

# PBEE, Simulation and Data

## Summary of Breakout Session Discussions

Presented by

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# Participants

- Japan:
  - Tada, Yamada, Motoyui, Ohsaki
- US:
  - Goel, Foutch, Rickles, Kyung (Lehigh), Stojadinovic

# Topics

1. PBEE methodologies
  2. Simulation
  3. Data management
  4. Sensors
- Address the US proposal: it has to be very good to be funded

# PBEE

- Develop design methods for targeted performance
- Focus on practical design methods ready for implementation in codes
- Use simulation (experimental and analytical) to validate the PBEE design procedures
- Include probabilistic approach and address the outcomes (Miranda 3-d)
- Incorporate optimization tools

## Simulation

- Validate simplified (practical) analytical methods using data from tests and data from complex analytical simulations
- Address 3-dimensional response of irregular structures by analytical means
- Address collapse prediction (but look at the limits states on the way to collapse, too).
- Work on integration of different software packages in use today
  - Utilize validated and implemented models by building interfaces rather than re-implementing

## Data

- Simulation and PBEE validation tasks require exchange of data
- Data formats are still in flux:
  - Opportunity to work on defining common formats that enable straightforward exchange of data
- Define of geometry of the model and location of instruments
- Define common time-stamping standard

## Sensors

- Concern about a relatively small number of channels available to host payload projects
- Possible solution: establishing data standards to exchange time-stamp and key control information between the payload and the main DAQ systems (define a protocol)
- Address the accuracy of sensors by defining the accuracy required for the test
- Distinguish between local sensors (for local data) and global sensors (for global data)

## Areas of Cooperation

- Data and meta-data:
  - Interfaces and translators
- Simulation:
  - Validate practical (simplified) methods
  - Use complex software to predict experiment response
  - Interfaces and translators for hybrid simulation
- PBEE methodology
  - Develop and validate practical procedures to achieve desired performance
  - Incorporate optimization tools

Thank you!