging Technologies and Clinical Applications
Emre Seli, Ashok Agarwal (Editors)
Publication Date: October 5, 2012
Table of Contents

Fertility Preservation in Females: Emerging Technologies and Clinical Applications
Emre Seli, Ashok Agarwal (Editors)
Publication Date: October 5, 2012
Table of Contents

Studies on Men’s Health and Fertility (Oxidative Stress in Applied Basic Research and Clinical Practice)
Ashok Agarwal, Nabil Aziz, Botros Rizk (Editors)
Publication Date: March 17, 2012
Table of Contents

A Workbook on Human Spermatozoa and Assisted Conception
Sonia Malik, Ashok Agarwal (Editors)
Publication Date: February 2012
Table of Contents

Fertility Preservation: Emerging Technologies and Clinical Applications
Emre Seli, Ashok Agarwal (Editors)
Publication Date: September 23, 2011
Table of Contents

Sperm Chromatin: Biological and Clinical Applications in Male Infertility and Assisted Reproduction
Armand Zini, Ashok Agarwal (Editors)
Publication Date: August 4, 2011
Table of Contents

Andrology Laboratory Manual
Kamini A. Rao, Ashok Agarwal, MS Srinivas (Editors)
Publication Date: February 10, 2010
Table of Contents
The American Center for Reproductive Medicine has collaborative relationships with many renowned scientists and clinicians from over 20 countries.

**Research Collaborators**

**DARBANDI, Sara, PhD**
Iran

**GOPALAN, BANU, PhD**
USA

**MAJZOUB, Ahmad, MD**
Qatar

**RIZK, Botres, MD, PhD**
USA

**SIROT, Laura, PhD**
USA

**DURAIKANJAYAGAM, Damayanthi, PhD**
Malaysia

**DUTTA, Sulagna, PhD**
Malaysia

**ESTEVEZ, Sandra, PhD**
Brazil

**ELBARDI, Haitham, MD**
Qatar

**GUNES, Sezgin, PhD**
Turkey

**ARAFA, Mohamed, PhD**
Qatar

**BUSETTO, Gian Maria, PhD**
Italy

**BERTOLLA, Ricardo, PhD**
Brazil

**CHO, Chak Lam, PhD**
Hong Kong

**DADA, Rina MD, PhD**
India

**DARBANDI, Masha, PhD**
Iran

**DUTTA, Sulagna, PhD**
Malaysia

**GOSÁLVEZ, Jaime, PhD**
Spain

**HARLEY, Avraham, MD**
Israel

**HENKEL, Ralf, PhD**
South Africa

**HOMA, SHERLY, PhD**
United Kingdom

**KESARI, Ravindra, PhD**
Finland

**KOSGLI, Raghavender, MD**
India

**LAMB, Dolores, PhD**
USA

**MALIK, Rizwan, MD**
USA

**MAZZOUB, Ahmad, MD**
Qatar

**MAYA, Walter Cardona, PhD**
Colombia

**MOORE, Amy, BA**
USA

**NAQI, Peter, MD, PhD**
USA

**PALANI, Ayad, PhD**
Iraq

**PAREKATTIL, Sijo, MD**
USA

**PUSHPARAJ, Peter Natesan, PhD**
Saudi Arabia

**RIZK, Botres, MD, PhD**
USA

**ROSAS, Israel Maldonado, MS**
Mexico

**SAID, Tamer, MD, PhD**
Canada

**SALEH, Ramadan, MD**
Egypt

**SAMANTA, Luna, PhD**
Orissa, India

**SANGUPTA, Pallav, PhD**
Malaysia

**SIKKA, Suresh, PhD**
USA

**SHARMA, Reecha, MD, MS**
USA

**TADROS, Nicholas, MD**
USA

**TADROS, Nicholas, MD**
USA

**TVRDA, Eva, PhD**
Slovak Republic

**ZHIIHONG, Cui, MD**
China

**WILLARD, Belinda, PhD**
USA

**Damayanthi Durairajanayagam, PhD**
Kuala Lumpur, Malaysia

**Sandro Esteves, MD, PhD**
Caminas, Brazil

**Sezgin Gunes, PhD**
Samsun, Turkey

**Avraham Harlé, MD**
Beer Sheva, Israel

**Ralf Henkel, PhD**
Bellville, South Africa

**Ahmet Ayaz, PhD**
Istanbul, Turkey

**Chak Lam Cho, MD**
Shatin, Hong Kong

**Luna Samanta, PhD**
Orissa, India

**Reecha Sharma, MD, MS**
Philadelphia, PA

**Nick Tadros, MD**
USA

**Eva Tvrda, PhD**
Nitra, Slovak Republic

**Cui Zhihong, MD**
Chongqing, China

**Ahmad Majzoub, MD**
Doha, Qatar

**Tamer M Said, MD, PhD**
Toronto, Canada

**Ramadan Abdou Saleh, MD**
Sohag, Egypt

**Sezgin Gunes, PhD**
Samsun, Turkey

**Avraham Harlé, MD**
Beer Sheva, Israel

**Ralf Henkel, PhD**
Bellville, South Africa

**Ahmad Majzoub, MD**
Doha, Qatar

**To read more about our collaborators, please click here**
American Center for Reproductive Medicine
Research Alumni 1993 - 2017

Australia
Austria
Bahrain
Brazil
Bulgaria
Canada
Chile
China
Colombia
Croatia
Egypt
France
Greece
Guiana
Hong Kong
India
Iran
Iraq
Italy
Jamaica
Japan
Jordan
Kazakhstan
Korea
Kosovo
Kuwait
Lebanon
Malaysia
Mexico
Nigeria
Pakistan
Philippines
Poland
Romania
Russia
Saudi Arabia
South Africa
Spain
Syria
Turkey
UAE
USA
Venezuela
The American Center for Reproductive Medicine

The American Center for Reproductive Medicine (ACRM) is a part of the Glickman Urological and Kidney Institute of the Cleveland Clinic. The Department of Urology is ranked as the No. 1 Urology program in the nation by U.S. News & World Report. ACRM enjoys an international reputation for excellence and innovation in cutting-edge research in human infertility. It is ranked as the No. 1 Research Program in Reproductive Medicine in the world due to its research outcomes including largest number of peer-reviewed high quality publications, citations and international collaborations. Research papers from ACRM staff are selected regularly for publication in distinguished medical journals. ACRM’s website has been ranked No. 1 for research in reproductive medicine and andrology since 2001 by all top international search engines, including Google, Bing, and Yahoo! It has attracted over 1,001,115 visitors from all over the world.

More than 1,000 physicians and scientists from more than 55 countries have received their training at ACRM throughout the past 25 years. More than 270 students in majors ranging from Biology to English to the Musical Arts have participated in summer mentorships at ACRM.

Gain priceless research experience under the guidance of world-renowned experts in reproductive medicine, male fertility, and women’s health at the Cleveland Clinic.

The Cleveland Clinic’s American Center for Reproductive Medicine gives you an unique opportunity to:

- Receive mentoring by world-renowned faculty in medicine and health sciences
- Participate in meaningful, real-time research training
- Engage in intensive training in scientific writing
- Publish research articles in prestigious medical journals
- Listen to captivating lectures delivered by a team of reputed scientists and physicians

For additional information on mentorship staff, please visit our faculty page.

To learn more about our Summer Mentorship Course, including program faculty, mentorship syllabus, daily schedule, complete project listing, mentorship awards, pictures of trainees presentations, reception, multimedia feedback, and accommodation options, please visit our 2017 Summer Mentorship webpage.
The Cleveland Clinic’s American Center Center for Reproductive Medicine gives you a unique opportunity to:

- **Receive** mentoring by world-renowned faculty in medicine and health sciences
- **Participate** in meaningful, real-time bench research experience
- **Engage** in intensive training in scientific writing
- **Publish** research articles in prestigious medical journals
- **Listen** to captivating lectures delivered by a team of reputed scientists and physicians

**Faculty**

**Program Director**

Ashok Agarwal, PhD  
Professor, Lerner College of Medicine  
Director, American Center for Reproductive Medicine  
Director, Andrology Center  
Department of Urology  
Cleveland Clinic

Rakesh Sharma, PhD  
Associate Professor, Department of Urology  
Research Coordinator, American Center for Reproductive Medicine  
Cleveland Clinic

Sajal Gupta, MD  
Assistant Professor, Department of Urology  
Assistant Research Coordinator, American Center for Reproductive Medicine  
Cleveland Clinic

Sijo Parekattil, MD  
Co-Director of Personalized Urology and Robotics Clinic  
South Lake Hospital and Orlando Health  
Clermont, Florida

**Consultants**

Botros Rizk, MD  
Professor of Ob-Gyn  
Reprod Endocrinol & Infertility  
University of South Alabama  
Mobile, Alabama
Program Goals and Benefits

The American Center for Reproductive Medicine at Cleveland Clinic offers a unique and exciting summer internship opportunity for highly motivated, academically oriented medical or undergraduate students interested in a career in medicine.

The center provides an excellent environment to conduct translational research in reproductive medicine. This unsurpassed experience gives participants the opportunity to:

- Immerse themselves in a state-of-art research environment
- Train in the art and science of conducting original bench research
- Be mentored by renowned researchers at a world-class medical institution
- Develop a strong foundation for pursuing a career in academic medicine

The program’s goal is to encourage students to consider a career in medicine, whether in reproductive medicine or any other specialty of their choosing. To this end, we have designed an exceptional summer internship program to provide students a wide range of experiences.

Additional Benefits of Internship

A unique aspect of this internship is the emphasis placed by the program on cultivating soft skills and imbibing professionalism in all participants. Skills honed during the internship include:

- leadership
- volunteerism
- time management
- effective communication
- public speaking and presentation skills

These skills and abilities are highly valued and have a prolonged impact on participants, especially as they pursue their goals and develop careers.

The intangible mix of skills nurtured during our internship sets our interns distinctly apart from their peers and empowers them to:

- be highly competitive in their interviews for medical school, residency or jobs
- perform better at public speaking opportunities
- be stronger candidates when being considered for work positions

Get to Know Our Internship Program

To view a List of Publications by our Interns resulting from their participation in the Internship course, http://www.clevelandclinic.org/reproductiveresearchcenter/info/traininfo_int10.html.


To learn about the Awards received by our past Interns, http://www.clevelandclinic.org/reproductiveresearchcenter/mics/syl_5_Certificates_and_Awards_2017.pdf.


To view the Photo Gallery of our Summer Internship program, https://www.flickr.com/photos/reproductiveresearchcenter/albums/72157685844338544.
American Center for Reproductive Medicine
Summer Interns Alumni 2008 - 2017

Armenia • Australia • Bahrain • Brazil • Canada • Egypt • India • Kuwait • Lebanon • Netherland Antilles • Pakistan • Poland • Qatar • Saudi Arabia • Turkey • United Kingdom • USA
ART Trainees
American Center for Reproductive Medicine

ART Training

Hands on Training in Assisted Reproductive Technology

Learn from the Leaders
The American Center for Reproductive Medicine

Cleveland Clinic’s American Center for Reproductive Medicine was established 25 years ago in 1993 with a three-fold mission: to conduct cutting-edge research into the causes of human reproductive pathologies, develop new fertility biomarkers and treatment modalities, and train physicians and scientists with a commitment to advancing the understanding of human reproduction, infertility, and fertility preservation.

Training program in Assisted Reproductive Technology (ART)

Since its inception in 2003, our ART training program offers a unique opportunity to learn the latest techniques in this rapidly changing subspecialty at one of the world’s premier ART centers:

- World-class faculty
- Up to date training facilities
- Personalized hands-on training
- Multiple comprehensive training modules
- Very high trainee satisfaction rates
- Trained over 187 alumni from 45 countries since 2003
- Certificate of Training awarded at the end of training

This intensive, 320-hour course is available exclusively to scientists and physicians with a specific interest in reproductive endocrinology, embryology or andrology as well as other health professionals such as embryologists, reproductive biologists and technologists.

The course covers:
- *In vitro* fertilization (IVF)
- Intracytoplasmic sperm injection (ICSI)
- Gamete cryopreservation
- Routine and advanced tests in andrology

Course Content

Hands on Assisted Reproduction (IVF/ICSI) - Module 5A - 5C (160 hours)

Learn basic and advanced techniques in:

**IVF Techniques**

- Module 5A
  - ICSI: Intracytoplasmic sperm injection
  - Classical IVF
  - Oocyte handling and scoring
  - Embryo handling and scoring
  - Catheter loading for embryo transfer

- Module 5B
  - Preparation of ICSI dishes
  - ICSI: injection of the spermatozoon into the oocyte
  - Oocyte handling (using fresh mouse oocytes)

**Laboratory Training**

- Equipments
  - Micromanipulators: components and mechanics
  - Installing and aligning ICSI instruments

- Supplies & Culture Medium
  - Preparation of culture medium and dishes for IVF/IVF-ICSI cases
  - Embryo culture
  - Extended embryo culture

**Advanced ART Techniques**

- Assisted hatching (laser and chemical [acidified Tyrode’s] method)
- Embryo biopsy

**Pre-Implantation Genetic Diagnosis**

- Blastomere biopsy
- Micromanipulator set-up
- Biopsy of mouse/hamster 8-cell stage embryos
- Use of laser and acid Tyrode’s solution for zona drilling
- Blastomere and polar body aspiration and fixation techniques
- Cell spreading
- Fixation techniques

**Cryopreservation**

- Embryo cryopreservation (mouse embryos)
- Vitrification

**Andrology**

- Sperm preparation for IVF/ICSI

**Virtual Tour of Facilities**

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**MODULE 5**

- Module 5A: IVF/ICSI/Micromanipulation (80 hours)
- Module 5B: ICSI/Micromanipulation (40 hours)
- Module 5C: Advanced ART Techniques (40 hours)
- Module 5D*: Customizable ART Training (40 - 320 hours)

*How Module 5D Works:
1) Candidates select a) the techniques they wish to learn (Modules 1-8); and b) the duration of their training (1-8 weeks).
2) Candidates consult with the Course Director regarding their training needs and choices, and together, they will decide on the appropriate modules and duration required by the candidate.
3) A personalized training schedule is created specifically for the candidate.
4) Training is provided at a pace established by the candidate and is geared towards fulfilling the candidates personal needs.

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Clinical Didactics by a Male Infertility Specialist & REI

1) Evaluation and management of male infertility
2) Lectures on clinical aspects and latest strategies for controlled ovarian hyperstimulation
3) Oocyte pickup & Embryo transfer: Clinical inputs

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Referral to a Human IVF Clinic may be available to select candidates looking for clinical observation in the following areas:

- Logistics of running an IVF Lab
- Observe IVF/ICSI procedures
- Oocyte retrieval
- Oocyte assessment
- Fertilization check
- Embryo assessment
- Intrauterine insemination
Training program in Assisted Reproductive Technology (ART)

We offer a unique opportunity to learn the latest techniques in this rapidly changing subspecialty at one of the world’s premier ART centers:

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• Up to date training facilities
• Personalized hands-on training
• Multiple comprehensive training modules
• Tremendous satisfaction rates
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• **Certificate of Training** awarded at the end of training

This intensive, 320-hour course is available exclusively to scientists and physicians with specific interest in gynecology, andrology or embryology as well as other health professionals such as embryologists, reproductive biologists and technologists.

• *In vitro* fertilization (IVF)
• Intracytoplasmic sperm injection (ICSI)
• Gamete cryopreservation
• Routine and advanced tests in andrology

**Accreditation**

*Accredited for 320 AMA PRA Category 1 Credits™*

Participants claiming CME credit from this activity may submit the credit hours to the American Osteopathic Association Council on Continuing Medical Education for Category 2 credit.

*Accredited by the American College of Embryology*

**Training Faculty**

**Ashok Agarwal, PhD, HCLD**
Director, Andrology Center
Director, Center for Reproductive Medicine
Professor, Lerner College of Medicine

**Edmund Sabanegh, MD**
President, Main Campus & Regional Hospitals
Professor, Lerner College of Medicine

**Christina Anagnostopoulou, MS**
Clinical Embryologist
IVF Clinic “Embryo ART”
Athens, Greece
*Testimonial*

**Rakesh Sharma, PhD**
Research Coordinator,
Center for Reproductive Medicine
Associate Professor, Lerner College of Medicine

**Israel Maldonado Rosas, MSc**
IVF Lab Director
IVF Clinic “Ingenes”
Mexico City, Mexico
*Testimonial*

**Sajal Gupta, MS, MD, TS (ABB)**
[MS in Clinical Embryology, Jones Institute]
Reproductive Specialist
Supervisor, Andrology Center
Assistant Professor, Lerner College of Medicine
Training Methodology:
1. Training provided by certified, practicing Clinical Embryologists
2. Trainers include Andrologists, Reproductive Endocrinologists and other experts in ART
3. Fully hands-on, one-on-one laboratory training sessions under the direct guidance of Clinical Embryologists
   • Training is done using animal models (frozen hamster oocyte and mouse embryos) (Module 5)
4. Each training session is customized to the trainee’s
   • Professional background
   • Level of skill and competence
   • Specific training needs
   • Desired outcomes from attending the ART training course
5. Interactive discussion and teaching sessions
6. Live lectures and multimedia presentations in small group sessions
7. Four state-of-the-art micromanipulators dedicated solely for training purposes (IVF/ICSI)

Note:
• Training is offered in a dedicated ART training suite inside a non-clinical research laboratory
• There is no patient contact

Trainee Evaluations:
Each Trainee is tested at the end of their training for:
1. Knowledge/Theoretical Component (30%): Multiple choice questions on lab techniques linked to each course module
2. Practical Skills (50%): Tested on specific lab techniques taught during the training
3. Verbal Communication & Comprehension Skills/Integrative Component (20%):
   • The performance of the candidate throughout the course will be reflected in a Grading Report.
   • Candidates who meet the training requirements and successfully complete the course work will be awarded a Training Certificate

Registered Trainees Will Receive…
1. Course Syllabus with Reading Material and Lab Protocols
2. Free Access to the Cleveland Clinic Alumni Library
4. Free E-Book titled “Andrological Evaluation of Male Infertility: A Laboratory Guide” edited by Dr. Ashok Agarwal et al, Springer (only for Modules 1-4) (on Flash Drive)
5. WHO Laboratory Manual for the Examination of Human Semen and Sperm-Cervical Mucus Interaction: Fifth Edition (on Flash Drive)
6. Certificate of Training (issued upon successful assessment by the instructor)
7. Daily Meal Tickets

Accreditation
Accredited for 320 AMA PRA Category 1 Credits™
Participants claiming CME credit from this activity may submit the credit hours to the American Osteopathic Association Council on Continuing Medical Education for Category 2 credit.
Accredited by the American College of Embryology

Learn More
For complete information, application instructions and course fees, visit www.clevelandclinic.org/reproductive/searchofcenter/arttraining.html
Virtual tour of the American Center for Reproductive Medicine

The Case Western Reserve School of Medicine Scholarship in Teaching Awards is an annual program designed to recognize faculty contribution to education from the preceding year and promote undergraduate, graduate, and continuing medical education teaching as a scholarly activity.
Teaching approaches considered scholarly are characterized by
• purposeful planning
• systematic implementation and
• reflection and assessment for improvement.
The result should be an academic product that is actively shared and that will support the development of a community of teaching scholars.
This award was given out at the Case Medical School Education Retreat on March 12, 2015. ACRM’s hands-on ART training program has previously been twice-recognized with this prestigious Scholarship in Teaching Award, in 2013 and again in 2014.
American Center for Reproductive Medicine

ART Trainees 2004 - 2017

Hands on Training in Assisted Reproductive Technology
Cleveland Clinic’s Glickman Urological and Kidney Institute is recognized worldwide for excellence in patient care, teaching and research. It merges Cleveland Clinic’s urology and nephrology programs. Urology and nephrology physicians and scientists at Cleveland Clinic are recognized worldwide for excellence in patient care, teaching and research. This year, U.S. News & World Report ranked our urology program No. 1 and our kidney disease program No. 2 in the nation.

Please visit us at: clevelandclinic.org/services/urology-kidney/about-urology-nephrology

About Cleveland Clinic

Cleveland Clinic is ranked as one of America’s Top 2 Hospitals by U.S. News & World Report. Located in Cleveland, Ohio, Cleveland Clinic is a nonprofit, multispecialty academic medical center that integrates clinical and hospital care with research and education. Founded in 1921 by four renowned physicians with a vision of providing outstanding patient care based upon the principles of cooperation, compassion and innovation, it is the second largest group practice in the world with 3,500 physicians and scientists practicing and researching in more than 140 medical specialities. Today with more than 1400 beds on the Cleveland Clinic main campus and 4,450 beds system-wide, Cleveland Clinic is one of the largest and most respected hospitals in the country.

In addition, the main hospital campus, located near downtown Cleveland, occupies 167 acres and 44 buildings. It includes a hospital, an outpatient clinic, a children's hospital, cancer institute, eye institute, research institute, a medical school and supporting labs and facilities. The Cleveland Clinic operates nine regional hospitals, a children's hospital, and 18 full-service family health centers in Ohio, as well as hospitals in Florida, Las Vegas, Canada, and Abu Dhabi, employing more than 49,000 individuals and providing global world class medical care. Last year alone, 7.1 million patients from 150 countries and all 50 states received their care at the Cleveland Clinic.

Our locations are linked by health information technology and critical care transport, getting patients to the right facility, at the right time, for the right care. Cleveland Clinic is organized into patient-centered institutes based on single diseases or organ systems. Each institute combines medical and surgical services at the same location under the same leadership to improve patient care and experience. Each institute is required to establish benchmarks and measure and improve quality. Institutes are also required to publish annual outcomes books showing volumes, results, innovations, publications and other information relevant to patients and referring physicians. Cleveland Clinic integrates its far-flung system with an extensive electronic medical records system. This system includes participating community physicians and patients, who are able to access test results and portions of their medical record remotely via the Internet. Cleveland Clinic’s model of medicine has made it possible for us to achieve cost savings on a vast scale over the past several years. Our mantra is “Patients First.” Our motto is “To Act as a Unit.” Our goal is to give every patient the best outcome and experience. That’s the Cleveland Clinic way.

Visit: clevelandclinic.org
The spermatozoa and oocyte represent the personalized, hands-on ART training course offered annually since 2003 and the opportunity to learn the latest techniques in the fast changing subspecialty of Assisted Reproduction at one of the world’s premier ART Training Centers. 187 candidates from more than 32 countries have participated in this course.

The DNA strand represents the essence of the research fellowship in human reproduction, andrology and male infertility, offered at the ACRM since 1993. More than 500 scientists/physicians from over 50 countries have trained at the ACRM. The Center is currently focusing on the use of proteomics and bioinformatics to elucidate biomarkers of male infertility.

The microscope and a hand holding the test tube represent the routine and advanced diagnostic testing offered to infertility patients at the Andrology Center and Reproductive Tissue Bank, one of the largest state-of-the-art facilities in the country. Our staff has more than 3 decades of experience in assisting patients with male infertility.

The open book and beaker represent the Summer Internship program, offered annually since 2008. Over 270 interns have experienced bench research and scientific writing under the personalized mentorship of scientists/physicians and reproductive biologists worldwide.
Cleveland is the second largest city in the state of Ohio, after Cincinnati. Located on the southern shores of Lake Erie, Cleveland lies at the outflow of the Cuyahoga River into Lake Erie. The main campus of Cleveland Clinic is situated 5 miles east of downtown Cleveland. Case Western Reserve University and University Hospitals are within one mile of Cleveland Clinic. Cleveland State University and John Carroll University are also within a short distance of the Cleveland Clinic main campus. Nearby the Cleveland Clinic is University Circle, which serves as the cultural, medical and education center of Cleveland and Northeast Ohio. Medical research in the University Circle institutions places Cleveland as one of the major medical research environments in the country.

University Circle is also the home to the Cleveland Museum of Art, the Cleveland Institute of Music, the Cleveland Institute of Art, and the Museum of Natural History. The Cleveland Museum of Art houses one of the country’s most highly acclaimed art collections. The world-famous Cleveland Orchestra, performs regularly in the elegant Severance Hall. Playhouse Square is the home to several large theaters that host traveling Broadway plays and various other performances.

The University Circle area is walking distance from Cleveland’s historic Little Italy with its brick streets, a quaint and charming area of intimate Italian restaurants, antique and craft shops, and art galleries. The Coventry Village area is close to the Clinic’s main campus and popular with its shops and restaurants.

Cleveland hosts the Rock and Roll Hall of Fame and Museum, and the Great Lakes Science Center. Outdoor enthusiasts of all ages enjoy the ‘Emerald Necklace’, the Cleveland Metroparks network of parks that encircles the city, which offer a variety of recreational opportunities. When it comes to professional sports, Cleveland is the proud home to the Browns football, Cavaliers basketball, Indians baseball and Lake Erie Monsters hockey teams respectively. As the Great Lakes city on America’s North Coast, Cleveland offers abundant lakeshore for different activities.

Cleveland and its surrounding suburbs are home to nearly 3 million residents. A vibrant and versatile metropolitan area, Cleveland has nearly 80 residential communities. Fine residential areas are located within minutes of the Cleveland Clinic campus. Recognized as one of the best places to live and visit, Cleveland and North-East Ohio is bustling with exciting things to do for people of all ages.

For more information about Cleveland, visit these resources: About Cleveland, Cleveland.com, Cleveland, The New American City, Positively Cleveland, Travel Cleveland, and Discover Ohio.
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