



SCHOOL OF MEDICINE

Thurston Arthritis
Research Center

*Thank you for attending
TARC Research Day!*

SECOND ANNUAL

RESEARCH DAY

Friday, October 25, 2019
8:00am-2:00pm

The UNC Friday Center
100 Friday Center Drive
Chapel Hill, NC 27517

Keynote Speaker

S. Lou Bridges, MD, PhD

*Anna Lois Waters Endowed Professor of Medicine
Director, Division of Clinical Immunology and Rheumatology
University of Alabama at Birmingham*

S. Louis Bridges, Jr., MD, PhD is the Anna Lois Waters Endowed Professor of Medicine at the University of Alabama at Birmingham and has served as Director of the UAB Division of Clinical Immunology and Rheumatology since 2009.



He is also the Director of the UAB Comprehensive Arthritis, Musculoskeletal, Bone, and Autoimmunity Center and Vice President of the Rheumatology Research Foundation. His research has been continuously funded by NIH and is focused largely on rheumatoid arthritis susceptibility, severity, and treatment response. He has authored more than 140 manuscripts, 20 book chapters, and served as Editor of *Vasculitis*, published by Oxford University Press. He serves as Director of the UAB T32 Training Program in Rheumatic and Musculoskeletal Diseases Research, PI of a Department of Defense research grant on the role of the interferon-gamma pathway in RA, and Associate Director of the UAB Investigations in Gout, Hyperuricemia, and Comorbidities (INSIGHT) Center of Research Translation (CORT).

In addition, he serves as investigator on multiple research grants focused on arthritis and musculoskeletal diseases. He has been named to the Best Doctors in America list yearly since 2003, as well as to Castle Connolly Top Doctors. He was previously Co-Editor of *Arthritis & Rheumatology* (2010-17) and Chair of the NIH Arthritis, Musculoskeletal, and Skin Study Section (2013-16). In addition to membership on several committees of the American College of Rheumatology (ACR), Dr. Bridges served as Chair of the ACR Committee on Research, and as a member of the Scientific Advisory Council and Board of Directors of the Rheumatology Research Foundation. He was named recipient of the 2008 Max Cooper Award for Research Excellence by the UAB Department of Medicine, and the 2012 Sam Brown Bridge Builder Award, UAB School of Public Health.

Special Thanks

The UNC Thurston Arthritis Research Center would like to thank our researchers for their dedication and exceptional work.

We would like to give a special thanks to our TARC Research Day Sponsor **Leigh Thurston Myers**, whose generous donation made today's program possible.

26. Masako Tsukamoto, Pamela E. Fraungruber, Saira Z. Sheikh, Shruti Saxena Beem, Andres Santana, Julie Walker, Shanmugam Nagarajan. ***Immune Complexes Activated Neutrophils Contribute to Atherosclerosis in Systemic Lupus Erythematosus.***
27. Helen H. Willcockson, Huseyin Ozkan, Amaya Esterellas, Amanda M. Le, Lara Longobardi. ***Role of CCR2 into the Cartilage Degeneration Induced by Osteoarthritis.***
28. Lauryn Braxton, Stephanie Cone, Morika Williams, Matthew Fisher, Duncan X. Lascelles. ***Comparing MRI and Histological Outcomes from Young and Mature Osteoarthritic Rats.***

TARC Research Day Program

7:30am

Breakfast

Blueberry Hill Room & Atrium Center

8:00am-8:10am

Welcome Remarks

Sunflower Room

Dr. Richard Loeser, TARC Center Director

Dr. Beth Jonas, Division Chief,

Rheumatology, Allergy & Immunology

8:10am-9:10am

Short Talks

Sunflower Room

Moderated by:

Lara Longobardi, PhD & Becki Cleveland, PhD

8:10am

Michaela E. Copp, Garrett A. Sessions, Margaret C. Flanders, Rachel Gagliardi, Lauren V. Schnabel, Brian O. Diekman. ***Senescence Induction in Human and Equine Cartilage Explants for Mechanistic Investigation and Development of Senolytic Therapy for Osteoarthritis.***

8:25am

Edwin Kim, Luanna Yang, Ping Ye, Rishu Guo, Quefeng Li, Michael D. Kulis, and A. Wesley Burks. ***Long-Term Sublingual Immunotherapy for Peanut Allergy in Children: Clinical and Immunologic Evidence of Desensitization.***

8:40am

Bradley T. Estes, Franklin T. Moutos, Masataka Enomoto, Megan A. Carson, Dianne Little, Johnathan Stallings, Farshid Guilak, Duncan X. Lascelles. ***Biological Hip Resurfacing for Osteoarthritis Treatment in a Canine Model.***

8:55am Nadiya V. Yerich, Carolina Alvarez, Todd A. Schwartz, Serena Savage-Guin, Jordan B. Renner, Catherine J. Bakewell, Minna J. Kohler, Janice Lin, Jonathan Samuels, Amanda E. Nelson. ***Frequency of Ultrasound Features of Knee Osteoarthritis and Their Association with Radiographic Features and Symptoms: The Johnston County Osteoarthritis Project.***

9:10am-9:25am

Poster Pitches Session #1
Sunflower Room

Kathleen S. Metz Reed, Eliza Thulson, Cheeho Kim, Richard F. Loeser, Douglas H. Phanstiel. ***Fibronectin Fragment Stimulation as an in vitro Model of Osteoarthritis.***
(Poster #1)

Jamie L Waldron, Nerlyne Desravines, Kim Boggess, Scott Commins. ***Proactive Penicillin Allergy Testing During Pregnancy.***
(Poster #7)

Onyinye I. Iweala, Mohammad Fereydouni, Mona Motaghd, Shailesh P. Choudhary, Camille Kapita, Scott Commins, Christopher Kepley. ***Alpha-gal Induces Mediator Release by Human Mast Cells.***
(Poster #2)

Ayesha Jaleel, Carolina Alvarez, Jordan B. Renner, Yvonne M. Golightly, Amanda E. Nelson. ***Incidence and Progression of Ankle Osteoarthritis: the Johnston County Osteoarthritis Project.***
(Poster #8)

Sun Ah Kang, Jennifer Rogers, Saira Sheikh, Megan Clowse, Young Truong, Barbara J Vilen. ***Lysosome Defects in SLE Promote the Accumulation of Nuclear Antigens on the Surface of Hematopoietic Cells.***
(Poster #3)

19. Kelli D. Allen, Dennis Bongiorno, Cynthia J. Coffman, Katherine S. Hall, Bryan Heiderscheit, Helen M. Hoenig, Kim M. Huffman, Miriam C. Morey, Shalini Ramaunder, Herbert Severson, Courtney Van Houtven, Sandra Woolson. ***MSSTepped Exercise Program for Patients with Knee Osteoarthritis (STEP-KOA): Results of a Randomized Controlled Trial.***

20. Katie Huffman, Maihan B. Vu, Ida Griesemer, Jen Rees, Kimberlea F. Grimm, Leigh F. Callahan, Rebecca J. Cleveland, Yvonne M. Golightly, Kelli D. Allen. ***Developing the Osteoarthritis Physical Activity Care Pathway: A Primary Care-Focused Intervention to Engage Patients with Osteoarthritis in Physical Activity.***

21. Abigail L. Gilbert, Jing Song, David Cella, Rowland W. Chang, Dorothy D. Dunlop. ***What is an Important Difference in Gait Speed in Adults with Knee Osteoarthritis?***

22. Erin C. Steinbach, Johanna Smeekens, Layna Perini, Michael D. Kulis, Martin T. Ferris, Andrew Hinton, Brandi Johnson-Weaver, Wesley Burks, Shehzad Z Sheikh. ***Altered Gastrointestinal Environment and Epithelial Barrier Function are Associated with Peanut Allergy in the CC027/Geniunc Mouse.***

23. Kimberlee Mix, John Collins, Luis Marrero, Vinod Dasa, Douglas H. Phanstiel, Richard F. Loeser. ***Regulation of Nuclear Receptor 4a2 by Reactive Oxygen Species in Human Articular Chondrocytes.***

24. Michael Miao, John Collins, Maryna Kapustina, Richard F. Loeser. ***Reactive Oxygen Species (ROS) Regulate Fibronectin Fragment-Induced MAP Kinase Signaling and Metalloproteinase 13 Release in Human Chondrocytes Through NADPH Oxidase (Nox) 2 and Endocytosis of Chondrocyte Integrins.***

25. Huseyin Ozkan, Helen H. Willcockson, Amaya Esterellas, Amanda M. Le, Lara Longobardi. ***Fetuin-A as Critical Factor to Maintain Joint and Muscle Integrity After Injury.***

Brian Pietrosimone, Lara Longobardi, HC Davis-Wilson, RA Creighton, GM Kamath, Joanne M. Jordan, Richard Loeser, JT Spang. **Longitudinal Analysis of Serum Biochemical Changes Following Anterior Cruciate Ligament Injury and Reconstruction: A Matched Comparison-Control Analysis. (Poster #18)**

1:00pm-2:00pm

Poster Presentation Session #2

Willow Lounge

1:00pm – 1:30pm: Odd Numbered
Poster Presentations

1:30pm – 2:00pm: Even Numbered
Poster Presentations

15. Emma M. Astrike-Davis, Rebecca J. Cleveland, Beth L. Jonas, Leigh F. Callahan. **Associations of Socioeconomic Status with Rheumatoid Arthritis (RA) Radiographic Progression in African Americans with Early Disease.**
16. Emma M. Astrike-Davis, Rebecca J. Cleveland, Beth L. Jonas, Leigh F. Callahan. **Associations of Biomarkers with Radiographic Progression of Rheumatoid Arthritis (RA) in African Americans with Early Disease.**
17. Ian D. Cooley, Keisha L. Gibson, Vimal K. Derebail, Carolina Alvarez, Caroline J. Poulton, Lauren N. Blazek, Andrew Love, Susan L. Hogan, J. Charles Jennette, Ronald J. Falk, Saira Z. Sheikh. **Venous Thromboembolism in Lupus Nephritis by ISN/RPS Biopsy Classification.**
18. Brian Pietrosimone, Lara Longobardi, Hope C. Davis-Wilson, R. Alexander Creighton, Ganesh M. Kamath, Joanne M. Jordan, Richard F. Loeser, Jeffrey T. Spang. **Longitudinal Analysis of Serum Biochemical Changes following Anterior Cruciate Ligament Injury and Reconstruction: A Matched Comparison-Control Analysis. Randomized Controlled Trial.**

9:25am-10:25am

Poster Presentation Session #1

Willow Lounge

9:25am – 9:55am: Odd Numbered
Poster Presentations

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2. Onyinye I. Iweala, Mohammad Fereydouni, Mona Motaghd, Shailesh P. Choudhary, Camille Kapita, Scott Commins, Christopher Kepley. **Alpha-gal Induces Mediator Release by Human Mast Cells.**
3. Sun Ah Kang, Jennifer Rogers, Saira Z. Sheikh, Megan Clowse, Young Truong, Barbara J. Vilen. **Lysosome Defects in SLE Promote the Accumulation of Nuclear Antigens on the Surface of Hematopoietic Cells.**
4. Chase Binion, Susan D'Costa, Matthew J. Rich, Garrett A. Sessions, Alex J. Roupas, Brian O. Diekman. **Characterizing a Genetic Variant with High Risk of Osteoarthritis Using Knockout Mice and Engineered Cartilage.**
5. Matthew J. Rich, Yang Cui, Richard F. Loeser, Brian O. Diekman. **Characterizing the Signaling Response of Primary Human Chondrocytes to Cyclical Compression Loading.**
6. Garrett A. Sessions, Michaela E. Copp, Jie-Yu Liu, Susan D'Costa, Brian O. Diekman. **Characterization of a Physiologically-Relevant Cartilage Explant Model System for Senescent Cell Induction and Clearance.**
7. Jamie L. Waldron, Nerlyne Desravines, Kim Boggess, Scott Commins. **Proactive Penicillin Allergy Testing During Pregnancy.**

8. Ayesha Jaleel, Carolina Alvarez, Jordan B. Renner, Yvonne M. Golightly, Amanda E. Nelson. ***Incidence and Progression of Ankle Osteoarthritis: the Johnston County Osteoarthritis Project.***
9. Rebecca J. Cleveland, Luibov Arbeeve, Lauren M. Abbate, Carolina Alvarez, Todd A. Schwartz, Jordan B. Renner, Joanne M. Jordan, Leigh F. Callahan. ***The Association of Body Mass Index Gain, Loss and Maintenance with the Development of Knee Osteoarthritis.***
10. Liubov Arbeeve, Todd A. Schwartz, Amanda E. Nelson, Joanne M. Jordan, Richard F. Loeser. ***Serum Biomarkers for Collagen Turnover and Matrix Metalloproteinase (MMP) Activity and Radiographic Progression of Knee OA.***
11. Rami Eltaraboulsi, Amanda E. Nelson, Carolina Alvarez, Jordan B. Renner, Yvonne M. Golightly. ***Incidence and Progression of Foot Osteoarthritis.***
12. Louise Thoma, Jason Jakiela, Hiral Master, Dana Mathews, Meredith Christiansen, Dan White. ***Restricting Activity to Evade Knee Symptoms is Associated with Worse Physical Function and Radiographic Osteoarthritis.***
13. Sandra H. Soto, Diane Berry, Leigh F. Callahan. ***Exploring Social Motivation for PA Among Latinas with Osteoarthritis and a Member of their Social Networks.***
14. Edward G.A. Iglesia, Chirag S. Patel, A. Wesley Burks, Edwin H. Kim. ***Characteristics and Rates of In-Home, Dose-Related Adverse Events During Peanut Sublingual Immunotherapy***

10:25am - 10:45am Break

10:45am-11:45pm

Keynote Speaker:

Sunflower Room

Dr. S. Lou Bridges

"Rheumatoid Arthritis in African Americans: Insights from the CLEAR Study"

11:45pm-12:45pm

Lunch

South Atrium - Second Floor

12:45pm-1:00pm

Poster Pitches Session #2

Sunflower Room

Emma M. Astrike-Davis, Rebecca J. Cleveland, Beth L. Jonas, Leigh F. Callahan. ***Associations of Socioeconomic Status with Rheumatoid Arthritis (RA) Radiographic Progression in African Americans with Early Disease.***
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