

# Developing A Knowledge Management Tool for DOE\* FE's Shale R&D Community

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## Abstract

The U.S. DOE's Office of Fossil Energy (FE) plays a key role in helping the U.S. meet its continually growing need for secure, reasonably priced, and environmentally sound FE supplies. A Knowledge Management (KM) tool is being deployed within DOE FE's Energy Data eXchange (EDX) data computing platform to support DOE FE's Shale R&D community and facilitate efficient collection, curation, and sharing of R&D knowledge within the active FE research community. This tool will make day-to-day Program and R&D more efficient, effective, as well as serve as a collection of information to benefit future members of the FE community. A "corporate" knowledge hub for DOE FE Program and research expertise will reduce redundancy, improve efficiency, and ensure that DOE FE research builds off existing knowledge and results. Other corporate KM systems have been documented to reduce job preparation time and worker stress, and improve job performance for stakeholders. DOE's KM tool will allow users to i) capture, share, and apply expertise across the FE complex, ii) ensure adoption of new R&D results and techniques in real time, iii) provide best practices and lessons learned for users, iv) reduce learning time, and v) curate knowledge from workforce members before they depart the FE community.

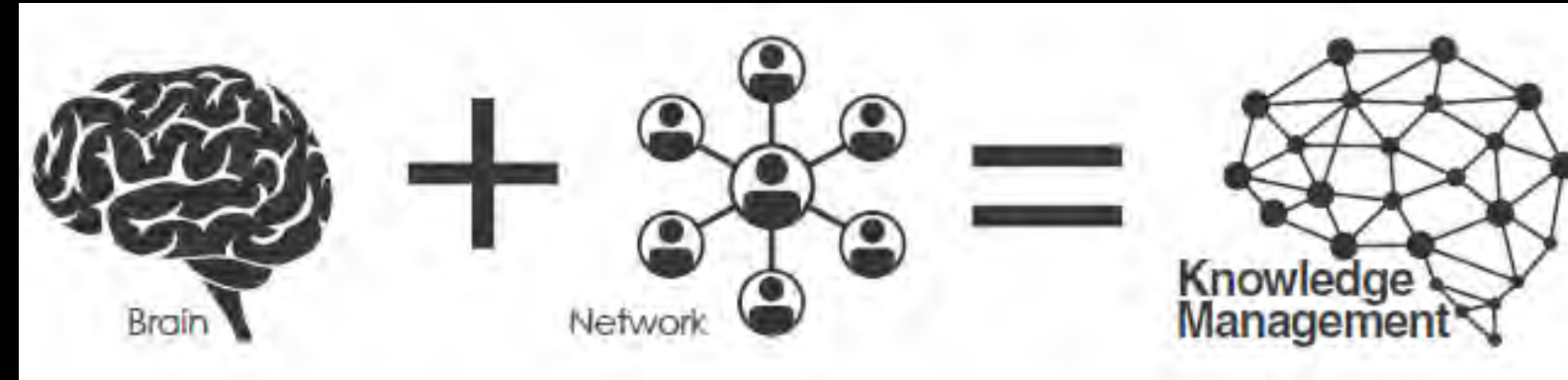
The Shale Pilot KM Tool was deployed via EDX for DOE users in August 2018. The Shale KM Pilot community includes DOE FE-30, the Idaho National Laboratory, Los Alamos National Laboratory, Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, NETL, Oak Ridge National Laboratory, Pacific Northwest National Laboratory, SLAC, Sandia National Laboratory, and any other national laboratories that may contribute to the shale effort.

## Developing Virtual DOE\* FE Communities of Practice

Fostering an enduring community for knowledge communication, coordination, & curation...

### Defining the Need:

- Too often coordination/communication is left to chance
- The communication is too infrequent
- Many missed opportunities for collaboration
- Corporate memory loss



We lack coordination & communication...

... leads to missed opportunities

## A Knowledge System & Tool to Federate & Feed Future R&D

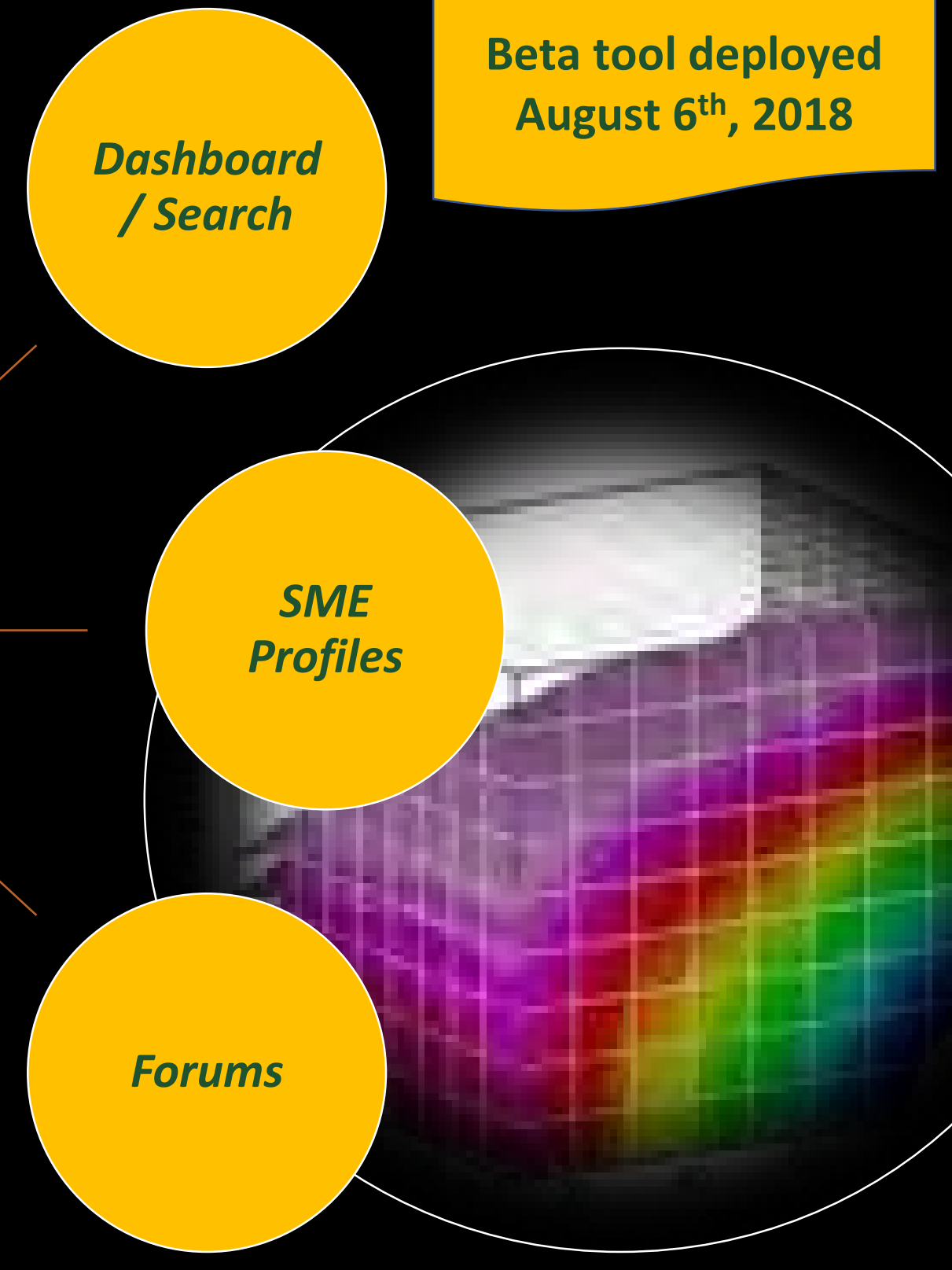
DOE (HQ & National Labs) are isolated on separate networks

- FE's KM Tool allows for federation between entities to:
- Support leadership planning
  - Foster information sharing
  - Break down silos between organizations/groups
  - Create a resource for data mining
  - Drive new technology innovations



Ultimately KM Tool enables knowledge sharing across institutions, improved integration of discrete research efforts and better training of less experienced staff

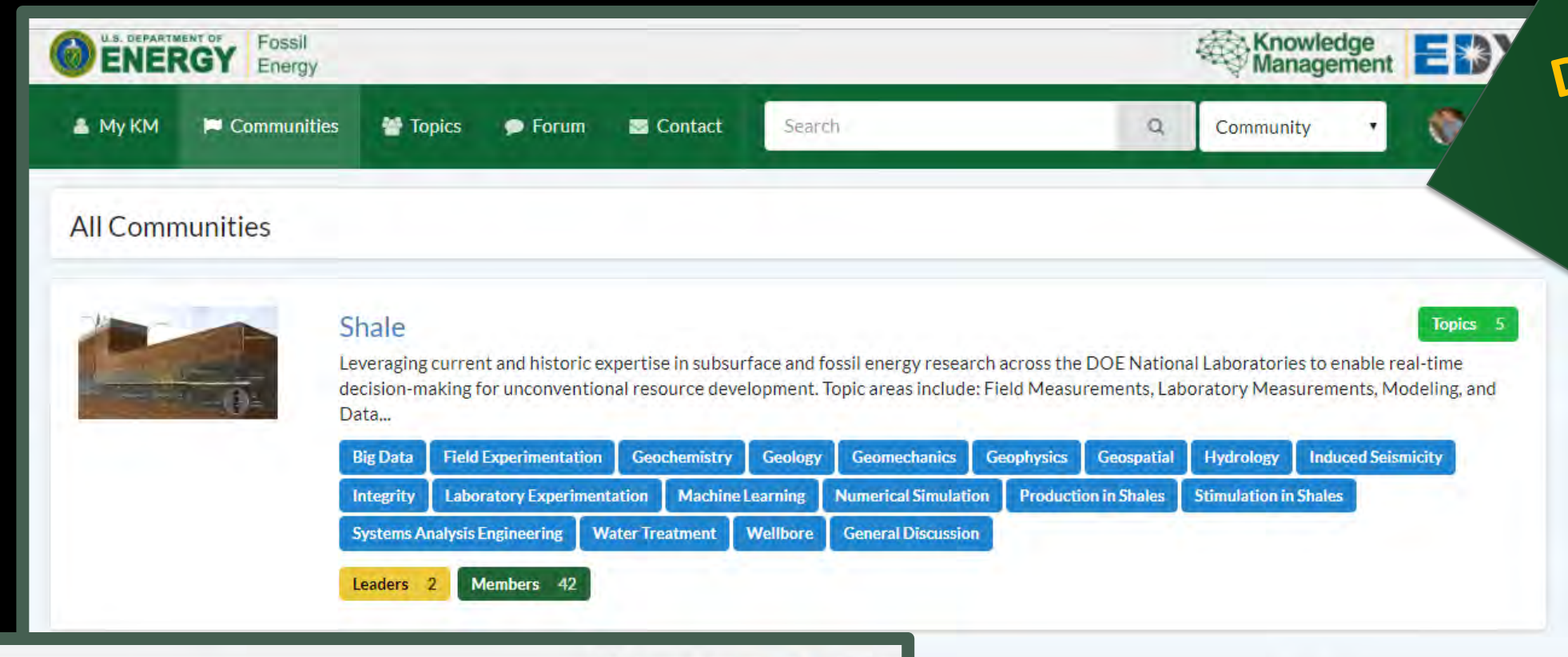
**DOE\* personnel can join FE's KM community today**  
Email [kmsupport@netl.doe.gov](mailto:kmsupport@netl.doe.gov) to find out how to join!



Connecting FE-HQ and national lab researchers for more efficient & effective communication, coordination and knowledge curation

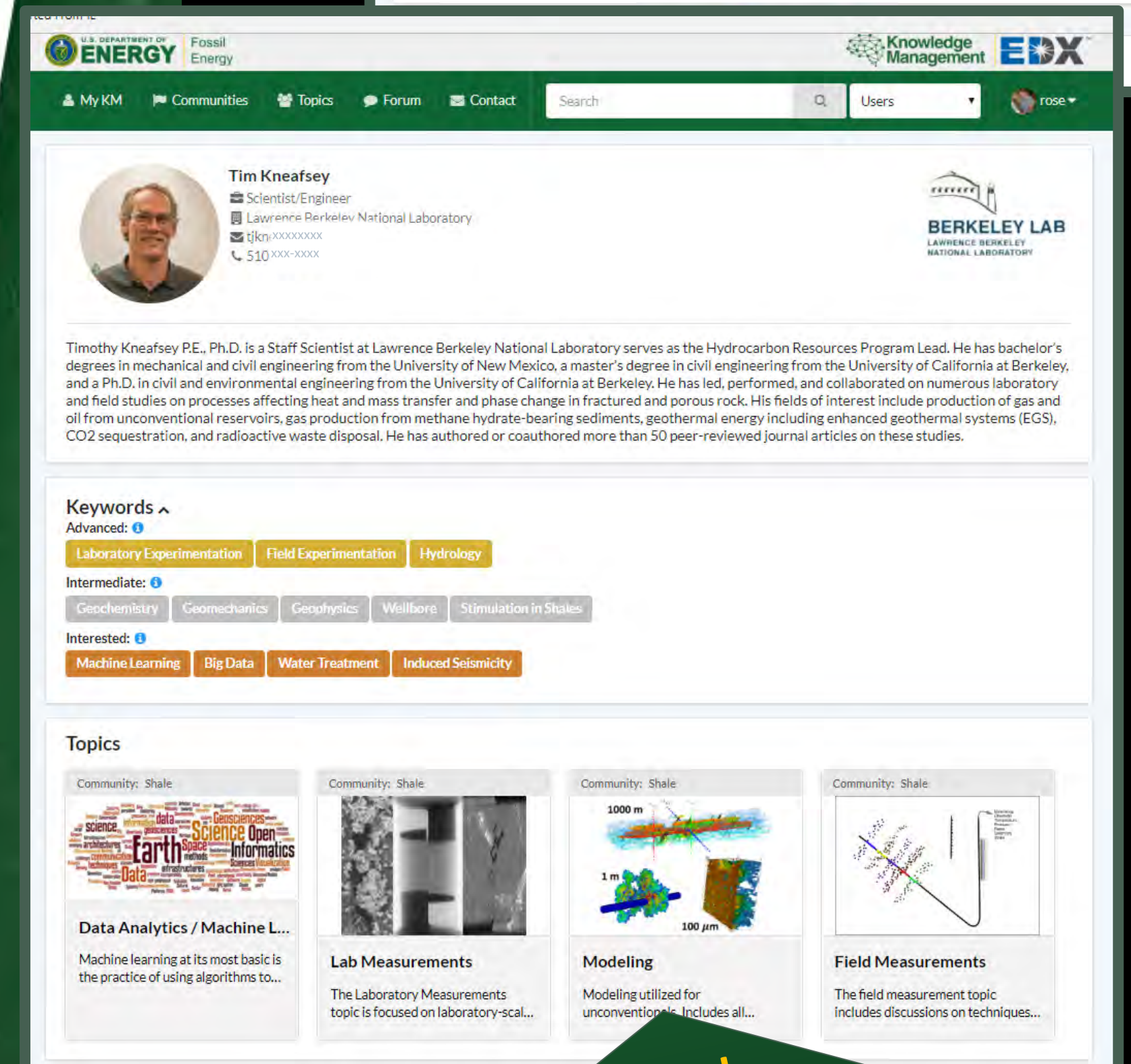
## A Tool for DOE FE Knowledge Management

Pilot Shale Community promotes integration of discrete shale technology efforts within four topic areas and between those areas



Discovery R&D Community Resources  
Prototype released just over 1 week ago, has 170+ registrants and many shared discussions

Read & post to Technical Topic Forums - Threads



# Knowledge Management

# TOOL DEMO + WORKSHOP

**WEDNESDAY**  
**AUGUST 15, 2018**  
**5:30-6:30 PM — ELLWOOD ROOM**

All are welcome to come listen and learn about the new Fossil Energy Knowledge Management (KM) tool.

The KM prototype is an internal DOE tool designed to connect and support the FE Shale R&D Community, focusing on:

- Laboratory
- Field measurement
- Modeling
- Machine learning/Data Analytics



Find Colleagues - User Dashboard

\*DOE personnel/user = DOE HQ, EIA, DOE National Laboratory staff



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Disclaimer: This project was funded by the Department of Energy, National Energy Technology Laboratory, an agency of the United States Government, through a support contract with AECOM. Neither the United States Government nor any agency thereof, nor any of their employees, nor AECOM, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

For more information or assistance with DOE FE's KM Tool contact: [kmsupport@netl.doe.gov](mailto:kmsupport@netl.doe.gov)

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