CAENRA

- Founded: 2008
- Headquarter: Sandels Building office #406
- Laboratory: Sandels suite 100
- Director: Bahram H. Arjmandi
- Associate Director: Dr. J. Kim
CAENRA

• Short-term goal:
  • Develop unified effort to investigate disease of aging among existing research initiatives and generate the necessary pilot data for obtaining federal funding

• Long-term goal:
  • Build on core expertise to establish a multidisciplinary center with its mission being the development of translational research across disciplines and levels of biological organization to improve human health through nutrition and exercise, independently and interactively
Purpose of CAENRA

• Bring together a multidisciplinary team of researchers already individually studying aspects of degeneration in skeletal, muscular and neuronal systems with the goal of evaluating the etiology of progressive diseases and their treatments

• Incorporate high field MR techniques in evaluating chronic diseases both *in vivo* and *ex vivo*

• Generate pilot data necessary to garner external funding from federal, state, industrial and private resources to extend the team building and competitiveness of this effort on a national stage
Aging & Age-Related Disorders

- Muscle
- Bone
- Brain
Levenson & Schepkin

NIH RFA (R01) Combination Therapies

- PROG TRH
- PROG Vita D
- Caloric Restr

Translational Research Center FSU/TMH

- Clinical
- Basic

Malignant Glioma

Schepkin Funded R21 5R21CA119177

- Tumor Implant
- Treatment & Imaging

Cathy Levenson, PhD – FSU/NFES
Jacob VanLandingham – FSU/COM
Victor Schepkin – FSU/NHMFL
Donald Stein, PhD – Emory Univ

J. VanLandingham, PhD
Gerry Maitland, MD
Cathy Levenson, PhD
Myra Hurt, PhD
Paul Fortunas, CEO TMH Foundation
Using MR Technology to Study Sarcopenia (Kim and Grant)

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<tr>
<td><strong>Strength</strong></td>
<td>21.1 tesla</td>
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<tr>
<td><strong>Cost</strong></td>
<td>$16 million</td>
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<tr>
<td><strong>Weight</strong></td>
<td>36,287 kg (40 tons)</td>
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<tr>
<td><strong>Height</strong></td>
<td>4.7 meters (15 feet, 6 inches)</td>
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<td><strong>Length of superconducting cable</strong></td>
<td>153 km (95 miles)</td>
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Figure 13: Schematic diagram of the mouse apparatus and the active evacuation system (figure is not drawn in scale)
Sagittal (left) and axial (right) cross sectional views of 1H 3D GRE images of C57 mouse leg acquired in vivo at 11.75T with isotropic resolution of 100 µm. FOV= 2.30×1.05×0.64 cm, TE/TR= 5/100 ms
Whole Body & Functional Assessments (Kim and Grant)