Select Recent Scientific Publications

Location/Facilities
USARIEM is co-located with Soldier Systems Center in Natick, Massachusetts. Located a short distance from Boston, the institute offers researchers its own unique facilities and is in close proximity to many of the finest universities.

Unique Facilities
Climatic Rooms (-10 to 50°C)
Immersion Lab (5 to 41°C)
Hypobaric Chambers (9,000 m; -15 to 40°C)
Doriot Climatic Facility (-57 to 74°C)
Pikes Peak Laboratory (4,300m)
Physiology / Biochemistry & Molecular Laboratories

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United States Army Research Institute of Environmental Medicine
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USARIEM is the Department of Defense lead laboratory for Operational Medicine and is organized into four research divisions: Biophysics and Biomedical Modeling, Military Performance, Military Nutrition, and Thermal & Mountain Medicine.

Thermal & Mountain Medicine Division conducts research to sustain and enhance performance (physical and cognitive) and minimize medical problems associated with military operations at environmental extremes (heat, cold & high terrestrial altitude). In addition, research supports military materiel developers of clothing, equipment, food and pharmaceuticals.

Research Areas

**Heat Stress**
- Acquired Thermal Tolerance
- Heat Acclimatization
- Fluid & Electrolyte Requirements
- Human Performance
- Exposure Guidelines
- Heat Strain of Clothing & Equipment
- Microclimate Cooling
- Predict & Prevent Heat Casualties

**Cold Stress**
- Cold Acclimatization
- Thermoregulatory Fatigue
- Exposure Guidelines
- Nutritional Supplements
- Dexterity
- Clothing Insulation
- Microclimate Heating
- Predict & Prevent Cold Injuries

**High Altitude**
- Altitude Acclimatization
- Hypoxic Preconditioning
- Human Performance
- Exposure Guidelines
- Nutritional Supplements for High-Altitude Operations
- Predict & Prevent Mountain Sickness

**Pathophysiology**
- Heat Injury / Stroke
- Hypothermia
- Cellular Protection
- Molecular Biomarkers
- Signaling Pathways
- Gene Expression

**Military Guidance Publications**

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