



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.

February 2017

Announcements

- Teleconference
 - The next teleconference will take place on Tuesday, April 11, 2017 at 10am CST. If you are interested in presenting on this or a future teleconference please email nextnet@uab.edu.
- Job Posting
 - Postdoctoral positions at Pennington Biomedical Research Center, Baton Rouge, Louisiana. Please see attached for full description. For questions please contact: Dr. Amanda Staiano Amanda.Staiano@pbrc.edu or Dr. Peter Katzmarzyk Peter.Katzmarzyk@pbrc.edu.

Upcoming Meetings and Conferences

- [Translational Science 2017](#) April 19-21, 2017, Washington, D.C.
- [Experimental Biology 2017](#) April 22-26, 2017, Chicago, Illinois
- [ACSM Annual Meeting](#) May 30-June 3, 2017, Denver, Colorado
- [International Conference on Ambulatory Monitoring of Physical Activity and Movement](#) June 21-23, 2017, Bethesda, Maryland
- [APS Conference: Cardiovascular Aging, New Frontiers and Old Friends](#) August 11-14, 2017, Westminster, Colorado
- [APS Conference: Physiological Bioenergetics: Mitochondria from Bench to Bedside](#) August 27-30, 2017, San Diego, California

New Findings from NExTNet Investigators

Aging

- [Proceedings of the 2016 Santa Fe Bone Symposium: New Concepts in the Management of Osteoporosis and Metabolic Bone Diseases.](#)
- [Why intensity is not a bad word: Optimizing health status at any age.](#)
- [Carotid \$\beta\$ -stiffness Index is Associated with Slower Processing Speed but not Working Memory or White Matter](#)

[Integrity in Healthy Middle-Aged/Older Adults.](#)

Arthritis

- [Does a lack of physical activity explain the rheumatoid arthritis lipid profile?](#)
- [Molecular alterations in skeletal muscle in rheumatoid arthritis are related to disease activity, physical inactivity, and disability.](#)

Cancer

- [Longitudinal changes in volumetric breast density with tamoxifen and aromatase inhibitors.](#)
- [Altered Blood Flow Response to Small Muscle Mass Exercise in Cancer Survivors Treated With Adjuvant Therapy.](#)
- [Unsupervised exercise in survivors of human papillomavirus related head and neck cancer: how many can go it alone?](#)
- [The effect of exercise on body composition and bone mineral density in breast cancer survivors taking aromatase inhibitors.](#)
- [Minority Stress, Psychosocial Resources, and Psychological Distress Among Sexual Minority Breast Cancer Survivors.](#)
- [Social Support, Insomnia, and Adherence to Cognitive Behavioral Therapy for Insomnia After Cancer Treatment.](#)

Cardiovascular

- [Systematic Evaluation of Pleiotropy Identifies 6 Further Loci Associated With Coronary Artery Disease.](#)
- [Neural control of blood pressure in women: differences according to age.](#)
- [Effect of acute aerobic exercise and histamine receptor blockade on arterial stiffness in African Americans and Caucasians.](#)
- [Heritability of Vascular Structure and Function: A Parent-Child Study.](#)
- [The effect of Bikram yoga on endothelial function in young and middle-aged and older adults.](#)

Cell and Molecular Biology

- [Mechanisms of In Vivo Ribosome Maintenance Change in Response to Nutrient Signals.](#)

Exercise – Diet/Disease/Device/Cultural Interactions

- [Effects of Daily Physical Activity Level on Manual Wheelchair Propulsion Technique in Full-Time Manual Wheelchair Users during Steady State Treadmill Propulsion.](#)
- [Wrist-worn triaxial accelerometry predicts the energy expenditure of non-vigorous daily physical activities.](#)
- [An intervention to reduce sitting and increase light-intensity physical activity at work: Design and rationale of the 'Stand & Move at Work' group randomized trial.](#)
- [Exercise and trainability: contexts and consequences.](#)
- [Association of passive and active smoking with pre-diabetes risk in a predominantly Hispanic population.](#)
- [Randomized Controlled Trial Comparing Exercise to Health Education for Stimulant Use Disorder: Results From the CTN-0037 STimulant Reduction Intervention Using Dosed Exercise \(STRIDE\) Study.](#)
- [A high-fat, high-saturated fat diet decreases insulin sensitivity without changing intra-abdominal fat in weight-stable overweight and obese adults.](#)

Metabolic

- [Calorie Restriction-induced Weight Loss and Exercise Have Differential Effects on Skeletal Muscle Mitochondria Despite Similar Effects on Insulin Sensitivity.](#)
- [Exercise timing and blood lactate concentrations in individuals with type 2 diabetes.](#)
- [INSULIN TIMING - A PATIENT CENTERED APPROACH TO IMPROVE CONTROL IN TYPE 1 DIABETES.](#)
- [Plasma Irisin Modestly Increases during Moderate and High-Intensity Afternoon Exercise in Obese Females.](#)
- [Anxiety independently contributes to elevated inflammation in humans with obesity.](#)

Neuroscience and Stroke

- [Erratum: Resting-state connectivity biomarkers define neurophysiological subtypes of depression.](#)
- [Advancing the Neurophysiological Understanding of Delirium.](#)

- [Antidepressant Effect of Low-Frequency Right-Sided rTMS in Two Patients with Left Frontal Stroke.](#)
- [Finding the imposter: brain connectivity of lesions causing delusional misidentifications.](#)
- [Microbes and mental health: A review.](#)
- [Muscle fatigability and depressive symptoms in later life.](#)
- [Exercise is an effective treatment for positive valence symptoms in major depression.](#)

Pediatric

- [Relationship between Sedentariness and Moderate-to-Vigorous Physical Activity in Youth: A Multivariate Multilevel Study.](#)
- [A Genome-Wide Association Study Identifies Two Sex-specific Loci, at SPTB and IZUMO3, Influencing Pediatric Bone Mineral Density at Multiple Skeletal Sites.](#)
- [Does oral glutamine improve insulin sensitivity in adolescents with type 1 diabetes?](#)

Additional New Findings

- [Associations of Leisure-Time and Occupational Physical Activity and Cardiorespiratory Fitness With Incident and Recurrent Major Depressive Disorder, Depressive Symptoms, and Incident Anxiety in a General Population.](#)
- [Myoelectric Activity of the Quadriceps During Leg Press Exercise Performed With Differing Techniques.](#)
- [Exhaustive Exercise Alters Thinking Times in a Tower of London Task in a Time-Dependent Manner.](#)
- [A 12-Week Cycling Training Regimen Improves Gait and Executive Functions Concomitantly in People with Parkinson's Disease.](#)
- [Exercise management in type 1 diabetes: a consensus statement.](#)
- [The association between seven-day objectively measured habitual physical activity and 24h ambulatory blood pressure: the SABPA study.](#)
- [The Association Between Effective Dose of Magnesium and Mild Compulsive Exercise on Spatial Learning, Memory, and Motor Activity of Adult Male Rats.](#)
- [Behavior Change with Fitness Technology in Sedentary Adults: A Review of the Evidence for Increasing Physical Activity.](#)
- [Effects of physical activity on systemic oxidative/DNA status in breast cancer survivors.](#)
- [Older people's adherence to community-based group exercise programmes: a multiple-case study.](#)
- [Changes in leisure-time physical activity among Brazilian pregnant women: comparison between two birth cohort studies \(2004 - 2015\).](#)
- [Effect of aging on hypoxic exercise cardiorespiratory and muscle and cerebral oxygenation responses in healthy humans.](#)
- [Targeting functional fitness, hearing and health-related quality of life in older adults with hearing loss: Walk, Talk 'n' Listen, study protocol for a pilot randomized controlled trial.](#)
- [Get Healthy after Breast Cancer - examining the feasibility, acceptability and outcomes of referring breast cancer survivors to a general population telephone-delivered program targeting physical activity, healthy diet and weight loss.](#)
- [Contribution of neuroinflammation and immunity to brain aging and the mitigating effects of physical and cognitive interventions.](#)
- [A randomized clinical trial of exercise during pregnancy to prevent gestational diabetes mellitus and improve pregnancy outcome in overweight and obese pregnant women.](#)
- [Impact of resistance training on the autophagy-inflammation-apoptosis crosstalk in elderly subjects.](#)
- [Physical activity outside of organised sports is associated with functional performance.](#)
- [Resveratrol improves exercise performance and skeletal muscle oxidative capacity in heart failure.](#)
- [The beneficial effects of game-based exercise using age-appropriate tennis lessons on the executive functions of 6- to 12-year-old children.](#)
- [Long-term pulse wave velocity outcomes with aerobic and resistance training in kidney transplant recipients - A pilot randomised controlled trial.](#)
- [A 3-Month Aerobic Training Program Improves Brain Energy Metabolism in Mild Alzheimer's Disease: Preliminary Results from a Neuroimaging Study.](#)

- [Treadmill Exercise Exerts Neuroprotection and Regulates Microglial Polarization and Oxidative Stress in a Streptozotocin-Induced Rat Model of Sporadic Alzheimer's Disease.](#)
- [Physical activity levels and barriers to exercise referral among patients with cancer.](#)
- [Concurrent validity and cross-validation of the Brunel Lifestyle Physical Activity Questionnaire.](#)
- [Benefits of skeletal-muscle exercise training in pulmonary arterial hypertension: The WHOLEI+12 trial.](#)
- [Increasing Physical Activity Through Principles of Habit Formation in New Gym Members: a Randomized Controlled Trial.](#)
- [Assessing the Effects of Interpersonal and Intrapersonal Behavior Change Strategies on Physical Activity in Older Adults: a Factorial Experiment.](#)
- [Clinical Inquiry: Do pedometers increase activity and improve health outcomes?](#)
- [Frailty, Physical Activity, and Mobility in Patients With Cardiac Implantable Electrical Devices.](#)
- [An education programme influencing health professionals to recommend exercise to their type 2 diabetes patients - understanding the processes: a case study from Oxfordshire, UK.](#)
- [Differences in gut microbiota profile between women with active lifestyle and sedentary women.](#)
- [Naturally-occurring changes in social-cognitive factors modify change in physical activity during early adolescence.](#)
- [Modest amounts of voluntary exercise reduce pain- and stress-related outcomes in a rat model of persistent hind limb inflammation.](#)
- [The effect of acute and chronic exercise on cognitive function and academic performance in adolescents: A systematic review.](#)
- [Skin autofluorescence is associated with arterial stiffness and insulin level in endurance runners and healthy controls-Effects of aging and endurance exercise.](#)
- [Anti-fatigue effects of troxerutin on exercise endurance capacity, oxidative stress and MMP-9 levels in trained male rats.](#)
- [Formulation of evidence-based messages to promote the use of physical activity to prevent and manage Alzheimer's disease.](#)
- [Effects of Resistance Band Exercise on Vascular Activity and Fitness in Older Adults.](#)
- [The Relationship between Physical Activity and Plasma Glucose Level amongst Ellisras Rural Young Adult Males and Females: Ellisras Longitudinal Study.](#)
- [Role of chronic exercise on pelvic floor support and function.](#)
- [Towards photoplethysmography based estimation of instantaneous heart rate during physical activity.](#)
- [Forced Treadmill Exercise Prevents Spatial Memory Deficits in Aged Rats Probably Through the Activation of Na⁺/K⁺-ATPase in the Hippocampus.](#)
- [Physical activity-related differences in body mass index and patient-reported quality of life in socioculturally diverse endometrial cancer survivors.](#)
- [Factors influencing physical activity and rehabilitation in survivors of critical illness: a systematic review of quantitative and qualitative studies.](#)

RFA's / FOAs

- BRAIN Initiative: Research Career Enhancement Award for Investigators to Build Skills in a Cross-Disciplinary Area (K18; [RFA-DA-17-022](#))
- Research Innovations for Scientific Knowledge (RISK) for Musculoskeletal Diseases (R61/R33) [RFA-AR-17-009](#)
- NIMH Biobehavioral Research Awards for Innovative New Scientists (NIMH BRAINS) (R01) [RFA-MH-15-600](#)

In the News

- [Exercise shown to benefit pregnant women](#)
- [Exercise a Powerful Ally for Breast Cancer Survivors](#)
- [Post-Menopausal? Give Exercise a Try](#)
- [Wearable Fitness Devices Don't Seem to Make You More Fit](#)
- [Why Exercise Is Good for the Heart](#)