



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).

## April 2017

### Announcements

- **Request for clinical trials info and teleconference presenters**
  - As part of NExTNet's effort to facilitate multi-site clinical trials we provide opportunities for member institutions to present their research, interests, and capabilities to help identify collaborative possibilities. The bi-monthly teleconference is one such opportunity. If you would be interested in having your institution highlighted during one of these calls please email [nextnet@uab.edu](mailto:nextnet@uab.edu) for more information.
  - Investigators with current multi-site clinical trials are also invited to submit their trials for listing on the NExTNet website (<http://www.uab.edu/medicine/nextnet/clinical-trials>)
- **Teleconference Schedule**
  - The next teleconference will take place on Tuesday, June 13, 2017 at 10am CST.

### Upcoming Meetings and Conferences

- [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

- [Effects of Exercise and Aging on Skeletal Muscle.](#)
- [Hippocampal hypometabolism in older adults with memory complaints and increased amyloid burden.](#)
- [Impact of early personal-history characteristics on the Pace of Aging: implications for clinical trials of therapies to slow aging and extend healthspan.](#)

- [Dose-dependent decrease in mortality with no cognitive or muscle function improvements due to dietary EGCG supplementation in aged mice.](#)
- [Changing Sex Hormones Represent a Cardiovascular Disadvantage for Aging Women.](#)

#### **Cancer**

- [Changes in arm tissue composition with slowly progressive weight-lifting among women with breast cancer-related lymphedema.](#)
- [Mammographic Density Change With Estrogen and Progestin Therapy and Breast Cancer Risk.](#)

#### **Cardiovascular**

- [Sex- and Race-Related Differences in Characteristics and Outcomes of Hospitalizations for Heart Failure With Preserved Ejection Fraction.](#)
- [ANGPTL3 Deficiency and Protection Against Coronary Artery Disease.](#)
- [Exercise Training in Patients With Chronic Heart Failure and Atrial Fibrillation.](#)
- [A genome-wide trans-ethnic interaction study links the PIGR-FCAMR locus to coronary atherosclerosis via interactions between genetic variants and residential exposure to traffic.](#)
- [Therapeutic Cardiorespiratory Fitness to Prevent and Treat Heart Failure.](#)
- [Subacute pyridostigmine exposure increases heart rate recovery and cardiac parasympathetic tone in rats.](#)
- [Small Sample Sizes Confound Understanding of Cardiometabolic Responses to Exercise.](#)
- [Prior exercise and standing as strategies to circumvent sitting-induced leg endothelial dysfunction.](#)
- [Brachial blood flow under relative levels of blood flow restriction is decreased in a nonlinear fashion.](#)

#### **Cell and Molecular Biology**

- [DNA methylation assessment from human slow- and fast-twitch skeletal muscle fibers.](#)
- [Hematopoietic-to-mesenchymal transition of adipose tissue macrophages is regulated by integrin  \$\beta 1\$  and fabricated fibrin matrices.](#)
- [Methodological issues limit interpretation of negative effects of satellite cell depletion on adult muscle hypertrophy.](#)

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

- [Ergogenic properties of metformin in simulated high altitude.](#)
- [Supplementing an energy adequate, higher-protein diet with protein does not enhance fat-free mass restoration after short-term severe negative energy balance.](#)
- [Modeling the shape and composition of the human body using dual energy X-ray absorptiometry images.](#)
- [Should postmenopausal women eat more protein? Or do the elite just exercise and eat better?](#)
- [Automated Insulin Delivery-The Light at the End of the Tunnel.](#)
- [Self-reported health and safety awareness improves prediction of level of care needs in Veterans discharged from a post-acute unit.](#)
- [Accuracy and Reliability of Assessing Lateral Compartmental Leg Composition Using Dual-Energy X-ray Absorptiometry.](#)
- [Physiological Changes Following Competition in Male and Female Physique Athletes: A Pilot Study.](#)
- [The Steps Model: A Practical Tool for Engaging Communities to Improve Health Outcomes.](#)
- [HIV infection does not prevent the metabolic benefits of diet-induced weight loss in women with obesity.](#)
- [Yoga for Health: Considerations beyond Energy Cost and Isolated Asanas \(Poses\).](#)

#### **Metabolic**

- [Effect of exercise timing on elevated postprandial glucose levels.](#)
- [Innovative approaches to weight loss in a high-risk population: The small changes and lasting effects \(SCALE\) trial.](#)
- [The metabolic fate of isotopically labeled trimethylamine-N-oxide \(TMAO\) in humans.](#)
- [Relative contribution of type 1 and type 2 diabetes loci to the genetic etiology of adult-onset, non-insulin-requiring autoimmune diabetes.](#)

- [Energy Expenditure in Vinyasa Yoga versus Walking.](#)
- [Association of gene coding variation and resting metabolic rate in a multi-ethnic sample of children and adults.](#)

### Neuroscience and Stroke

- [Modulation of motor cortex excitability predicts antidepressant response to prefrontal cortex repetitive transcranial magnetic stimulation.](#)
- [Memory self-awareness in the preclinical and prodromal stages of Alzheimer's disease.](#)
- [Factors Associated With Ambulatory Activity in De Novo Parkinson Disease.](#)
- [Common data elements for clinical research in mitochondrial disease: a National Institute for Neurological Disorders and Stroke project.](#)
- [Abdominal obesity and white matter microstructure in midlife.](#)
- [Isotemporal Analysis of the Association of Objectively Measured Physical Activity With Depressive Symptoms: Results from Hispanic Community Health Study/Study of Latinos \(HCHS/SOL\).](#)

### Pediatric

- [Step Tracking with Goals Increases Children's Weight Loss in Behavioral Intervention.](#)

### Additional New Findings

- [Accuracy of a step counter during treadmill and daily life walking by healthy adults and patients with cardiac disease.](#)
- [Selection for high aerobic capacity has no protective effect against obesity in laboratory mice.](#)
- [Prevalence of Metabolically Healthy but Overweight/Obese Phenotype and Its Association With Sedentary Time, Physical Activity, and Fitness.](#)
- [Can Graduated Compressive Stockings Reduce Muscle Activity During Running?](#)
- [Effect of a 6-Week Active Play Intervention on Fundamental Movement Skill Competence of Preschool Children.](#)
- [Electrical Activity of Powerhouse Muscles During the Teaser Exercise of Pilates Using Different Types of Apparatus.](#)
- [Lower limb stress fractures in sport: Optimising their management and outcome.](#)
- [The Role of Autonomous and Controlled Motivation in Exercise Intentions of Participants in a Mass Cycling Event.](#)
- [Exercise-Induced Fitness Changes Correlate with Changes in Neural Specificity in Older Adults.](#)
- [Exercise affects biological characteristics of mesenchymal stromal cells derived from bone marrow and adipose tissue.](#)
- [The effect of acute maximal exercise on postexercise hemodynamics and central arterial stiffness in obese and normal-weight individuals.](#)
- [Electrical and structural adaptations of the paediatric athlete's heart: a systematic review with meta-analysis.](#)
- [Protective effects of different exercise modalities in an Alzheimer's disease-like model.](#)
- [Relation Between Estimated Cardiorespiratory Fitness and Atrial Fibrillation \(from the Reasons for Geographic and Racial Differences in Stroke Study\).](#)
- [Long-term effect of smartphone-delivered Interval Walking Training on physical activity in patients with type 2 diabetes: protocol for a parallel group single-blinded randomised controlled trial.](#)
- [Association of Exercise and Metabolic Equivalent of Task \(MET\) Score with Survival Outcomes after Out-of-Hospital Cardiac Arrest of Young and Middle Age.](#)
- [Reference standards for body fat measures using GE dual energy x-ray absorptiometry in Caucasian adults.](#)
- [Sedentary Behavior and Health: Broadening the Knowledge Base and Strengthening the Science.](#)
- [The role of sensory augmentation for people with vestibular deficits: Real-time balance aid and/or rehabilitation device?](#)
- [Dietary Micro-Periodization in Elite Female and Male Runners and Race-Walkers During a Block of High Intensity Pre-Competition Training.](#)
- ["Metabolic and cardiovascular response to exercise in patients with type 1 diabetes".](#)
- [Effects of a Physical Activity Program on Cardiorespiratory Fitness and Pulmonary Function in Obese Women](#)

after Bariatric Surgery: a Pilot Study.

- [Exercise for Multimorbid Patients in Primary Care: One Prescription for All?](#)
- [Cardiorespiratory fitness, physical activity and cancer mortality in men.](#)
- [How do you exercise with epilepsy? Insights into the barriers and adaptations to successfully exercise with epilepsy.](#)
- [Prehabilitation for the Frail Patient Approaching ESRD.](#)
- [The Effects of Physical Activity on Health and Quality of Life in Adolescent Cancer Survivors: A Systematic Review.](#)
- [Long-Term Maintenance of Executive-Related Oculomotor Improvements in Older Adults with Self-Reported Cognitive Complaints Following a 24-Week Multiple Modality Exercise Program.](#)
- [Exercise Prescriptions in Older Adults.](#)
- [WittyFit-Live Your Work Differently: Study Protocol for a Workplace-Delivered Health Promotion.](#)
- [Moderate exercise based on artificial gravity preserves orthostatic tolerance and exercise capacity during short-term head-down bed rest.](#)
- [Institutionalized physical activity curriculum benefits of medical students in Colombia.](#)
- [Barriers and enablers of physical activity engagement for patients with COPD in primary care.](#)
- [The level of effort, rather than muscle exercise intensity determines strength gain following a six-week training.](#)
- [Investigation on acute effects of enzyme replacement therapy and influence of clinical severity on physiological variables related to exercise tolerance in patients with late onset Pompe disease.](#)
- [Sex difference in the heat shock response to high external load resistance training in older humans.](#)
- [Managing anthelmintic resistance in \*Parascaris\* spp.: A modelling exercise.](#)
- [Medical students' perceptions of the importance of exercise and their perceived competence in prescribing exercise to older people.](#)
- [Comparison of human erythrocyte purine nucleotide metabolism and blood purine and pyrimidine degradation product concentrations before and after acute exercise in trained and sedentary subjects.](#)
- [Effects of Exercise on Vascular Function, Structure, and Health in Humans.](#)
- [Aerobic exercise promotes executive functions and impacts functional neural activity among older adults with vascular cognitive impairment.](#)
- [Effect of physical exercise and acute escitalopram on the excitability of brain monoamine neurons: in vivo electrophysiological study in rats.](#)
- [Photobiomodulation therapy associated with treadmill training in the oxidative stress in a collagen-induced arthritis model.](#)
- [Sarcopenia, cachexia, and muscle performance in heart failure: Review update 2016.](#)

## RFAs / FOAs

- NIH Director's Transformative Research Awards (R01) [RFA-RM-17-007](#)
- Coordinating Center for Claude D. Pepper Older Americans Independence Centers (U24) [RFA-AG-18-008](#)
- Paul B Beeson Emerging Leaders Career Development Award in Aging (K76) [RFA-AG-18-006](#)
- Translational Outcomes Project in Neurotrauma (TOP-NT) (UG3/UH3) [RFA-NS-17-023](#)
- 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-18-200](#)

## In the News

- [How to Motivate Yourself to Get Out of Bed and Work Out](#)
- [Mid-Life Exercise Could Jog Your Memory](#)
- [Running May Be Socially Contagious](#)
- [An Hour of Running May Add 7 Hours to Your Life](#)
- [Study shows that cycling to work could cut risk of cancer by 45 percent](#)
- [Strength Training Might Help Prevent Seniors' Falls](#)