



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.

April 2016

Announcements

- Monthly NExTNet Teleconference – May 10, 2016 10am CST – Marcas Bamman (UAB) presenting. If you are interested in presenting on a future teleconference please email nextnet@uab.edu.
- The School of Medicine, School of Engineering and Applied Science, and Curry School of Education at the University of Virginia seek outstanding candidates for the tenure-eligible or tenured position of Assistant, Associate or Full Professor, held jointly in two of the three schools, with the rank being commensurate with experience level. The incumbent will establish new, independent, externally funded research programs that broaden current University efforts while building on existing strengths. Full job posting may be view [here](#). For additional information contact search committee co-chairs Donna Broshek, PhD at dkb6v@virginia.edu or Jeff Crandall, PhD at jrc2h@virginia.edu.

Upcoming Meetings and Conferences

- [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
- [Inaugural User Workshop, Health Measures](#) June 1-2, 2016, Hyatt Rosemont, Rosemont Illinois
- [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

- [The relationship between mitochondrial function and walking performance in older adults with a wide range of physical function.](#)
- [The Effect of Sex on Immune Cells in Healthy Aging: Elderly Women Have More Robust Natural Killer Lymphocytes than Do Elderly Men.](#)

Cancer

- [Race-based disparities in loss of functional independence after hysterectomy for uterine cancer.](#)

Cardiovascular

- [Prediabetes and Diabetes Are Associated With Arterial Stiffness in Older Adults: The ARIC Study.](#)
- [The influence of exercise load with and without different levels of blood flow restriction on acute changes in muscle thickness and lactate.](#)
- [Genetic Variants in the Bone Morphogenetic Protein Gene Family Modify the Association between Residential Exposure to Traffic and Peripheral Arterial Disease.](#)
- [Enhancing Cardiac Rehabilitation With Stress Management Training: A Randomized, Clinical Efficacy Trial.](#)
- [In-Hospital Diuretic Agent Use and Post-Discharge Clinical Outcomes in Patients Hospitalized for Worsening Heart Failure: Insights From the EVEREST Trial.](#)
- [Effects of aging and physical activity on blood pressure and endothelial function during acute inflammation.](#)
- [Differential Post-Exercise Blood Pressure Responses between Blacks and Caucasians.](#)

Cell and Molecular Biology

- [Heightened TWEAK-NF- \$\kappa\$ B signaling and inflammation-associated fibrosis in paralyzed muscles of men with chronic spinal cord injury.](#)

Exercise – Drug/Diet/Device/Disease/Surgery Interactions

- [Effect of Exercise Training on Striatal Dopamine D2/D3 Receptors in Methamphetamine Users during Behavioral Treatment.](#)
- [Effects of Vitamin D₃ Supplementation on Lean Mass, Muscle Strength, and Bone Mineral Density During Weight Loss: A Double-Blind Randomized Controlled Trial.](#)
- [Aerobic exercise training in the treatment of NAFLD related fibrosis.](#)
- [Examining the effect of binge eating and disinhibition on compensatory changes in energy balance following exercise among overweight and obese women.](#)

Metabolic

- [Glucose Testing for Adults Receiving Medicaid and Antipsychotics: A Population-Based Prescriber Survey on Behaviors, Attitudes, and Barriers.](#)

Neuroscience and Stroke

- [Quantifying sympathetic neuro-haemodynamic transduction at rest in humans: Insights into sex, ageing and blood pressure control.](#)
- [Resistance Training with Instability for Patients with Parkinson's Disease.](#)
- [Serum Brain-Derived Neurotrophic Factor Mediates the Relationship between Abdominal Adiposity and Executive Function in Middle Age.](#)
- [Eye Movement Desensitization and Reprocessing \(EMDR\) for DSM-5 Posttraumatic Stress Disorder \(PTSD\) in Adults With Intellectual disabilities: A Case Study Review.](#)
- [REMAP-a Resilience Resources Measure for Prediction and Management of Somatic Symptoms.](#)

Pediatric

- [Hemodynamic, Hematological, and Hormonal Responses to Submaximal Exercise in Normobaric Hypoxia in Pubescent Girls.](#)
- [The influence of friends and psychosocial factors on physical activity and screen time behavior in adolescents: a mixed-methods analysis.](#)

Respiratory

- [Reproducibility of Brachial Vascular Changes with Alterations in End-Tidal Carbon Dioxide.](#)
- [Pulmonary Vascular Congestion: A Mechanism for Distal Lung Unit Dysfunction in Obesity.](#)

Additional New Findings

- [The Impact of Social Category Diversity on Motivation Gains in Exercise Groups.](#)
- [The impact of endurance exercise on global and AMPK gene-specific DNA methylation.](#)
- [Circadian Phase-Shifting Effects of Bright Light, Exercise, and Bright Light + Exercise.](#)
- [AN ELECTROMYOGRAPHIC ANALYSIS OF THE SHOULDER COMPLEX MUSCULATURE WHILE PERFORMING EXERCISES USING THE BODYBLADE® CLASSIC AND BODYBLADE® PRO.](#)
- [COMPARISON OF TRUNK AND LOWER EXTREMITY MUSCLE ACTIVITY AMONG FOUR STATIONARY EQUIPMENT DEVICES: UPRIGHT BIKE, RECUMBENT BIKE, TREADMILL, AND ELLIPTIGO®.](#)
- [Physical exercise during muscle regeneration improves recovery of the slow/oxidative phenotype.](#)
- [Feasibility of a Memory Clinic-Based Physical Activity Prescription Program.](#)
- [The effect of vertical whole-body vibration on lower limb muscle activation in elderly adults: Influence of vibration frequency, amplitude and exercise.](#)
- [Hot flushes among aging women: A 4-year follow-up study to a randomised controlled exercise trial.](#)
- [Baduanjin Exercise Prevents post-Myocardial Infarction Left Ventricular Remodeling \(BE-PREMIER trial\): Design and Rationale of a Pragmatic Randomized Controlled Trial.](#)
- [Prediction of peak oxygen uptake in children using submaximal ratings of perceived exertion during treadmill exercise.](#)
- [Systematic dissemination of a preschool physical activity intervention to the control preschools.](#)
- [Real-time kinematic biofeedback improves scapulothoracic control and performance during scapular-focused exercises: A single-blind randomized controlled laboratory study.](#)
- [Overcoming barriers to exercise among parents: a social cognitive theory perspective.](#)
- [Sex-related differences in the wheel-running activity of mice decline with increasing age.](#)
- [Effects of velocity loss during resistance training on athletic performance, strength gains and muscle adaptations.](#)
- [Stress Testing After Complete and Successful Coronary Revascularization.](#)
- [Effects of the Novel Long-Acting GLP-1 Agonist, Albiglutide, on Cardiac Function, Cardiac Metabolism, and Exercise Capacity in Patients With Chronic Heart Failure and Reduced Ejection Fraction.](#)
- [During early to mid adolescence, moderate to vigorous physical activity is associated with restoring sleep, psychological functioning, mental toughness and male gender.](#)
- [Maternal exercise during pregnancy promotes physical activity in adult offspring.](#)
- [Specificity of testing in a cardiac rehabilitation setting resulting in a patient's return to high-intensity outdoor activity following aortic dissection repair.](#)
- [Spontaneous Physical Activity Downregulates Pax7 in Cancer Cachexia.](#)
- [Muscle Strength, Physical Activity, and Functional Limitations in Older Adults with Central Obesity.](#)
- [Effect of Motivation by "Instagram" on Adherence to Physical Activity among Female College Students.](#)
- [A Review of Smartphone Applications for Promoting Physical Activity.](#)
- [Physical activity levels and quality of life relate to collagen turnover and inflammation changes after running.](#)
- [The impact of exercise-induced core body temperature elevations on coagulation responses.](#)
- [The prevalence and clinical significance of premature ventricular beats in the athlete.](#)
- [A multicenter study on the relative effectiveness of a 12-week physical training program for adults with an oncologic diagnosis.](#)
- [Impacts of Supervised Exercise Training in Addition to Interdisciplinary Lifestyle Management in Subjects Awaiting Bariatric Surgery: a Randomized Controlled Study.](#)
- [Live high, train low - influence on resting and post-exercise hepcidin levels.](#)
- [The development and validation of using inertial sensors to monitor postural change in resistance exercise.](#)
- [Effects of intrinsic aerobic capacity, aging and voluntary running on skeletal muscle sirtuins and heat shock proteins.](#)
- [Exploring non-participation in primary care physical activity interventions: PACE-UP trial interview findings.](#)
- [Physical activity, and physical activity related to sports, leisure and occupational activity as risk factors for ALS: a systematic review.](#)
- [Tocotrienols and Whey Protein Isolates Substantially Increase Exercise Endurance Capacity in Diet -Induced Obese Male Sprague-Dawley Rats.](#)

- [Physical Functioning After 1, 3, and 5 Years of Exercise Among People With Parkinson's Disease: A Longitudinal Observational Study.](#)
- [Physical activity increases survival after heart valve surgery.](#)
- [Cerebellar sub-divisions differ in exercise-induced plasticity of noradrenergic axons and in their association with resilience to activity-based anorexia.](#)
- [Diet and Physical Activity Apps: Perceived Effectiveness by App Users.](#)
- [Decline in physical activity during adolescence is not associated with changes in mental health.](#)
- [Interventions to improve real-world walking after stroke: A systematic review and meta-analysis.](#)
- [Effects of moderate and vigorous physical activity on fitness and body composition.](#)
- [Effect of Regular Yoga Practice on Respiratory Regulation and Exercise Performance.](#)
- [Lifelong Physical Activity and Cardiovascular Autonomic Function in Midlife.](#)
- [Effect of exercise therapy on neuromuscular activity and knee strength in female adolescents with patellofemoral pain-An ancillary analysis of a cluster randomized trial.](#)
- [Activation of mTORC1 by leucine is potentiated by branched chain amino acids and even more so by essential amino acids following resistance exercise.](#)
- [NAP SACC UK: protocol for a feasibility cluster randomised controlled trial in nurseries and at home to increase physical activity and healthy eating in children aged 2-4 years.](#)
- [Participant-selected music and physical activity in older adults following cardiac rehabilitation: A randomized controlled trial.](#)
- [Effects of Low-Level Laser Therapy Applied Before Treadmill Training on Recovery of Injured Skeletal Muscle in Wistar Rats.](#)
- [Post-exercise depression following submaximal and maximal isometric voluntary contraction.](#)
- [Six-minute walk test in systemic sclerosis: A systematic review and meta-analysis.](#)
- [Gait coordination impairment is associated with mobility in older adults.](#)
- [Targeting specific interstitial glycemic parameters with high-intensity interval exercise and fasted-state exercise in type 2 diabetes.](#)
- [The effects of creatine supplementation on thermoregulation and physical \(cognitive\) performance: a review and future prospects.](#)
- [Effects of exercise training and resveratrol on vascular health in aging.](#)
- [Exercise-stimulated FGF23 promotes exercise performance via controlling the excess reactive oxygen species production and enhancing mitochondrial function in skeletal muscle.](#)
- [Effect of broccoli extract enriched diet on liver cholesterol oxidation in rats subjected to exhaustive exercise.](#)
- ["FIND Technology": investigating the feasibility, efficacy and safety of controller-free interactive digital rehabilitation technology in an inpatient stroke population: study protocol for a randomized controlled trial.](#)
- [Combined Oral Contraceptives Increase High-Sensitivity C-Reactive Protein but Not Haptoglobin in Female Athletes.](#)
- [Muscle Immobilization Activates Mitophagy and Disrupts Mitochondrial Dynamics in Mice.](#)
- [Write, draw, show, and tell: a child-centred dual methodology to explore perceptions of out-of-school physical activity.](#)
- [Slowed response to peripheral visual stimuli during strenuous exercise.](#)
- [Impact of physical activity, ageing, obesity and metabolic syndrome on muscle microvascular perfusion and endothelial metabolism.](#)
- [Relationship between sport and physical activity and alcohol consumption among adolescents students in Murcia \(Spain\).](#)
- [Correction: Feeling of Pleasure to High-Intensity Interval Exercise Is Dependent of the Number of Work Bouts and Physical Activity Status.](#)
- [Effect of maximal-intensity exercise on systemic nitro-oxidative stress in men and women.](#)
- [Effects of combined physical education and nutritional programs on schoolchildren's healthy habits.](#)
- [Older Adults' Experiences Using a Commercially Available Monitor to Self-Track Their Physical Activity.](#)

- 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 <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/PAR-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 \(CollIN\) \(HRSA-16-180\)](#)

In the News

- [1 Minute of All-Out Exercise May Have Benefits of 45 Minutes of Moderate Exertion](#)
- [Physical activity can help lead to a happy, healthier pregnancy](#)
- [UB research suggests good genes work best with healthy choices](#)
- [Higher muscle mass associated with lower mortality risk in people with heart disease](#)
- [Adding exercise to health education helps treat addiction, say UCLA researchers](#)
- [A Fitbit Saved His Life? Well, Maybe](#)
- [May is FIM Month](#)