

NSF ERC ILO

BioBook



Last updated: 8 January 2021

Subject Matter Expert List

Module	Module Type	Subject Matter Experts
First Orientation Call	Required	Mentor and Mentee Call
ILO Role within ERC	Required	Adam Curry Tom Dudley Peter Keeling
IAB Management	Required	Tom Dudley Peter Keeling Chris Finberg Scott Ransom Cynthia Sundell
IP & Tech Transfer	Required	Ernest Davis Tom Dudley Cynthia Sundell
Site Visit & Annual Report	Required	Kara Baker Tom Dudley Carolyn Yeago
Entrepreneurship	Elective	Tom Dudley Schaffer Grim Peter Keeling Cynthia Sundell
Marketing & Communications	Elective	Tom Dudley Wayne Gillam (CNT)
Diversity & Inclusion	Elective	Trisha Belfry Teresa Chapman other experts from ERCs
Sustainability	Elective	Peter Keeling Scott Ransom

Electives are based on ILO's background.

Energy, Sustainability, & Infrastructure



ERC PROFILE

Lead Institution:
Stanford University, Stanford, CA

Core Partner Institutions:
University of California Berkeley,
Berkeley, CA

Colorado School of Mines, Golden,
CO

New Mexico State University, Las
Cruces, NM

Center Domain:
Energy, Sustainability, and
Infrastructure

ERC Cohort:
Year 9; GEN3

CONTACT

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ERC WEBSITE:
<http://renuwit.org/>

KARA BAKER

R e N U W I t



WORK EXPERIENCE

Years at the ERC

Began working as the Research & Industrial Liaison Officer (RILO) with ReNUWIt in Fall 2018.

Previous Relevant Experience

Worked for two years as the Food-Water Security Program Manager in the Stanford School of Earth, Energy and Environmental Sciences. In that role, I coordinated grant proposals that often included industry partners as well as field work alongside industry partners.

Expertise

- ILO Role within ERC
- IAB Management
- Site Visit & Annual Report
- Diversity & Inclusion

Responsibilities at Your ERC

- Newsletter
- Website
- Annual Report
- Research program administration
- Perfect Pitch coach
- Student/postdoc research video competition

Topic of Specialty

water resources, wastewater, water reuse, urban infrastructure, stormwater management, resilience, resource recovery, green infrastructure, Sustainable Groundwater Management Act (SGMA), NEPA/CEQA

EDUCATION

B.A. Environmental Sciences and Political Science, Northwestern University
M.S. Environmental Engineering, Stanford University



ERC PROFILE

Lead Institution:

Rice University – Houston, Texas

Core Partner Institutions:

Arizona State Univ. – Tempe, AZ
Univ. of Texas at El Paso – El Paso, TX
Yale Univ. – New Haven, CT

Center Domain:

Nanotechnology-enabled treatment
of drinking and industrial waste waters

ERC Cohort:

Year 5, Gen-3

CONTACT

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ERNEST DAVIS

NEWT



WORK EXPERIENCE

Years at the ERC

Five years, since center's inception

Previous Relevant Experience

University Technology Transfer – Cornell U., Rice U.
University Spinout COO – Widetronix, Inc.
Program Management – IBM
New Product Introduction - IBM

Expertise

- ILO Role within ERC; IAB Management; IP and Tech Transfer; Site Visit & Annual Report; Entrepreneurship; Marketing and Communications

Responsibilities in ERC

- Industry/Practitioner Membership Program; Technology Commercialization; Entrepreneurship; Membership Program Marketing

ERC Specialty Areas

Drinking water treatment, industrial wastewater treatment and reuse, low energy desalination, multifunctional nanomaterials for removing priority pollutants, scaling and fouling control, nanomaterial selection and design for safety & sustainability

EDUCATION

M.S., Management – North Carolina State University
B.S., Mechanical Engineering – North Carolina State University



ERC PROFILE

Lead Institution:
NC State University, Raleigh, NC

Core Partner Institutions:
Florida State, Tallahassee, FL
Florida A&M, Tallahassee, FL
Missouri S&T, Rolla, MO
Arizona State University, Tempe, AZ

Center Domain:
Energy/Infrastructure

ERC Cohort: GEN3

CONTACT

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KEN DULANEY

FREEDM Systems Center



WORK EXPERIENCE

Years at the ERC: 5

Previous Relevant Experience

I worked in energy efficiency prior to FREEDM and knew many of the companies and electric utilities engaged with the Center. And when my previous employer was a member, I was our representative to FREEDM. I had no experience with intellectual property or entrepreneurship and limited understanding of power electronics and power systems.

Expertise

- IAB Management
- IP and Tech Transfer
- Site Visit & Annual Report
- Entrepreneurship
- Marketing and Communications

Responsibilities at Your ERC

- communications
- newsletter
- website
- technology commercialization
- entrepreneurship
- testing services
- annual research symposium
- conference booth

Topic of Specialty

Power electronics and power systems, wide bandgap semiconductors, microgrid controls

EDUCATION

BS, Physics, Furman University
BME, Mechanical Engineering, Georgia Tech
MS, Mechanical Engineering, University of Texas at Austin



ERC PROFILE

Lead Institution:

Purdue University, West Lafayette, IN

Core Partner Institutions:

Northwestern University, Evanston, IL

University New Mexico, Albuquerque, NM

University Notre Dame, South Bend, IN

University of Texas at Austin, Austin, TX

Center Domain: Energy/Infrastructure

ERC Cohort: CISTAR Year 3; GEN3
CBiRC Year 12; GEN3

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<https://cistar.us/>

PETER KEELING

CISTAR & CBiRC



WORK EXPERIENCE

Years at the ERC

- 2 years CISTAR - focused on developing innovative process designs to responsibly realize the sustainable potential of light hydrocarbons as an energy-rich resource.
- 10 years CBiRC - focused on developing innovative process designs to responsibly realize the potential of biomass as a renewable carbon-rich resource.

Previous Relevant Experience

Prior to being with the ERC program I spent 25 years working in industry and startup companies. I was often in a management role developing strong collaborations with universities.

Expertise

- ILO Role within ERC; IAB Management; IP and Tech Transfer; Site Visit & Annual Report; Entrepreneurship; Marketing and Communications; Diversity & Inclusion; Sustainability

Responsibilities at Your ERC

- Primary role: work closely with ERC Director; member of the ERC Leadership Team; recruiting and retaining Industry Members; Annual Report; technology commercialization;
- Secondary role: directing ERC efforts on social media; communications; newsletter; website; entrepreneurship;

Topics of Specialty

Specialized in the life sciences, biotechnology, chemistry and their applications in global sustainability. Has more than thirty years of management experience in industry and academia with a broad understanding of biological and chemical engineering.

Has a career goal of identifying and developing innovative new technologies that add value to the world through responsible and sustainable management of new technologies emerging in the life sciences, bioproducts and energy sectors.

EDUCATION

BSc. Applied Biology, University of Hertfordshire, UK
PhD. Biochemistry and Toxicology, CNA and University of Surrey, UK



Quantum Energy and Sustainable Solar Technologies

An NSF-DOE Engineering Research Center

JOHN MITCHELL

QESST ERC



ERC PROFILE

Lead Institution:
Arizona State University

Core Partner Institutions:
MIT
Caltech
Georgia Tech
University of Delaware
University of Houston
University of Arizona
University of New Mexico

Center Domain:
Photovoltaics

ERC Cohort:
Year 9; GEN3

CONTACT

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ERC WEBSITE:
Qesst.org

WORK EXPERIENCE

Years at the ERC

Started at QESST during the proposal phase and we are in year nine.

Expertise

- ILO Role within ERC
- IAB Management
- IP and Tech Transfer
- Site Visit & Annual Report
- Entrepreneurship
- Marketing and Communications
- Sustainability
- Perfect Pitch coach (Two-time winner)

Responsibilities at Your ERC

- social media; communications; newsletter; website; Annual Report; technology commercialization; entrepreneurship; student mentoring through the IAB, managing ERC alumni relations

Topic of Specialty

Solar Energy and Policy

EDUCATION

B.S. Computer Science, Northeastern Illinois
MBA Kellogg, Northwestern University

Biotechnology and Health Care



ADAM CURRY

ASSIST Center



ERC PROFILE

Lead Institution:
NC State University, Raleigh, NC

Core Partner Institutions:
University of Virginia, Charlottesville,
VA

Penn State University, University Park,
PA

Florida International University, Miami,
FL

Center Domain: Biotech and Health

ERC Cohort: Year 8, GEN3

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assistcenter.org

WORK EXPERIENCE

Years at the ERC

Joined ASSIST in Nov 2018

Previous Relevant Experience

Previous experience was in scientific research in industry

Expertise

- List the SME categories relevant to you (select from list below):
 - o ILO Role within ERC; IP and Tech Transfer; Entrepreneurship

Responsibilities at Your ERC

- List the responsibilities appropriate for you:
 - o Annual Report; Technology commercialization; Entrepreneurship; Recruiting; Industry-sponsored research

Topic of Specialty

Wearable devices, Smart devices, IoT, Medical devices and instrumentation, Energy harvesting

EDUCATION

B.S. Mechanical Engineering, NCSU

M.S. Mechanical Engineering, NCSU

Ph.D. Biomedical Engineering, Duke University



CELL-MET

ERC PROFILE

Lead Institution:
Boston University, Boston, MA

Core Partner Institutions:
University of Michigan, Ann Arbor, MI

Florida International Univ., Miami, FL

Other Academic Partners:
Harvard University, Cambridge, MA

Columbia University, New York, NY

Center Domain: Biotech and Health

ERC Cohort: Year 9; GEN3

CONTACT

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THOMAS DUDLEY



WORK EXPERIENCE

Years at CELL-MET: 3 years

Previous Relevant Experience

- Nearly 40 years high technology business experience
- Senior Management positions at Small Business Enterprises through Global large cap corporations
- Board and Advisory Board Directorships
- Managing Director of NSF Industry/University Cooperative Research Center (I/UCRC)

Expertise

- IP Management and Tech Transfer
- Business Development
- Workforce Development & Entrepreneurship
- Organizational and Communication skills as ERC's ILO

Responsibilities at Your ERC

- Marketing, Promotion and IPAB Recruitment
- Managing Seed Project Process
- Student Mentoring
- IPAB Management
- Proposal Creation and Editing
- Reporting

Topic of Specialty

- Bio-materials
- Nano-structures and additive nano-manufacturing
- Cell & tissue engineering
- Cellular imaging
- Optogenetics

EDUCATION

B.S., Marine Engineering, U.S. Naval Academy

MBA, Saint Joseph's University



ERC PROFILE

Lead Institution:

Texas A & M, College Station, TX

Core Partner Institutions:

University California Los Angeles, LA,
CA

Rice University, Houston, TX

Florida International University, Miami,
FL

Center Domain: Biotech and Health

ERC Cohort: est. 2017; GEN3

CONTACT

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CHRIS FINBERG

PATHS-UP



WORK EXPERIENCE

Years at the ERC

Started Nov 2018 (1.5 years)

Previous Relevant Experience

Direct from Industry – Class III Medical Devices

Expertise

- o IAB Management – Prospecting and Account Management

Responsibilities at Your ERC

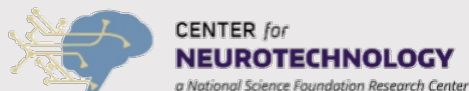
- o social media; communications; website; Annual Report; technology commercialization; entrepreneurship, Start-ups, Innovation Programs, IP Management, Industry Trends

Topic of Specialty

Point of Care (POC) Medical Devices for Cardiovascular Diseases and Diabetes. Multiplex Assay Development, Diagnostic Biomarkers, Nanoparticles, Photo Sensors, Wearables, Implantable, Semiconductor Electronics, Flex circuitry, Computational Imaging - Deep Learning, Data Analytics, Behavioral Modifications

EDUCATION

B.S. Mechanical Engineering University of Minnesota



ERC PROFILE

Lead Institution:
University of Washington, Seattle, WA

Core Partner Institutions:
Massachusetts Institute of Technology,
Boston, MA

San Diego State University, San Diego,
CA

California Institute of Technology,
Pasadena, CA

Center Domain: Biotech and Health

ERC Cohort: Year 10; GEN3

CONTACT

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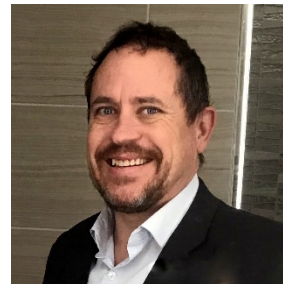
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www.centerforneurotech.org

SCOTT RANSOM

Center for Neurotechnology



WORK EXPERIENCE

Years at the ERC

Joined center in 2015, in my 6th year as ILO for CNT.

Previous Relevant Experience

Prior to CNT I worked at Medtronic, the world's largest medical device manufacturer, for nearly 20 years. A range of roles including Field Clinical Engineering, managing and leading teams globally in clinical and education roles across heart failure, tachyarrhythmia and ablation businesses. Designed and developed new medical technology.

Expertise

ILO Role within ERC; IAB Management; IP and Tech Transfer; Site Visit & Annual Report; Entrepreneurship; Marketing and Communications; Sustainability

Responsibilities at Your ERC

Technology commercialization; Entrepreneurship; Quarterly IAB Meetings; Project Coordination; Fundraising; Retreat and Industry Day coordination; Newsletter; School Visits, Neural Engineering faculty at UW

Topic of Specialty

Medical Device Design, Neural Engineering, Cardiac Anatomy & Physiology; Start-ups; Prototyping; Biomimetic Robotics; Education (Androgogy); Training & Performance Improvement; History of Science & Physics; Certified ROI Practitioner

EDUCATION

B.S. Electrical Engineering, Illinois Institute of Technology

M.S. Electrical Engineering (Biomedical Emphasis), Illinois Institute of Technology

Ph.D. Education (Specialty in T&PI), Capella University

Certificate in Post-Secondary Education

Microelectronics, Sensing, & Information Technology



ERC PROFILE

Lead Institution:
University of Massachusetts, Amherst

Core Partner Institutions:
Colorado State University, Fort Collins,
CO

University of Oklahoma, Norman, OK

University of Puerto Rico, Mayaguez,
PR

Center Domain:
Microelectronics and IT

ERC Cohort: GEN2, graduated in 2013

CONTACT

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<http://www.casa.umass.edu>

APOORVA BAJAJ

ERC for Collaborative
Adaptive Sensing of the
Atmosphere (CASA)



WORK EXPERIENCE

Years at the ERC

Fifteen years, continued as the Innovation Manager for the self-sustaining, graduated center.

Previous Relevant Experience

Radar engineer prior to joining the ERC. Took a three-year break from the ERC to get an MBA, work as an intern at the Technology Transfer Office and as a New Product Manager for a multi-national company.

Expertise

- ILO Role within ERC
- IAB Management
- IP and Tech Transfer
- Site Visit & Annual Report
- Entrepreneurship
- Marketing and Communications
- Sustainability

Responsibilities at Your ERC

- Social media
- Communications
- Website
- Annual Report
- Technology commercialization
- Entrepreneurship

Topic of Specialty

Severe weather, radar systems, sensor networks, urban infrastructure, stormwater management, drones, public-private partnerships

EDUCATION

B.E. Electronics Engineering, Mumbai University

M.S. Electrical & Computer Engineering, University of Massachusetts, Amherst

M.B.A Technology Management & Innovation, University of Massachusetts, Amherst



ERC PROFILE

Lead Institution:
University of Illinois, Urbana-
Champaign, IL

Core Partner Institutions:
University of Arkansas, Fayetteville, AR

Stanford University, Stanford, CA

Howard University, Washington D.C.

Center Domain: Microelectronics,
Sensing, and IT

ERC Cohort: Year 5, GEN3

CONTACT

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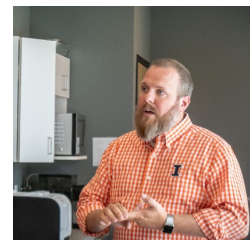
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OWEN DOYLE

POETS – Power Optimization of Electro-Thermal
Systems



WORK EXPERIENCE

Years at the ERC

Started with POETS in the ILO role, February 2020.

Previous Relevant Experience

Just recently took on an academic facing role after spending the majority of my career on the corporate side, specifically within the electric utility industry. Over the last 5 years, I established and grew the Ameren Innovation Center at the University of Illinois' Research Park which utilizes a diverse, multi-disciplinary, award winning team of full-time employees and part-time student interns to deliver actionable results in the areas of analytics, application development, and emerging technology research.

Expertise

- ILO Role within ERC
- IPAB Management
- IP and Tech Transfer
- Annual Meeting

Responsibilities at Your ERC

- IPAB Website
- Support Annual Reporting
- Annual Meeting
- Support Innovation Ecosystem

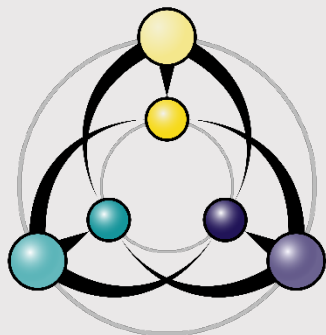
Topic of Specialty

Power generation, transmission and distribution, project management, workforce development, organizational behavior, leadership

EDUCATION

B.S. Electrical Engineering, University of Illinois

MBA University of New Hampshire



ERC PROFILE

Lead Institution:
Univ. of California, Los Angeles, CA

Core Partner Institutions:
Univ. of California Berkeley, CA

Cal. State Univ. of Northridge, CA

Univ. of Texas, Dallas, TX

Northeastern Univ., MA

Cornell Univ., NY

Center Domain: Microelectronics,
Sensing, and Information Technology

ERC Cohort: GEN-3, 2012

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SCHAFER GRIMM

Center for Translational Applications of Nanoscale Multifunctional Systems (TANMS)



WORK EXPERIENCE

Years at the ERC: 2 Years

Previous Relevant Experience

- Spent 11 years at Northrop Grumman (an IAB member) so familiar with Aerospace and Defense
- Previous role at UCLA was to help PIs create startup companies based on IP. Therefore, familiar with:
 - Entrepreneurship
 - Pitch presentations
 - Intellectual Property

Expertise

- Entrepreneurship
- IP and Tech Transfer

Responsibilities at Your ERC

- Annual Report
- Technology Commercialization
- Entrepreneurship
- IAB Management

Topic of Specialty

Leveraging Multifunctional material and modeling development for use in the following applications:

- Antennas – reducing the size by 100x
- Memory devices – reducing the power requirements by 1000x
- Cell Sorting – providing high throughput yet individual temporal assessment and classification

EDUCATION

B.A. and B.S. Electrical Engineering, Univ. of San Diego, CA

M.S. Electrical Engineering, Univ. of Southern California, CA

M.B.A, Anderson School of Management, Univ. of California, Los Angeles, CA

Advanced Manufacturing

ERIK SANDER

ERC for Particle Science and Technology (PERC)



ERC PROFILE

Lead Institution:
University of Florida, Gainesville, FL

Core Partner Institutions:
N/A

Center Domain:
Advanced Manufacturing

ERC Cohort:
1994; GEN2

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WORK EXPERIENCE

Years at the ERC

Served as the Associate Director for Industrial Collaboration and Technology Transfer with the ERC for Particle Science and Technology 1997-2004. Subsequently (2004-present) provide consultation and support to NSF ERC Program Office (e.g. member of 28 Site Visit Teams) and directly to 20+ ERCs in industrial collaboration, innovation, entrepreneurship, and technology transfer. Authored ERC Best Practices Manual Chapter on Industrial Collaboration and Innovation.

Previous Relevant Experience

Created and led UF College of Engineering Industry Programs Office, Engineering Innovation Institute, and Florida Engineering Experiment Station, encompassing all outreach functions of the UF College of Engineering.

Expertise

- ILO Role within ERC; IAB Management; IP and Tech Transfer; Site Visit & Annual Report; Entrepreneurship and Innovation; Marketing and Communications; Sustainability

Responsibilities at Your ERC

- Industrial partnership recruitment and retention; Contracts and grants; Communications; Annual Report; Technology commercialization; Innovation and entrepreneurship; Sustainability

Topic of Specialty

Advanced particle science and technology including production, processing and applications.

EDUCATION

B.S. Mechanical Engineering, University of Florida

M.S. Management of Technology (Cum Laude), University of Alabama-Huntsville



ERC PROFILE

Lead Institution:
Georgia Institute of Technology,
Atlanta, GA

Core Partner Institutions:
University of Georgia, Athens, GA

University of Wisconsin, Madison, WI

University of Puerto Rico Mayaguez, PR

Center Domain: Advanced
Manufacturing; Biotech and Health

ERC Cohort: Year 3; GEN3

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CYNTHIA SUNDELL

Center for Cell Manufacturing Technologies (CMaT)



WORK EXPERIENCE

Years at the ERC

3 years

Previous Relevant Experience

15+ years life science executive management, drug discovery and clinical development strategies; University tech transfer and startup cultivation, entrepreneurship education, university- academia collaboration

Expertise

- ILO Role within ERC; IPAB Management; IP and Tech Transfer; Entrepreneurship; Sustainability

Responsibilities at Your ERC

- Industry recruitment and engagement, annual report preparation, site visit presentations, technology commercialization, entrepreneurship education, IPAB management, Head commercialization advisory board

Topic of Specialty

- biomanufacturing, drug discovery and clinical development, industry-academia collaboration, entrepreneurship education, university technology commercialization

EDUCATION

B.A., Biology, Douglass College, Rutgers University

Ph.D., Biology, University of Pennsylvania
