Large Federal Funding Centers and Grants

Lewis-Burke Associates LLC
May 2018
About Lewis-Burke

• Founded in 1992; located in Washington, DC
• In 2018, twenty-eight policy experts with range of expertise/backgrounds allow multi-layered issue teams with deep expertise in agencies and scientific/higher education areas
• Support federal relations activities to develop and implement federal strategies to pursue, shape, and create new sources of funding to increase and diversify research portfolio
• Able to engage on multiple levels:
  - Individual faculty (including early career faculty)
  - Teams of faculty
  - Associate Deans for Research
  - Deans and Center Directors
  - University leadership and campus-wide priorities/activities
National Science Foundation (NSF)

- FY 2018 Omnibus provided $300 million increase
- 10 BIG Ideas: several DCLs and Solicitations in the past few months
  - opportunities for “center-scale” efforts to teams with truly multi-disciplinary approaches and participated in early planning
- Midscale Research
- 2 New Convergence Accelerators in FY 19:
  - Future of Work at the Human-Technology Frontier $30M
  - Harnessing the Data Revolution $30M
- Engineering Research Centers
  - OPEN ERC planning grants: run for up to 1 yr, due June 2018. Full ERC solicitation expected to released end of calendar year 2018, following the conclusion of an internal working group. Funding will vary, traditionally $20 million for a five-year award
  - NEW model 4 foundational components: research, workforce development, innovation ecosystem, culture of inclusion and 3 layers of impact: engineering community, scientific enterprise, society; [Focus on societal problems rather than engineering systems]
- Science Technology Centers
  - Next solicitation is due to be released early in FY 2019 to make awards in FY 2020 or 2021: Not expected that the solicitation be restricted to Big Ideas, they are expected to feature strongly in proposals. Total funding is around $20 million for a five-year award
- Materials Research Science & Engineering Centers
  - Next competition expected to be released early in 2019: Individual awards are $2.2 million - $4 million per year for up to six years
<table>
<thead>
<tr>
<th>Big Ideas</th>
<th>Opportunities</th>
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<tbody>
<tr>
<td>Harnessing the Data Revolution</td>
<td>TRIPODS + X: Research, Visioning, Education Tracks: 5/29 deadline</td>
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<td>DCL Data-Driven Discovery in Science in Chemistry: CHE deadlines</td>
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<td>The Future of Work at the Human-Technology Frontier</td>
<td>Future of Work at the Human - Technology Frontier: Advancing Cognitive and Physical Capabilities (FW-HTF): 6/4 deadline (full prop)</td>
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<td>Navigating the New Arctic</td>
<td>DCL Navigating the New Arctic: FY 18 funding 5/1 deadline</td>
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<td>Windows on the Universe: The Era of Multi-Messenger Astrophysics</td>
<td>DCL Enabling Quantum Leap: Transformational Advances in Quantum Systems: 5/1 deadline</td>
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<td>The Quantum Leap: Leading the Next Quantum Revolution</td>
<td>DCL Rules of Life (RoL) Forecasting and Emergence in Living Systems (FELS) Program: Conference proposals due 6/1</td>
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<td>Understanding the Rules of Life: Predicting Phenotype</td>
<td>DCL Design and Engineering of Synthetic Cells+ Cell Components 5/17 deadline</td>
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<td>Mid-scale Research Infrastructure</td>
<td>RFI—current and future investments for mid-scale investment</td>
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<td>NSF 2026: Seeding Innovation</td>
<td>DCL Growing Convergence Research: FY 18 funding 5/1 deadline</td>
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<td>Growing Convergence Research at NSF</td>
<td>FY 19: 2 Accelerators in Human Technology Frontier and Harnessing the Data Revolution</td>
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<td>NSF INCLUDES (Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science): Enhancing STEM through Diversity and Inclusion</td>
<td>INCLUDES Alliances</td>
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# NSF: Existing ERC and STC

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<td>Center for Engineering MechanoBiology (CEMB)</td>
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<td>Science and Technology Center on Real-Time Functional Imaging (STROBE)</td>
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**Current Opportunity - Planning Grants for Engineering Research Centers (ERC)**

- Cell Manufacturing Technologies (CMaT) - 10/01/2017
- Bio-mediated and Bio-inspired Geotechnics (CBBG) - 08/01/2015
- Power Optimization for Electro-Thermal Systems (POETS) - 08/01/2015
- Center for Translational Applications of Nanoscale Multiferroic Systems (TANMS) - 09/01/2012
- Nanomanufacturing Systems for Mobile Computing and Energy Technologies (NASCENT) - 09/01/2012
- Advanced Self-Powered Systems of Integrated Sensors and Technologies (ASSIST) - 09/01/2012
- Sensorimotor Neural Engineering - 08/15/2011
- Ultra-wide-area Resilient Electric Energy Transmission Network - 08/15/2011
- Re-Inventing America’s Urban Water Infrastructure - 08/01/2011
- Future Renewable Electric Energy Delivery and Management (FREEDM) Systems - 09/01/2008
- Center for Integrated Access Networks (CIAN) - 09/01/2008
- Structured Organic Composites for Pharmaceutical, Nutraceutical, and Agrochemical Applications (C-SOC) - 07/01/2006

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Department of Energy (DOE)

- **Energy Frontier Research Centers (EFRCs):** 32 EFRCs will be up for re-competition in FY 2018 with new and returning applicants welcome: Solicitation was announced in November 2017 with required pre-applications due January 2018

- **Clean Water Technology Centers:** $100 million ($20 million over 5 years) research and development effort would focus on desalination technologies and other clean water processing technologies that can create clean water from a variety of sources such as surface water, ground water, brackish water, seawater, wastewater and produce water for a range of applications including municipal drinking water, agricultural uses, and industrial needs.
  - likely be led by DOE national labs (Berkeley and Oak Ridge) with some university partners
  - Funding call within the next month

- **Bioenergy Research Centers (BRCs):** funding period is five years, solicitation is expected in FY 2021
• **Air Force Centers of Excellence (COEs):** not regularly released solicitation, utilized to pursue topics of significant benefit to their mission (space is likely next). Recent competition in 2017 on concerned human-machine teaming – award has not been made yet

• **Multidisciplinary University Research Initiatives (MURI) Program:** $1.25 to $1.5 million over a 3 year award period to research topics of interest to the Services. Research topics vary by year – BAA FY 19 open now: materials, quantum sciences, bio-inspired basic research, societal impacts on plants, population dynamics: White papers due 6/29

• **Defense Enterprise Science Initiative (DESI) Concept:** use-inspired basic research with industry participants, leverages DOD labs; supports STEM efforts. Deadline was 2/28

• **ARL Collaborative Technology Alliances & Collaborative Research Alliances 2019:** Agency considering two new competitions focused on accelerated learning and human-agent teaming

• **DARPA** new emphasis on marine sensing; bio-inspired materials; human-machine interface for neuroscience; nanostructures and materials; electronics and energy conversion; small-sat and space launch
Large Federal Funding Opportunities Ahead

- **USDA AFRI**: Sustainable Agriculture Systems (SAS) systems approach to 25yr challenges: 8 $10M each: open
- **NIH** Cooperative Agreements – Alzheimer’s Disease, aging, addiction, pain management, addiction (opioids)
- **DOE**: Quantum information science – materials, computing, sensors, networking: FY 18 will invest $45M and FY 19 $105M
- **ARPA-E**: additional $50M in awards through OPEN funding announcement due to omnibus increase
- **DHS**: Centers of Excellence: 4 are due for renewal/sunset in the next year: counterterrorism, explosives, marine security, natural hazards/coastal resilience
- **DOT**: received $15M in omnibus to fund 2 new national transportation centers -- $3M a year focused on congestion relief research; infrastructure (improving durability and extending life); also includes emphasis on rural transportation

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Questions?
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Lewis-Burke Associates LLC
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