



SCHOOL OF MEDICINE

Thurston Arthritis Research Center

Core Center for Clinical Research (CCCR)

CCCR Catch Up

Summer 2021

Funding provided by the NIH/NIAMS P30AR072580

Requesting Your Feedback and Suggestions!

Do you have thoughts about what the CCCR is doing well, and what can be improved? If so, let us know.

The primary goal of the [UNC Core Center for Clinical Research \(CCCR\)](#) is to enhance the design and conduct of clinical studies in Rheumatic and Musculoskeletal Diseases (RMDs).

Specifically, the [Methodology Core](#) provides a comprehensive and integrated set of RMD-focused services to optimize the quality, efficiency and innovation of the CCCR research community that includes local, national and international members. The [Phenotyping & Precision Medicine Resource Core](#) offers key scientific expertise and analytic resources needed for prognostic and prescriptive phenotyping, as well as guidance to investigators on phenotyping considerations.

To better provide the services you and your colleagues need to enhance the design and conduct of your research studies, we would like to know what we can do to improve, what services and offerings we should keep providing, and what new services you would like to have. We would love to hear from you!

[Please Click Here to Give Us Your Feedback.](#)

Additionally, we will continue asking for your feedback following presentations hosted by the CCCR, in order to regularly capture your perspectives about topics being covered, presentation formats, and selected speakers. Thanks for your candid feedback!

UNC CCCR Partners with UNC's Program for Precision Medicine in Healthcare (PPMH)

The CCCR has teamed up with UNC's Program for Precision Medicine in Health Care (PPMH)! The CCCR's Phenotyping and Precision Medicine Resource Core's director, Amanda Nelson, MD, MSCR, (shown on right) is on the Steering Committee for this new program.

The UNC PPMH's goal is to foster advancements in evidence-based precision medicine approaches to screening, prevention, diagnosis, and health management for North Carolinians in the UNC Health System and beyond. It is developing a program of clinical, research, and educational initiatives that will create a unique vision and roadmap for precision medicine within UNC's School of Medicine and UNC's Health System.

To learn more about UNC's PPMH, including upcoming events, please [visit their website.](#)



Upcoming Events

CCCR Events

6/30 at 9:30am: UNC CCCR Speaker Series Presentation – [Steve Marshall and Yvonne Golightly, Biomechanics and biomarkers associated with progression to osteoarthritis following knee injury](#)

8/4 at 10:30am: UNC CCCR Speaker Series Presentation – [Susan Sumner](#); Topic: [precision nutrition](#); Title to be determined

Aug/Sept: Collaborative CCCR Speaker Series Presentation - Speaker, title, and time to be determined

9/8 at 9:30am: UNC CCCR Speaker Series Presentation – [Prakash Jayakumar](#); title to be determined

Other Events

7/21 at 12pm: OA Action Alliance Lunch & Learn - [Nicholas Beresic, Evaluation of the "Holiday Walk With Ease" Campaign](#)

Reminders

Utilizing CCCR Statisticians

The CCCR's statisticians are here to assist with your statistical issues- planning, collection, analysis, interpretation, and dissemination.

Requesting CCCR Help/Services

To initiate the process of requesting information, data, and/or collaboration from UNC's CCCR, please click [here](#).

Joining the CCCR Listserv

Interested in getting the most up-to-date information about what is going on at the CCCR, including presentations, activities, conferences, etc.? Join the listserv by emailing us [here!](#)

Stakeholder Advisory Board (SAB)

Would you like to get feedback from patients about your project proposal, patient documents/resources, etc.? Meet with the SAB by emailing us [here!](#)

Member Spotlight– CCCR Junior Investigators

One of the aims of the CCCR is to provide mentoring for junior investigators looking to begin their careers in research. The CCCR is fortunate to have numerous junior investigators who are active members of the CCCR, all of whom are doing exciting and innovative work in their respective fields.



Sandra Soto, PhD, MPH

Assistant Professor, UNC School of Nursing
Adjunct Assistant Professor, Department of Health Behavior
University of North Carolina at Chapel Hill (UNC)

Dr. Soto's research focuses on the social influences of physical activity and dietary intake among Hispanic individuals. By incorporating Hispanic cultural values, Dr. Soto's research aims to develop effective behavioral modification interventions to prevent and manage chronic diseases including osteoarthritis.

She recently received an NIH K01 Grant to develop a dyadic physical activity intervention for Hispanics with osteoarthritis and their physical activity supporters. Findings will inform a randomized controlled trial via a future R01 to evaluate the efficacy of the optimized dyadic intervention package containing only "active" components.



Louise Thoma, PT, DPT, PhD

Assistant Professor, Division of Physical Therapy
Department of Allied Health Sciences
University of North Carolina at Chapel Hill (UNC)

Dr. Thoma's research interests include identifying and implementing strategies to improve long-term joint and general health after knee injury; optimizing rehabilitation and recovery after orthopedic injury and surgery; physical activity assessment and intervention during rehabilitation; and using large data sets to understand the long-term consequences of orthopedic injury on individuals, health systems, and society.

Dr. Thoma recently received an NIH K23 Grant to develop a model to investigate approaches to optimize the integration of rehabilitation into routine care for adults with rheumatoid arthritis.

Research Project Spotlight

Siyeon Kim, a graduate student in the UNC Department of Biostatistics (mentored by CCCR Resource Core Associate Director Dr. Michael Kosorok, and Methodology Core Co-Director Dr. Kelli Allen) submitted a manuscript based on her work presented at OARSI Connect 2021, entitled "Precision medicine-based machine learning analyses to explore optimal exercise therapies for individuals with knee osteoarthritis: Random Forest Informed Tree-Based Learning." This work developed and applied a new machine learning algorithm that effectively identified subgroups of patients, based on specific characteristics including body mass index and fear of movement, for whom physical therapy or internet-based exercise training was the optimal treatment. These results may help to guide tailoring of referrals to individualized exercise-based interventions for knee osteoarthritis.

Recent Publications and Grants

CCCR members are regularly publishing new and exciting findings, and are receiving funding for new projects to continue research in areas of great promise. (Names in **bold** are CCCR members.)

Selected Recent Publications

- Adam Goode, **Rebecca Cleveland**, Steven George, **Todd Schwartz**, Virginia Kraus, Jordan Renner, Richard Gracely, Louis DeFrate, **David Hu**, **Joanne Jordan**, **Yvonne Golightly**. Predictors of Lumbar Spine Degeneration and Low Back Pain in the Community: The Johnston County Osteoarthritis Project. *Arthritis Care Res (Hoboken)*. 2021 May 10. doi: 10.1002/acr.24643. Epub ahead of print. PMID: 33973412.
- 13 abstract presentations at the 2021 OARSI Conference
- **Leigh Callahan**, **Rebecca Cleveland**, **Kelli Allen**, **Yvonne Golightly**. Racial/Ethnic, Socioeconomic, and Geographic Disparities in the Epidemiology of Knee and Hip Osteoarthritis. *Rheum Dis Clin North Am*. 2021 Feb;47(1):1-20. doi: 10.1016/j.rdc.2020.09.001. Epub 2020 Oct 29. PMID: 34042049.
- Ayesha Jaleel, **Yvonne Golightly**, **Carolina Alvarez**, **Jordan Renner**, **Amanda E. Nelson**. Incidence and progression of ankle osteoarthritis: The Johnston County Osteoarthritis Project. *Semin Arthritis Rheum*. 2021 Feb;51(1):230-235. doi: 10.1016/j.semarthrit.2020.10.015. Epub 2020 Dec 21. PMID: 33385863; PMCID: PMC7902450.
- Jeffrey Katz, Katelyn Arant, **Richard Loeser**. Diagnosis and Treatment of Hip and Knee Osteoarthritis: A Review. *JAMA*. 2021 Feb 9;325(6):568-578. doi: 10.1001/jama.2020.22171. PMID: 33560326.
- **Katie Huffman**, Tina Thornhill, **Kirsten Ambrose**, **Amanda Nelson**, **Leigh Callahan**. Osteoarthritis and Its Management: What the Physician Assistant Needs to Know. *Physician Assistant Clinics*. 2020 October 29;6(1):23-40. doi: 10.1016/j.cpha.2020.08.003.

Recent Grants

- Effects of anterior cruciate ligament reconstruction on the association between quadriceps muscle dynamics, knee joint biomechanics, and articular cartilage loading during walking (NIH NSRA F31)
 - PI: Mandy Munsch (Advisors: **Brian Pietrosimone** and **Jason Franz**)
- Medical and Graduate Student Preceptorship (Rheumatology Research Foundation)
 - Medical Student: Marvin Jarquin (UNC SOM Class of 2024)
 - Mentors: **Sandra Soto** and **Leigh Callahan**
- Closing Practice Gaps in Dermatomyositis Malignancy Screening (Dermatology Foundation Career Development Award Program)
 - PI: Galen Foulke (Mentors: **Amanda Nelson** and **Beth Jonas**)
- Discovering New Therapeutics for Osteoarthritis (NC FastTraCS Grant Program)
 - PIs: **Richard Loeser** and Kenneth Pearce
- Macrophages as carriers for drug delivery in the prevention and treatment of Osteoarthritis (NC TraCS Pilot Grant Program)
 - PI: **Lara Longobardi**
- Preventing Posttraumatic Osteoarthritis with Physical Activity Promotion (NC TraCS Pilot Grant Program)
 - PIs: **Caroline Lisee** and **Brian Pietrosimone**
- Development of a Stakeholder Advisory Board for Patient Engagement in Lupus Research (NC TraCS Community and Stakeholder Engagement Program)
 - PIs: **Saira Sheikh** and **Tessa Englund**

Fun(knee) Corner



<https://hildabastian.net/>

Qualitative Research:



<https://lovestats.wordpress.com/dman/>

For more information, please contact us!



Website: www.med.unc.edu/tarc/research/cccr/