CROSSCUTTING
RESEARCH

UNIVERSITY
TRAINING & RESEARCH

CROSSCUTTING UNIVERSITY TRAINING & RESEARCH

The Crosscutting Research program sponsors two University training programs that prepares that prepares the next generation of scientists and engineers to meet future energy challenges, including two of the longest-running training programs.

The **Historically Black Colleges and Universities** (HBCU) and **Other Minority Institutions** (OMI) program is designed to build capacity and train students in fossil energy research and discoveries. The **University Coal Research** (UTR) program enables student-led research to advance energy technologies.

Together, these programs allow for the expansion of energy production while simultaneously facilitating energy sector job growth. These programs enhance energy platforms and prepares the next-generation of fossil energy workforce.

Between 1995 and 2017 NETL has awarded over 130 grants worth more than $25M to HBCU and UCR student-led research.

Furthermore, the Outreach Initiative provides opportunities for qualified students and post-doctoral students and researchers to hone their research skills with NETL's in-house scientists.

HBCU & OMI

For over 30 years, NETL has supported the HBCU and OMI program, making it one of the longest-running university training programs in the country. HBCU and OMI students have produced and published more than **500 technical papers**. Each year, NETL awards approximately four to five competitively selected grants based on research topics of the highest priority to FE programs. Grants awarded under this program are intended to maintain and upgrade educational, training, and research capabilities of HBCUs/OMIs in the fields of science and technology related to fossil energy resources. Each selected university is required to provide research education support for at least one student.

UCR

This program emphasizes coal research structured to achieve FE strategic goals in concert with student education in relevant fossil energy related topics. Key research areas supported by this program include near-zero emission power plants, carbon capture, computational energy sciences, development of advanced high-performance materials, sensors and controls, and the development of advanced coal power generation systems. Competitively selected grants are each year with a maximum value of **$400,000** over a two to three-year period. Each participating university is required to provide research education support to at least one student.

Over the past **30** years, UCR has supported more than **1,700** students that have published over **1,000** technical papers.

INITIATIVES FOCUS ON ADVANCING FOSSIL ENERGY WITH ADVANCED TECHNOLOGY CONCEPTS:

- Creating secure and reliable cyber and physical energy infrastructure
- Develop innovative water technologies for the reuse of power plant water discharge
- Big Data Analytics and Machine Learning to create optimization and digitization strategies
- Internet of Things to advance Industry 4.0 principles in fossil energy
- Cybersecurity to ensure a secure and reliable source of energy

U.S. DEPARTMENT OF ENERGY

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