



Welcome to this month's edition of NEXtNet News. In addition to pertinent announcements, RFAs, and news stories, follow the exciting research advances of NEXtNet members and their investigative teams with links to recent findings.

NEXtNet News is prepared monthly by Jenny Martz, NEXtNet Coordinator. For future editions, please send relevant stories, articles, scientific publications, or announcements to [nextnet@uab.edu](mailto:nextnet@uab.edu).

## October 2016

### Announcements

- **UPDATED TELECONFERENCE SCHEDULE**
  - We are updating our NEXtNet Teleconference schedule. Teleconferences will now occur bi-monthly instead of monthly. The next teleconference will take place on **Tuesday, December 13, 2016** at 10am CST with Scott Trappe from Ball State University presenting. If you are interested in presenting on a future teleconference please email [nextnet@uab.edu](mailto:nextnet@uab.edu).
- Job Postings
  - Head, Department of Health and Kinesiology, Texas A&M University. Please see attached for full position announcement. Inquiries regarding the search can be directed to Search Committee Chair: Dr. J. Timothy Lightfoot ([TLightfoot@tamu.edu](mailto:TLightfoot@tamu.edu) or 979-845-8744).
  - Exercise Physiology Faculty Position, University of Michigan. Please see attached for full position description. For questions about the position, please contact Search Committee Chair: Dr. Greg Cartee ([gcartee@umich.edu](mailto:gcartee@umich.edu)).
- Changes in policy related to clinical trials
  - Policy on Funding Opportunity Announcement (FOA) for Clinical Trials ([NOT-OD-16-147](#)) National Institutes of Health
  - Policy on Good Clinical Practice Training for NIH Awardees Involved in NIH-funded Clinical Trials ([NOT-OD-16-148](#)) National Institutes of Health
  - NIH Policy on the Dissemination of NIH-Funded Clinical Trial Information ([NOT-OD-16-149](#)) National Institutes of Health

### Upcoming Meetings and Conferences

- [APS Intersociety Meeting: The Integrative Biology of Exercise VII](#) November 2-4, 2016, Phoenix, Arizona
- [BD2K Open Data Science Symposium](#) December 1, 2016, North Bethesda, Maryland
- [EIM Technology Think Tank](#) December 5-6, 2016, Atlanta, Georgia

### New Findings from NEXtNet Investigators

## **Aging**

- [Improved single muscle fiber quality in the oldest-old.](#)
- [COX Inhibitor Influence on Skeletal Muscle Fiber Size and Metabolic Adaptations to Resistance Exercise in Older Adults.](#)
- [Evaluating Exercise Prescription and Instructional Methods Used in Tai Chi Studies Aimed at Improving Balance in Older Adults: A Systematic Review.](#)

## **Cancer**

- [Novel mammographic image features differentiate between interval and screen-detected breast cancer: a case-case study.](#)
- [Insulin Resistance and Inflammation in Black Women with and without Breast Cancer: Cause for Concern.](#)
- [Exercise Recommendations for the Management of Symptoms Clusters Resulting From Cancer and Cancer Treatments.](#)

## **Cardiovascular**

- [Short-term effects of air temperature on plasma metabolite concentrations in patients undergoing cardiac catheterization.](#)
- [Medical Training to Achieve Competency in Lifestyle Counseling: An Essential Foundation for Prevention and Treatment of Cardiovascular Diseases and Other Chronic Medical Conditions: A Scientific Statement From the American Heart Association.](#)
- [Comparison of Approaches for Heart Failure Case Identification From Electronic Health Record Data.](#)
- [Dynamic Resistance Training as Stand-Alone Antihypertensive Lifestyle Therapy: A Meta-Analysis.](#)
- [Abnormal Central Pulsatile Hemodynamics in Adolescents With Obesity: Higher Aortic Forward Pressure Wave Amplitude Is Independently Associated With Greater Left Ventricular Mass.](#)
- [Exercise Test Performance Reveals Support of the Cardiorespiratory Fitness Hypothesis.](#)
- [Walking performance is positively correlated to calf muscle fiber size in peripheral artery disease subjects, but fibers show aberrant mitophagy: an observational study.](#)

## **Cell and Molecular Biology**

- [Mu-opioid receptor inhibition decreases voluntary wheel running in a dopamine-dependent manner in rats bred for high voluntary running.](#)
- [OPN- \$\alpha\$  induces muscle inflammation by increasing recruitment and activation of pro-inflammatory macrophages.](#)
- [Amino Acid Sensing in Skeletal Muscle.](#)

## **Exercise – Drug/Diet/Device/Disease/Surgery/Cultural Interactions**

- [Impact of Self-Preference Community Fitness Interventions in High-Risk African Americans.](#)
- [Fatigue: Where Did We Come from and How Did We Get Here?](#)
- [Association of passive and active smoking with pre-diabetes risk in a predominantly Hispanic population.](#)
- [Effects of Hydrolyzed Whey versus Other Whey Protein Supplements on the Physiological Response to 8 Weeks of Resistance Exercise in College-Aged Males.](#)

## **Metabolic**

- [Metabolic characterization of overweight and obese adults.](#)

## **Neuroscience and Stroke**

- [Acute effects on cognitive performance following bouts of standing and light-intensity physical activity in a simulated workplace environment.](#)
- [Multifocal repetitive TMS for motor and mood symptoms of Parkinson disease: A randomized trial.](#)

## **Pediatric**

- [Physical Activity and Its Correlates in Youth with Multiple Sclerosis.](#)

## Respiratory

- [Excess Postexercise Oxygen Consumption After High-Intensity and Sprint Interval Exercise, and Continuous Steady-State Exercise.](#)

## Additional New Findings

- [Physical exercise induces structural alterations in the hippocampal astrocytes: exploring the role of BDNF-TrkB signaling.](#)
- [Repeated Prolonged Exercise Decreases Maximal Fat Oxidation in Older Men.](#)
- [Exercise facilities for neurologically disabled populations - Perceptions from the fitness industry.](#)
- [Forkhead Box O3A \(FOXO3\) and the Mitochondrial Disulfide Relay Carrier \(CHCHD4\) Regulate p53 Nuclear Activity in Response to Exercise.](#)
- [Exercise and Transversus Abdominis Muscle Atrophy after 60 d Bed Rest.](#)
- [Does physical exercise improve quality of life of advanced cancer patients?](#)
- [Exercise cardiac power and the risk of coronary heart disease and cardiovascular mortality in men.](#)
- [Profile of patients with chronic obstructive pulmonary disease classified as physically active and inactive according to different thresholds of physical activity in daily life.](#)
- [Protective effect of alpha-lipoic acid, aerobic or resistance exercise from colitis in second hand smoke exposed young rats.](#)
- [The most effective factors to offset sarcopenia and obesity in the older Korean: Physical activity, vitamin D, and protein intake.](#)
- [Agreement between adherences to four physical activity recommendations in patients with COPD: Does the incremental shuttle walk test predict adherence?](#)
- [Physical activity does not inevitably improve quality of life in young adults with type 1 diabetes.](#)
- [Influence of aerobic exercise training on the neural correlates of motor learning in Parkinson's disease individuals.](#)
- [BDNF Responses in Healthy Older Persons to 35 Minutes of Physical Exercise, Cognitive Training, and Mindfulness: Associations with Working Memory Function.](#)
- [Erythrocyte nitric oxide availability and oxidative stress following exercise.](#)
- [Sarcopenia in daily practice: assessment and management.](#)
- [Impact of single anaerobic exercise on delayed activation of endothelial xanthine oxidase in men and women.](#)
- [Physical Activity, Endurance Exercise, and Excess-Can One Overdose?](#)
- [Effects of a Phase IV Home-Based Cardiac Rehabilitation Program on Cardiorespiratory Fitness and Physical Activity.](#)
- [Physical activity and obesity: what we know and what we need to know.](#)
- [Effects of Exercise on Insulin, IGF-axis, Adipocytokines, and Inflammatory Markers in Breast Cancer Survivors: A Systematic Review and Meta-Analysis.](#)
- [Discriminating Circulatory Problems from Deconditioning - Echocardiogram and Cardio-Pulmonary Exercise Test Analysis.](#)
- [Exercise and Movement-based Therapies in Geriatric Pain Management.](#)
- [Efficacy of High Dose Vitamin D Supplements for Elite Athletes.](#)
- [The Intriguing Role of Histamine in Exercise Responses.](#)
- [Exercise During Early Pregnancy is Associated With Greater Sleep Continuity.](#)
- [Exercise-stimulated glucose uptake - regulation and implications for glycaemic control.](#)
- [Factors Influencing the Efficacy of Aerobic Exercise for Improving Fitness and Walking Capacity After Stroke: A Meta-Analysis with Meta-Regression.](#)
- [Impact of different exercise programs on severe fatigue in patients undergoing anticancer treatment - a randomized controlled trial.](#)
- [Facilitators and barriers to exercise adherence in patients with osteopenia and osteoporosis: a systematic review.](#)
- [Exercise-induced inspiratory symptoms in school children.](#)

- [Nrf2 mediates redox adaptations to exercise.](#)
- [Acute Physical Exercise and Long-Term Individual Shear Rate Therapy Increase Telomerase Activity in Human Peripheral Blood Mononuclear Cells.](#)
- [Sedentary Time, Cardiorespiratory Fitness, and Cardiovascular Risk Factor Clustering in Older Adults--the Generation 100 Study.](#)
- [Effects of a 12-week aerobic exercise intervention on eating behaviour, food cravings, and 7-day energy intake and energy expenditure in inactive men.](#)
- [Are lower levels of cardiorespiratory fitness associated with incident depression? A systematic review of prospective cohort studies.](#)
- [Cardiorespiratory fitness levels and moderators in people with HIV: A systematic review and meta-analysis.](#)
- [Plasma kisspeptin and ghrelin levels are independently correlated with physical activity in patients with anorexia nervosa.](#)
- [Effect of heavy-intensity 'priming' exercise on oxygen uptake and muscle deoxygenation kinetics during moderate-intensity step-transitions initiated from an elevated work rate.](#)
- [Cardiovascular Disease Death Before Age 65 in 168 Countries Correlated Statistically with Biometrics, Socioeconomic Status, Tobacco, Gender, Exercise, Macronutrients, and Vitamin K.](#)
- [Clinical, histopathological and metabolic responses following exercise in Arabian horses with a history of exertional rhabdomyolysis.](#)

### RFAs / FOAs

- The NIH national Rehabilitation Research Resource to Enhance Clinical Trials ([REACT](#)), based at the University of Alabama at Birmingham (UAB), invites letters of intent for pilot studies that address novel scientific questions related to medical rehabilitation and that will lead to more definitive clinical trials. [2017 REACT Center Pilot Award Request for Applications](#)
- Pilot grant: The Alliance for Regenerative Rehabilitation Research & Training, [www.ar3t.pitt.edu](http://www.ar3t.pitt.edu), has established a pilot grant program, [www.ar3t.pitt.edu/pilot/pilot.html](http://www.ar3t.pitt.edu/pilot/pilot.html), to support creative, interdisciplinary regenerative rehabilitation pilot projects. Up to \$150,000 will be distributed during the 2017 funding cycle.
- Rehabilitation Research Career Development Programs (K12; [RFA-HD-17-021](#)) *Eunice Kennedy Shriver* National Institute of Child Health and Human Development.
- BRAIN Initiative: Research Career Enhancement Award for Investigators to Build Skills in a Cross-Disciplinary Area (K18; [RFA-DA-17-022](#))

### In the News

- [Stronger Muscles May Pump Up Your Memory](#)
- [Think it's cathartic to run angry? Think again](#)
- [Health Buzz: These Fitness Trends Will Rule 2017](#)
- [How Music Might Improve Your Workouts](#)
- [Stronger muscles lead to stronger brain](#)