

# DAVID MILLER

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# ABOUT YOU, YOUR COMPANY, AND YOUR EXPERTISE

- DEVELOP AND APPLY ADVANCED MODELING AND OPTIMIZATION APPROACHES TO SUPPORT THE IDENTIFICATION, DESIGN, AND SCALE UP OF INNOVATIVE TECHNOLOGIES AND PROCESSES THAT GO BEYOND CURRENT LIMITATIONS OF EQUIPMENT AND PROCESSES
- OPTIMIZATION OF COMPLETE, INTEGRATED PROCESSES
- REDUCTION OF TECHNICAL RISK THROUGH INTEGRATED EXPERIMENTS AND MODELS (CCSI2)
- TECHNO-ECONOMIC ANALYSIS



# IMPORTANT WORK ALREADY UNDERWAY THAT WILL ENABLE THE SUITE OF ADVANCED MANUFACTURING APPROACHES FOR THE FUTURE OF CLEAN COAL AND CCUS TECHNOLOGIES

- INSTITUTE FOR THE DESIGN OF ADVANCED ENERGY SYSTEMS
  - COAL FIRST
  - CCS12
- CONCEPTUAL DESIGN OF NEW PROCESSES VIA SUPERSTRUCTURE OPTIMIZATION
- DESIGN OPTIMIZATION WITH PROCESS INTENSIFICATION, PROCESS INTEGRATION
- MULTI-SCALE MODELING & OPTIMIZATION



# SEED IDEAS FOR DISCUSSION TODAY, HOW DOE CAN BETTER USE THE SUITE OF ADVANCED MANUFACTURING APPROACHES IN FUTURE CLEAN COAL AND CCUS EFFORTS

- NEED TO CONSIDER HOW INNOVATIONS MADE POSSIBLE WITH AM CAN BE INCORPORATED INTO COMPLETE PROCESSES
- RE-OPTIMIZE PROCESSES TO ACCOUNT FOR INNOVATIVE PROPERTIES OF NEW DEVICES & EQUIPMENT
- SUPPORT INNOVATION

