



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.

March 2016

Announcements

- Monthly NExTNet Teleconference – April 12, 2016 10am CST – Tom Buford (University of Florida) presenting. If you are interested in presenting on a future teleconference please email nextnet@uab.edu.
- Internship Opportunities
 - Duke University Integrated Health Sciences Internship Program <http://dmpi.duke.edu/center-living-internship>
 - UAB Center for Exercise Medicine <http://www.uab.edu/medicine/exercise/training-ed/125-training-ed/81-undergradinternship>
- Post-Doctoral Training Opportunities
 - University of Alabama at Birmingham (UAB) <http://www.uab.edu/medicine/exercise/ucem-postdoctoral-training-program>

Upcoming Meetings and Conferences

- NIH Office of Science Policy workshop [“NIH and the Science of Science and Innovation Policy”](#) April 7-8, 2016, Bethesda, MD
- [Rehabilitation Research at NIH: Moving the Field Forward](#) May 25-26, 2016, Bethesda, MD
- [ACSM Annual Meeting, World Congress on Exercise is Medicine and World Congress on The Basic Science of Energy Balance](#) May 31 - June 4, 2016, Boston, MA
- [Innovation Lab on Interdisciplinary Approaches to Biomedical Data Science Challenges of Wearable and/or Ambient Sensors](#) June 15-19, 2016, UCLA Lake Arrowhead Conference Center

New Findings from NExTNet Investigators

Aging

- [Effect of Statin Use on Mobility Disability and its Prevention in At-risk Older Adults: The LIFE Study.](#)
- [Reducing Sedentary Behavior Versus Increasing Moderate-to-Vigorous Intensity Physical Activity in Older Adults: A 12-Week Randomized, Clinical Trial.](#)
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Sensorimotor Peripheral Nerve Function and Physical Activity in Older Men.

Arthritis

- [The number of persons with symptomatic knee osteoarthritis in the United States: Impact of race/ethnicity, age, sex, and obesity.](#)

Cancer

- [A randomized phase II dose-response exercise trial among Colon Cancer Survivors: Purpose, Study Design, methods, and recruitment results.](#)
- [Lipoprotein subfractions by nuclear magnetic resonance are associated with tumor characteristics in breast cancer.](#)

Cardiovascular

- [Coding Variation in ANGPTL4, LPL, and SVEP1 and the Risk of Coronary Disease.](#)
- [Precision Medicine, Cardiovascular Disease and Hunting Elephants.](#)
- [An Exercise Counseling Intervention in Minority Adults with Heart Failure.](#)
- [Introduction to the American Heart Association's Hypertension Strategically Focused Research Network.](#)
- [Effects of high-intensity interval training on cardiometabolic risk factors in overweight/obese women.](#)
- [Are there perceptual differences to varying levels of blood flow restriction?](#)
- [Six-month changes in ideal cardiovascular health vs. Framingham 10-year coronary heart disease risk among young adults enrolled in a weight loss intervention.](#)
- [Arterial Stiffness of Lifelong Japanese Female Pearl Divers.](#)

Cell and Molecular Biology

- [Fibroblast Growth Factor 21 and Exercise-Induced Hepatic Mitochondrial Adaptations.](#)
- [The rigorous study of exercise adaptations: why mRNA might not be enough.](#)
- [Association of Plasma Small-Molecule Intermediate Metabolites With Age and Body Mass Index Across Six Diverse Study Populations.](#)

Exercise – Drug/Diet/Device/Surgery Interactions

- [The associations between physical activity, sedentary behaviour and academic performance.](#)
- [Safety of two-year caloric restriction in non-obese healthy individuals.](#)
- [Lifestyle Intervention for Sleep Disturbances Among Overweight or Obese Individuals.](#)
- [Dietary macronutrient distribution influences post-exercise substrate utilization in women: a cross-sectional evaluation of metabolic flexibility.](#)
- [Exercise training - A beneficial intervention in the treatment of alcohol use disorders?](#)

Metabolic

- [Excess postexercise oxygen consumption after high-intensity and sprint interval exercise, and continuous steady-state exercise.](#)
- [CrossTalk proposal: Intramyocellular ceramide accumulation does modulate insulin resistance.](#)
- [Rebuttal from Scott A. Summers and Bret H. Goodpaster.](#)
- [Synergistic inhibitory effects of hypoxia and iron deficiency on hepatic glucose response in mouse liver.](#)

Neuroscience

- [Enhancing the Temporal Complexity of Distributed Brain Networks with Patterned Cerebellar Stimulation.](#)
- [Multimodal Applications of Transcranial Magnetic Stimulation for Circuit-Based Psychiatry.](#)
- [Baseline medical comorbidities in adults randomized in the STRIDE trial for psychostimulant use disorders.](#)

Pediatric

- [Comparison of Obesity, Physical Activity, and Sedentary Behaviors Between Adolescents With Autism Spectrum Disorders and Without.](#)

Respiratory

- [Impaired Lung Mitochondrial Respiration Following Perinatal Nicotine Exposure in Rats.](#)
- [Reproducibility of blood oxygen level-dependent signal changes with end-tidal carbon dioxide alterations.](#)

Additional New Findings

- [Comparison of the Effectiveness of Transcutaneous Electrical Nerve Stimulation and Interferential Therapy on the Upper Trapezius in Myofascial Pain Syndrome: A Randomized Controlled Study.](#)
- [Barriers and Facilitators to Exercise Participation in People with Hip and/or Knee Osteoarthritis: Synthesis of the Literature Using Behavior Change Theory.](#)
- [Adherence to exercise referral schemes by participants - what do providers and commissioners need to know? A systematic review of barriers and facilitators.](#)
- [Moderators of intervention dose effects on diet quality and physical activity changes in a church-based, multicomponent, lifestyle study: Delta Body and Soul III.](#)
- [Dancing Participation and Cardiovascular Disease Mortality: A Pooled Analysis of 11 Population-Based British Cohorts.](#)
- [Rationale, design, and baseline findings from HIPP: A randomized controlled trial testing a home-based, individually-tailored physical activity print intervention for African American women in the deep south.](#)
- [Embedding Physical Activity in the Heart of the NHS: The Need for a Whole-System Approach.](#)
- [Validation of a wireless accelerometer network for energy expenditure measurement.](#)
- [Cognitive Benefits of Social Dancing and Walking in Old Age: The Dancing Mind Randomized Controlled Trial.](#)
- [Vitamin D3 Reduces Tissue Damage and Oxidative Stress Caused by Exhaustive Exercise.](#)
- [Physical activity in the prevention of coronary heart disease: implications for the clinician.](#)
- [Safety and efficacy of an early home-based walking program after receipt of an initial implantable cardioverter defibrillator \(ICD\).](#)
- [Identifying correlates and determinants of physical activity in youth: How can we advance the field?](#)
- [Physical activity estimated by the bone-specific physical activity questionnaire is also associated with cardiovascular risk.](#)
- [One-year trajectories of motivation and physical activity in persons with disabilities.](#)
- [Relationship Between Exercise Workload During Cardiac Rehabilitation and Outcomes in Patients With Coronary Heart Disease.](#)
- [Development, acceptability and efficacy of a standardized healthy lifestyle intervention in recurrent depression.](#)
- [Newer QT Correction Formulae to Correct QT for Heart Rate Changes During Exercise.](#)
- [Swimming training attenuates the morphological reorganization of the myocardium and local inflammation in the left ventricle of growing rats with untreated experimental diabetes.](#)
- [Practical Approaches to Prescribing Physical Activity and Monitoring Exercise Intensity.](#)
- [Mind-muscle connection revisited: do 100 studies about beanbag tossing, stick balancing, and dart throwing have any relevance for strength training?](#)
- [Quadrupedal movement training improves markers of cognition and joint repositioning.](#)
- [Age and gender related neuromuscular pattern during trunk flexion-extension in chronic low back pain patients.](#)
- [Motivation for Different Types and Doses of Exercise During Breast Cancer Chemotherapy: a Randomized Controlled Trial.](#)
- [Impacts of Physical Activity on the Obese.](#)
- [Functional performance, nutritional status, and body composition in ambulant community-dwelling individuals 1-3 years after suffering from a cerebral infarction or intracerebral bleeding.](#)
- [Voluntary Running Suppresses Tumor Growth through Epinephrine- and IL-6-Dependent NK Cell Mobilization and Redistribution.](#)
- [Dose-response relationship between sports activity and musculoskeletal pain in adolescents.](#)
- [Psychological distress leads to reduced physical activity and fitness in children: the Australian longitudinal LOOK study.](#)
- [Endurance training in early life results in long-term programming of heart mass in rats.](#)
- [The effect of 6 h of running on brain activity, mood, and cognitive performance.](#)

- [Demographic, clinical, psychosocial, and environmental correlates of objectively assessed physical activity among breast cancer survivors.](#)
- [Blunted angiogenesis and hypertrophy are associated with increased fatigue resistance and unchanged aerobic capacity in old overloaded mouse muscle.](#)
- [Physical Activity, Exercise Motivations, Depression, and Nonsuicidal Self-Injury in Youth.](#)
- [Measurement of Exercise Tolerance before Surgery \(METS\) study: a protocol for an international multicentre prospective cohort study of cardiopulmonary exercise testing prior to major non-cardiac surgery.](#)
- [Physical activity in advanced cancer patients: a systematic review protocol.](#)
- [Exercise prevents high-fat diet-induced impairment of flexible memory expression in the water maze and modulates adult hippocampal neurogenesis in mice.](#)
- [Role of physical activity, physical fitness, and chronic health conditions on the physical independence of community-dwelling older adults over a 5-year period.](#)
- [Impaired skeletal muscle vasodilation during exercise in heart failure with preserved ejection fraction.](#)
- [Acute and delayed response to resistance exercise leading or not leading to muscle failure.](#)
- [Dementia and Physical Activity \(DAPA\) - an exercise intervention to improve cognition in people with mild to moderate dementia: study protocol for a randomized controlled trial.](#)
- [Implications of light-intensity physical activity in improving health-related quality of life among congestive heart failure patients.](#)
- [Exercise-Induced Skeletal Muscle Adaptations Alter the Activity of Adipose Progenitor Cells.](#)
- [Validity of Consumer-Based Physical Activity Monitors for Specific Activity Types.](#)
- [Short term moderate intensive high volume training program provides aerobic endurance benefit in wheelchair basketball players.](#)
- [Exercise, Physical Activity, and Sedentary Behavior in the Treatment of Depression: Broadening the Scientific Perspectives and Clinical Opportunities.](#)
- [Exercise Performance and Corticospinal Excitability during Action Observation.](#)
- [Correlation between bone mineral density and serum trace elements in response to supervised aerobic training in older adults.](#)
- [Exercise-based cardiac rehabilitation increases daily physical activity of patients following myocardial infarction: subanalysis of two randomised controlled trials.](#)
- [A 31-day time to surgery compliant exercise training programme improves aerobic health in the elderly.](#)
- [The effect of open kinetic chain knee extensor resistance training at different training loads on anterior knee laxity in the uninjured.](#)
- [Prognostic value of cardiopulmonary exercise testing in heart failure with preserved ejection fraction. The Henry Ford Hospital CardioPulmonary EXercise Testing \(FIT-CPX\) project.](#)
- [INSPIRATORY MUSCLE PERFORMANCE IN ENDURANCE-TRAINED ELDERLY MALES DURING INCREMENTAL EXERCISE.](#)
- [Updating the Evidence for Physical Activity: Summative Reviews of the Epidemiological Evidence, Prevalence, and Interventions to Promote "Active Aging".](#)
- [Cerebral blood flow regulation, exercise and pregnancy: why should we care?](#)
- [Weight Management and Exercise for Cancer Survivors.](#)
- [In Healthy Young Men, a Short Exhaustive Exercise Alters the Oxidative Stress Only Slightly, Independent of the Actual Fitness.](#)
- [Relationships between maximal strength, muscle size, and myosin heavy chain isoform composition and postactivation potentiation.](#)

RFAs / FOAs

- Physical Activity and Weight Control Interventions Among Cancer Survivors: Effects on Biomarkers of Prognosis and Survival <https://grants.nih.gov/grants/guide/pa-files/PAR-16-122.html>
- Diet and Physical Activity Assessment Methodology (R01) <http://grants.nih.gov/grants/guide/pa-files/PAR-15-170.html>
- Diet and Physical Activity Assessment Methodology <http://grants.nih.gov/grants/guide/pa-files/PAR-15->

[171.html](#)

- Testing Interventions for Health-Enhancing Physical Activity (R01) <http://grants.nih.gov/grants/guide/pa-files/PA-14-315.html>
- School Nutrition and Physical Activity Policies, Obesogenic Behaviors, and Weight Outcomes (R21) <http://grants.nih.gov/grants/guide/pa-files/PA-13-098.html>
- School Nutrition and Physical Activity Policies, Obesogenic Behaviors and Weight Outcomes (R03) <http://grants.nih.gov/grants/guide/pa-files/PA-13-099.html>
- School Nutrition and Physical Activity Policies, Obesogenic Behaviors and Weight Outcomes (R01) <http://grants.nih.gov/grants/guide/pa-files/PA-13-100.html>
- [Children's Healthy Weight Collaborative Improvement and Innovation Network \(CoIIN\) \(HRSA-16-180\)](#)

In the News

- [Improving Patient Health through Physical Therapy-based Referrals – The PT-REFER Project](#)
- [School of Public Health launches research center in new Medicine is Exercise partnership](#)
- [Industry Giants Announce Unprecedented Marriage Between Health Care and Fitness; Potential Impact for Millions](#)
- [Exercise Keeps Your Brain Young, Study Finds](#)
- [Poor diet and lack of exercise accelerate the onset of age-related conditions in mice](#)