



## WORKING AT NAMRU-DAYTON

We are a nationally recognized employer of choice which emphasizes professional and personal development, teamwork and work-family balance for all its employees. The result of our policies is a collection of exceptionally motivated and capable scientists, technicians and support staff all devoted to one thing: outstanding research. In recognition of our flexible and employee-centric policies, NAMRU-Dayton is a recipient of the prestigious When Work Works Award for excellence in workplace effectiveness and flexibility.

If you are seeking employment at Naval Medical Research Unit Dayton, consult USAJOBS.gov or contact our Human Resources Office at (937) 938-3914.



# Naval Medical Research Unit Dayton



## MEET THE NAMRU-DAYTON PROFESSIONALS

Our scientists bring to the table a powerful array of expertise covering a broad range of topics. We have doctorate and master's trained professionals in the following areas:

- Aerospace & Occupational Medicine
- Biochemistry
- Biomedical Engineering
- Biology
- Chemical Engineering
- Clinical Psychology
- Cognitive Experimental Psychology
- Cognitive Neuroscience
- Cognitive Psychology
- Cognitive Psychophysiology
- Chemistry
- Differential Psychology
- Environmental Engineering
- Environmental Toxicology
- Experimental Psychology
- Exercise Physiology
- Health & Physical Education
- Human Factors Psychology
- Industrial & Organizational Psychology
- Industrial and Systems Engineering
- Kinesiology
- Microbiology
- Molecular Biology
- Neuroscience
- Physics
- Physiology
- Public Health
- Toxicology
- Vision Sciences
- Zoology in Molecular Genetics

## NAMRU-Dayton



### Delivering solutions

- ★ To the Field
- ★ To the Fleet
- ★ For the Future

Our co-location with the Air Force's 711th Human Performance Wing at Wright-Patterson Air Force Base facilitates direct collaboration and allows us to leverage their extensive research capabilities. As a result, **NAMRU-Dayton is the one-stop research lab for answering your aerospace medical and environmental health scientific questions.**

Naval Medical Research Unit Dayton  
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[www.med.navy.mil/sites/nmrc/Dayton/](http://www.med.navy.mil/sites/nmrc/Dayton/)

@NavalMedicalResearchUnitDayton

# Naval Medical Research Unit Dayton

DELIVERING SOLUTIONS  
TO THE FIELD,  
TO THE FLEET,  
AND FOR THE FUTURE



## ENVIRONMENTAL HEALTH EFFECTS LABORATORY

The Environmental Health Effects Laboratory (EHEL) assesses potential health effects associated with exposure to various environmental stressors our military encounters, such as physical stressors and chemical and material hazards. EHEL uses *in vitro* and *in vivo* systems for exposure, conducts risk assessments using *in silico* modeling, and evaluates cytotoxicity, mutagenicity, genotoxicity, and underlying mechanisms of action. Our state-of-the-science exposure systems determine potential health impacts of various exposures and routes of exposure. Our expertise in evaluating inhaled toxins enables precise testing using whole-body and nose-only inhalation chambers. EHEL evaluates the effects of exposure from multiple standpoints. EHEL can replicate and assess health impacts of most environments: hyperbaria in diving and in flight, sandstorms, flight line noise, submarine breathing atmosphere, and the multitude of chemicals used in military operations. The ultimate objective is to develop health protective exposure standards for our military and civilian populations.

### Core Capabilities

- In vivo exposures
- In vitro exposures
- Determinations of health effects of exposure;
  - General/gross tissue changes
  - Clinical assessments
  - Ex vivo tissue analysis
  - Hearing testing
  - Microbiological/microbiome alterations
  - Pulmonary assessments
  - Chemical and analytical testing
  - Cognitive and behavioral testing
  - Neurophysiology evaluation
- Risk assessment

### Core Science Facilities

- Access to Accredited Animal facility with necropsy, surgical and histology capabilities (AAALAC)
- Animal Inhalation Exposure Unit (largest within DoD)
- Analytical Laboratory
- Clinical Laboratory
- Cell Culture and Molecular Biology Facilities
- Neurobehavioral and neurophysiology Laboratories



## NAVAL AEROSPACE MEDICAL RESEARCH LABORATORY

The Naval Aerospace Medical Research Laboratory (NAMRL) is equipped with capabilities in acceleration and sensory science, biomedical, and engineering and technical services, all of which are supported by a unique collection of state-of-the-science research devices. NAMRL's human-rated motion platforms include the disorientation research device – the Kraken™, the Visual Vestibular Sphere Device, the Vertical Linear Accelerator and the Neuro-Otologic test Center. Each device has unique motion profiles, affording independent control of visual and vestibular stimuli to isolate sensory interactions associated with spatial disorientation and motion sickness. The altitude effects program can operate up to six Reduced Oxygen Breathing Device, each of which can simulate altitude exposures at up to 34k' under normobaric conditions. NAMRL's vision suite has a full array of ophthalmic equipment. Our unique research portfolio enables NAMRU-D to transition validated knowledge and effective technologies to the fleet, mitigating and preventing leading factors associated with aeromedical mishaps.

### Core Capabilities

- Altitude effects
- Fatigue assessment and mitigation
- Acceleration and motion effects
- Motion sickness countermeasures
- Spatial disorientation mitigation
- Aircrew neck/back pain & injury
- Vision standards & performance
- Aviation personnel selection testing (manned & unmanned)
- En route care

### Core Science Facilities

- Disorientation Research Device: The Kraken™
- Visual-vestibular Sphere Device
- Vertical Linear Accelerator
- Motion Sickness Rotator (Barany Chair)
- Human centrifuge (via USAF)
- Spatial Disorientation simulator labs (2)
- Sleep Lab
- Hypoxia Lab (6 Reduced Oxygen Breathing Device (ROBD), Reduced Oxygen Breathing Environment (ROBE))
- Small hypobaric/environmental chambers
- Laser effects and performance lab
- Mixed reality simulation lab
- In-Flight HMD research
- Motion capture biodynamics laboratory
- Physical performance lab



## WORKING WITH NAMRU-DAYTON

NAMRU-Dayton participates in a wide variety of collaborative efforts with military, government, academic and civilian research organizations. Our goal is to achieve the customer's research objectives in a cost-effective, expeditious and professional manner. We have the capability of conducting benchtop, animal and human research as well as our own Institutional Review Board (IRB) to monitor our human research protocols.



### PUBLIC AFFAIRS

Ms. Megan Mundersbach,  
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If you are interested in more information about collaborating with us, please contact the relevant Director or our Public Affairs Officer.

### SCIENCE DIRECTORS

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