
2026
Regenerative Medicine Essentials Course
Winston-Salem, North Carolina
WFIRM
Wake Forest Institute for Regenerative Medicine
June 2–4, 2026
rmecourse.org
Sponsored by the NC Biotech Meeting Grant
North Carolina Biotechnology Center®

Welcome to the 2026 RME

On behalf of the course organizing committee and a prominent group of course instructors, we welcome everyone to the Wake Forest Institute for Regenerative Medicine's (WFIRM) 13th Annual Regenerative Medicine Essentials: From the Fundamentals to the Future course, held in Winston-Salem, North Carolina at the Wake Forest Biotech Place, in the Wake Forest Innovation Quarter, June 2nd to 4th. The official course of the Regenerative Medicine Foundation, RME 2026 provides high-level interactions with leaders in the field in both hybrid and in-person options. For our 13th year event, we also include a special, free "Regenerative Medicine for All" Public Day, held June 1st.

Our primary objective is to provide an all-inclusive review of various aspects of RM including background material, key scientific components of the RM field, ethical, economic, educational, workforce and other issues, along with expanded opportunities to network and meet leading professionals in the field.

The WFIRM organizing committee has put together a dynamic and informative, educational and networking event that covers the "essential" topics, fundamental principles and current progress in tissue engineering and regenerative medicine, including stem cells and cell therapy, biomaterials, technology-based tissue engineering and enabling technologies, as well as regulatory, ethical, economic issues critical to the field. Our instructors, including faculty from WFIRM as well as distinguished, prominent experts in the field from industry, academia and the government who join from across the globe, provides attendees a strong foundation along with insights into future directions and potential applications of regenerative medicine.

We hope this distinctive, hybrid event will further interactions among basic scientists engaged in discovery and development and commercialization endeavors.

Anthony Atala, MD
Director, WFIRM
RME 2026 Course Director

Joan F. Schanck, MPA
Chief Education Program Officer, WFIRM
RME 2026 Course Co-Director

With Special Thanks and Recognition

Organizing Committee
Anthony Atala, MD
RME 2026 Course Director;
Director, WFIRM

Joan F. Schanck, MPA
RME 2026 Course Co-Director;
Chief Education Program Officer,
WFIRM

Karri Campbell Adams, EdD, MSL
Leader, Educational Technologies
and Global Education, WFIRM

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Coordinator, WFIRM

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Associate Professor, WFIRM

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Marketing Manager, WFIRM

Bryanne and Easton Peterson
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RME 2026 Career Perspectives Committee
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University Biomedical
Engineering

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PhD student, Wake Forest
University Biomedical
Engineering

WFIRM Lab Tours
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Professor, WFIRM

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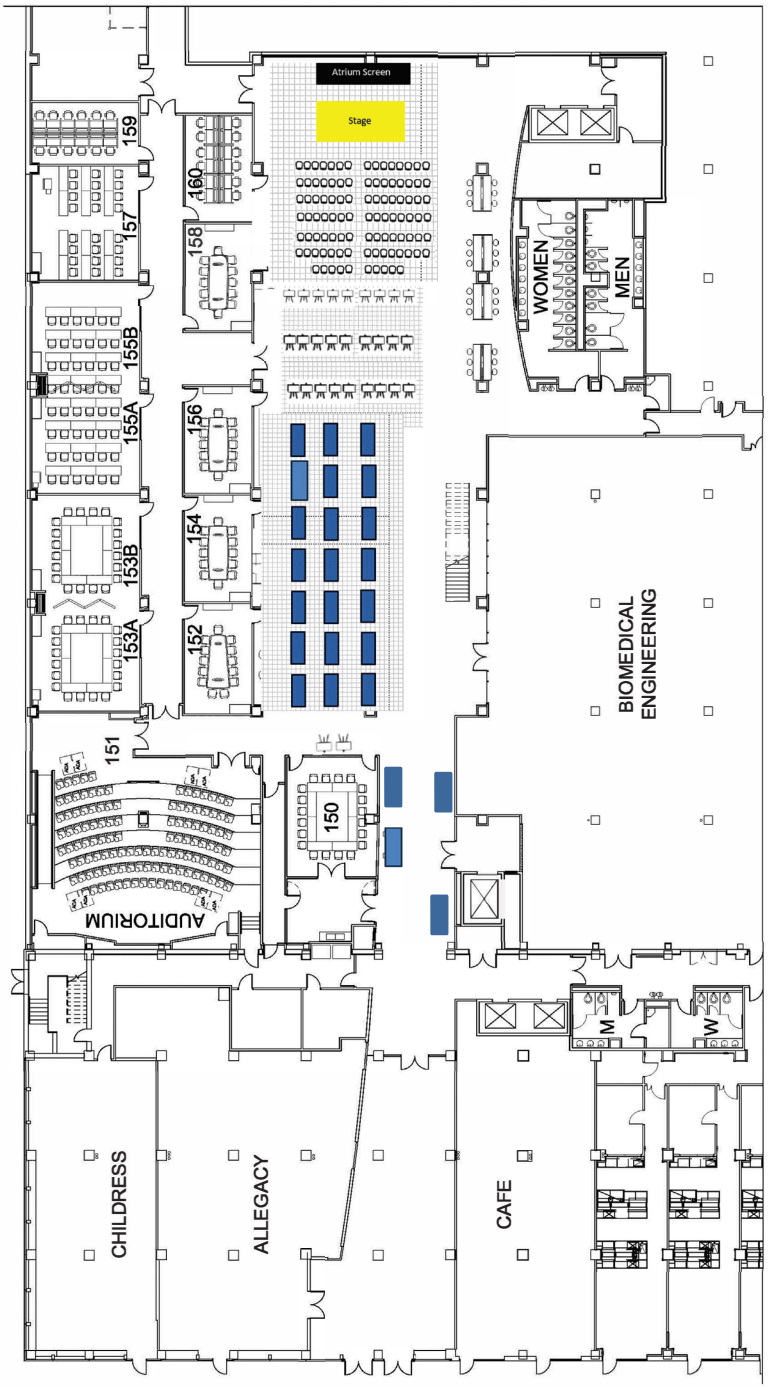
Administrative Support, WFIRM

Biotech Place Map



FIRST FLOOR PLAN

For RME 2026: All 1st floor plus #251 and #351 and Bailey park

NORTH

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Transportation

Provided by ABC Door2Door, complimentary transportation is provided between Biotech Place, and Winston-Salem Downtown Marriott. On June 3, a shuttle will provide transportation between Biotech Place and WFIRM for optional Lab Tours. The shuttle schedule is as follows:

Public Day Monday, June 1st
9:00 am to 11:00 am
3:30 pm to 4:30 pm

Tuesday, June 2nd
7:00 am to 9:00 am
5:30 pm to 7:00 pm

Wednesday, June 3rd
7:15 am to 9:00 am
3:15 pm to 5:30 pm (Lab Tours)
3:15 pm to 5:30 pm

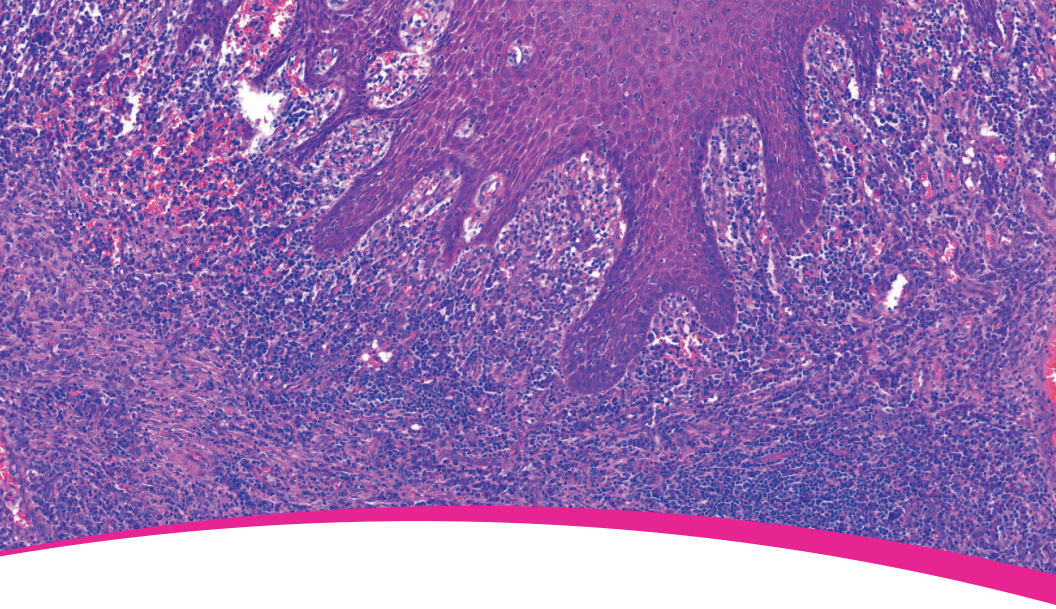
Thursday, June 4th
7:30 am to 9:00 am
2:45 pm to 4:00 pm

Mobile App

The RME Course has a mobile application utilizing the Yapp platform. The app contains the agenda, speaker information, and much more! Visit https://my.yapp.us on your mobile device to be directed to download.

Internet Access

Connect to IQGuest and accept the terms.



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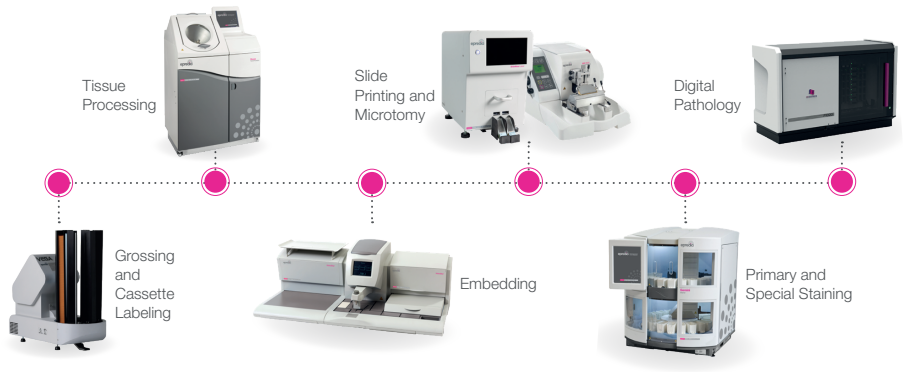

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Parking Information

Attendees are invited to park in lots P8, P7, or P6.

DAY 1 JUNE 2

Anthony Atala MD
Director, Wake Forest Institute for Regenerative Medicine

Joan Schanck MPA
Chief Education Program Officer, Wake Forest Institute for Regenerative Medicine

Matthew Porteus MD PhD
Professor, Pediatrics, Stanford School of Medicine; Professor, Institute of Stem Cell Biology

Patricia Nano PhD
Post-Doc Fellow, University of California, Los Angeles, Bhaduri Lab

Graca Almeida-Porada MD, PhD
Professor, Wake Forest Institute for Regenerative Medicine

Janet Zoldan PhD
Associate Professor, University of Texas, Austin

Abraham Joy PhD
Professor and Dept. Chair, Bioengineering, Northeastern University

Antonios G. Mikos PhD
Professor, Bioengineering and Chemical and Biomolecular Engineering, Rice University

Xizuhi Susan Sun PhD
Professor, Wake Forest Institute for Regenerative Medicine

Ryan Felix PhD
Pre-Doctoral Fellow, University of Maryland

Frank Marini PhD
Professor, Wake Forest Institute for Regenerative Medicine

Robert Newman PhD
Biochemist, Molecular Biologist, North Carolina Agricultural and Technical State University

Ritu Raman PhD
Associate Professor, Mechanical Engineering, MIT

Christopher Porada PhD
Professor, Wake Forest Institute for Regenerative Medicine

John Tisdale MD
Senior Investigator, Chief of Cellular and Molecular Therapeutics, NIH

Josh Maxwell PhD
Assistant Professor, Wake Forest Institute for Regenerative Medicine

Bruce Culleton MD
Chief Executive Officer, ProKidney

Victoria Weis PhD
Assistant Professor, Wake Forest Institute for Regenerative Medicine

DAY 1 JUNE 2

Registration opens 7:30am with Continental Breakfast

WELCOME AND OPENING

8:20—8:30am **Welcome and Introduction**
Joan Schanck, MPA

8:30—9:10am **Regenerative Medicine: Current Concepts and Changing Trends**
Anthony Atala, MD

SESSION 1: PLURIPOTENT STEM CELLS AND PROGENITORS

9:10—9:30am **High Efficiency Targeted Integration in Human IPSCs**
Matthew Porteus, MD, PhD

9:30—9:50am **Organoid-Based Approaches to Perturb and Observe the Human Brain**
Patricia Nano, PhD

9:50—10:10am **Fulfilling the Promise of Pluripotent Stem Cells**
Janet Zoldan, PhD

10:10—10:30am **Moderated Panel**
Graca Almeida-Porada, MD, PhD

Break & Networking

SESSION 2: BIOMATERIALS

10:45—11:05am **Bridging the Gap Between Natural and Synthetic Biomaterials: Illustrative Example of a Peptidomimetic Polyester Platform**
Abraham Joy, PhD

11:05—11:25am **Particulate and Granular Hydrogels for Tissue Engineering**
Antonios G. Mikos, PhD

11:25—11:45am **Advanced Synthetic Hydrogels Enabled Physiologically Relevant Organoids**
Xizuhi Susan Sun, PhD

11:45am—12:05pm **AI-Assisted Bioprinting**
Ryan Felix

12:05—12:20pm **Moderated Panel**
Susan Sun, PhD

Lunch Break with Trainees' Careers Perspectives Session I: Academia (Auditorium) and Exhibiting

DAY 1

SESSION 3: ENABLING TECHNOLOGIES

1:30—1:50pm **Making Regeneration Visible: Imaging Cells, Tissues to Spatial Systems**
Frank Marini, PhD

1:50—2:10pm **Next-Generation Genetically Encoded Activity Reporters for Real-Time Tracking of Kinase Signaling in Living Cells and Organoids**
Robert Newman, PhD

2:10—2:30pm **Tissue Engineering Functional Models of the Neuromuscular System**
Ritu Raman, PhD

2:30—2:50pm **Novel Antibody Drug Conjugates And Their Role In Prenatal Hematopoietic Stem Cell Transplantation For Genetic Disorders**
Graca Almeida-Porada, MD, PhD

2:50—3:10pm **Gene Therapy And Gene Editing: The Promise Of A Permanent Cure Following A Single Treatment**
Christopher Porada, PhD

3:10—3:30pm **Moderated Panel**
Tracy Criswell, PhD

Break & Networking

SESSION 4: CELL THERAPIES

3:30—3:50pm **Gene Therapy For Sickle Cell Disease, From Concept To FDA Approval**
John Tisdale, PhD

3:50—4:10pm **Next Generation Stem Cell Therapies for the Heart**
Josh Maxwell, PhD

4:10—4:30pm **Advancing Cell Therapy in Chronic Kidney Disease**
Bruce Culleton, MD

4:30—4:50pm **Placental Stem Cell Based Therapy for Necrotizing Enterocolitis in the Premature Infant**
Victoria Weis, PhD

4:50—5:05pm **Moderated Panel**
Josh Maxwell, PhD

Opening Reception and Networking with Open Exhibit Hall

DAY 2 JUNE 3

James Yoo MD PhD
Professor, Wake Forest Institute for Regenerative Medicine

Chandan K. Sen PhD
Chair and Director, McGowan Institute for Regenerative Medicine, University of Pittsburgh

Yu Shrike Zhang PhD
Associate Professor, Harvard Medical School; Associate Bioengineer, Brigham and Women's

Steve Bauer PhD
Chief Regulatory Science Affairs Program Officer, Wake Forest Institute for Regenerative Medicine

Amber Aagaard PhD
Director, Quality & Regulatory Assurance Corning Life Sciences

John Huang PhD
Founder and CEO, TheWell Bioscience, Inc.

Alicia Henn PhD
Chief Scientific Officer, BioSpherix LLC

Adam Samson PhD
President, Advocate Health National Center for Clinical Trials

Kyung Sung PhD
Chief, Cellular and Tissue Therapeutics Branch, FDA

Stephen Sawyer PhD
Associate Professor, Wake Forest Institute for Regenerat Medicine

Zubin Master PhD
Associate Professor, Wake Forest Institute for Regenerative Medicine

Jan Nolta PhD
Director, Cell and Gene Therapy, University of California Davis School of Medicine

Jacob Koffler PhD
Assistant Professor, Neurosciences, UC San Diego School of Medicine; CEO, Auxilium Biotechnologies

Vijay Gorantla MD PhD
Professor, Wake Forest Institute for Regenerative Medicine

DAY 2 JUNE 3

8:50—9:00am **Welcome and Overview**
Joan Schanck, MPA

SESSION 5: TISSUE ENGINEERING MEDICAL PRODUCTS

9:00—9:20am **Considerations for Developing Tissue Engineered Medical Products**
James Yoo, MD, PhD

9:20—9:50am **Tissue Nanotransfection Technology: Vasculogenic Reprogramming of the Skin In Vivo**
Chandan K. Sen, PhD

9:50—10:10am **Bioprinting: from Technologies to Applications**
Yu Shrike Zhang, PhD

10:10—10:30am **Moderated Panel**
James Yoo, MD, PhD

Break & Networking

SESSION 6: REGULATORY AND INDUSTRY PERSPECTIVES ON RM MANUFACTURING

10:45—11:00am **Navigating the Regulatory Landscape for Regenerative Medicine Products**
Steve Bauer, PhD

11:00—11:10am **Developing Reagents, Equipment, and Bioreactors through Regenerative Medicine Product Development**
Amber Aagaard, PhD

11:10—11:20am **From Synthetic Hydrogel to End-to-End 3D Culture Platform for Regenerative Medicine**
John Huang, PhD

11:20—11:35am **Cell Therapy Manufacturing: Cytocentric Approaches**
Alicia Henn, PhD

11:35—11:55am **FDA Perspectives on Microphysiological System Development and Use**
Kyung Sung, PhD

11:55am—12:15pm **Moderated Panel**
Stephen Sawyer, PhD

DAY 2 JUNE 3

Lunch Break with with Trainees' Careers Perspectives
Session II: Industry (Auditorium) and Open Exhibit Hall

SESSION 7: CLINICAL TRIALS AND BIOETHICS

1:15—1:35pm	**Scaling Regenerative Medicine Ethically: The Clinical Trial Infrastructure Challenge** Adam Samson, PhD
1:35—1:55pm	**Some Legit, Some Illegit: How Patients Access Scientifically Unproven Regenerative Products** Zubin Master, PhD
1:55—2:15pm	**Working Toward Improving Accessibility And Affordability In Cell And Gene Therapy** Jan Nolta, PhD
2:15—2:35pm	**Neurospan-1: A Clinical Trial Demonstrating the Impact of Organized Axonal Regeneration on Outcomes After Peripheral Nerve Injury** Jacob Koffler, PhD
2:35—2:55pm	**Clinical Trials at the Edge of Innovation: Designing Studies for Regenerative Surgery and Complex Transplantation** Vijay Gorantla, MD, PhD
2:55—3:15pm	**Moderated Panel** Tracy Criswell, PhD

Exhibiting, Networking, Refreshments with Optional WFIRM Lab Tours

DAY 3 JUNE 4

Tim Kelly PhD
CEO, RoosterBio Inc.

Laura Niklason MD PhD
Founder, President, CEO, Humacyte, Inc.; Professor, Yale University

Jeanne Loring PhD
Professor, Founding Director, Center for Regenerative Medicine, Scripps Research

Xu Han PhD
Founder, President, CryoCrate, LLC

Josh Hunsberger PhD
Chief Technology Officer, RegenMed Development Organization

Jana Stoudemire
In-Space Solutions, Axiom Space

Nirmala Pol PhD
Founder, CEO, Panache AI

Josh Tan
Director, Emerging Technologies, Advocate Health Enterprise Imaging Services

Gail Nolan PhD
CEO, Puerto Rico 5G Zone; Blockchain Ignition Lab4

Shelton Charles PhD
Interim Vice President, Transfer Excellence & Success, Forsyth Technical Community College

John Chuckalovcak
Associate Director, Business Development and Partnerships, QIAGEN

Shay Soker PhD
Professor, Wake Forest Institute for Regenerative Medicine

Nilay Chakraborty PhD
Director of Cryobiology, Principal Scientist, ATCC

Tiago Lopes PhD
Founder and CEO, Nezu Biotech

Chris Puhl PhD
Business Development Manager, ExoBiosphere

Tim Dobroski
PhD Candidate, Biomedical Engineering, Virginia Tech-Wake Forest University School of Biomedical Engineering

Pinar Mesci PhD
Global Head, Biomanufacturing and Biotechnology, Axiom Space

Michael Roberts PhD
Chief Scientist, ISS National Laboratory

Stefanie Countryman
Director, BioServe Space Technologies; Research Associate, University of Boulder

Kevin Engelbert
Manager, NASA In Space Production Applications

Jacob Koffler PhD
Assistant Professor, Neurosciences, UC San Diego School of Medicine; CEO, Auxilium Biotechnologies

DAY 3 JUNE 4

8:20—8:30am **Welcome and Overview**
Joan Schanck, MPA

SESSION 8: COMMERCIALIZATION

9:00—9:20am **Scalable, Cost-Effective Manufacturing of Mesenchymal Stem Cell and Exosome-Based Therapeutics**
Tim Kelly, PhD

9:20—9:40am **Considerations for Commercial-Scale Tissue Production**
Laura Niklason, MD, PhD

9:40—10:00am **Fulfilling the Promise of Pluripotent Stem Cells**
Jeanne Loring, PhD

10:00—10:20am **From Glycoengineering to Global Biobanking and Biopreservation**
Xu Han, PhD

10:20—10:35am **Moderated Panel**
Joan Schanck, MPA

Break & Networking

SESSION 9: BUILDING THE INFRASTRUCTURE FOR THE NEW ERA

10:45—10:50am **Opening Remarks**
Josh Hunsberger, PhD and Jana Stoudemire

10:50—11:15am **Immersive Technologies and Disruptive Platforms Advancing Next Gen Trials**
- Nirmala Pol, PhD
- Josh Tan
- Gail Nolan, PhD
- Shelton Charles, PhD
- Cheryl Burrell
- Olivia Razzak

11:15—11:45am **Disruptive Technologies Advancing New Approach Methodologies (NAMs)**
- John Chuckalovcak
- Shay Soker, PhD
- Nilay Charkaborty, PhD
- Tiago Lopes, PhD
- Chris Puhl, PhD

Lunch Break with Open Exhibit Hall

DAY 3 JUNE 4

SESSION 10: BUILDING THE INFRASTRUCTURE FOR THE NEW ERA

1:00—1:05pm **Opening Remarks**
Josh Hunsberger, PhD and Jana Stoudemire

1:05—2:30pm **Building the Infrastructure of the New Era of Regenerative Medicine**

- Jana Stoudemire
- Tim Dobroski, PhD
- Pinar Mesci, PhD
- Michael Roberts, PhD
- Stefanie Countryman
- Kevin Engelbert
- Jacob Koffler, PhD

2:30—2:45pm **Closing Remarks**
Joan Schanck, MPA and Anthony Atala, MD

Notes