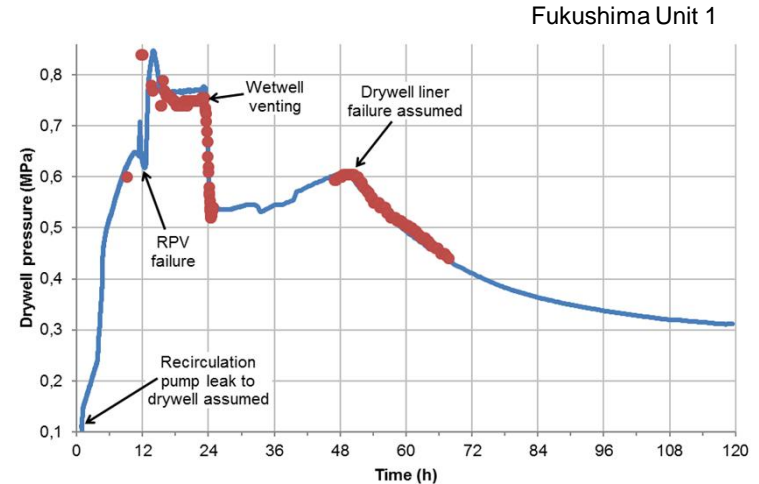
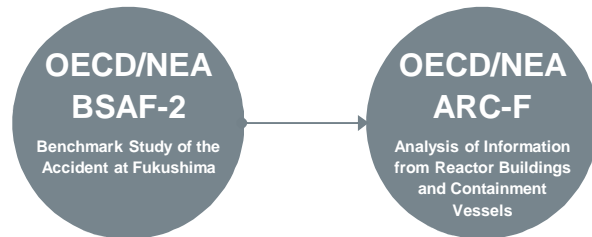


Comprehensive Analysis of Severe Accidents – CASA

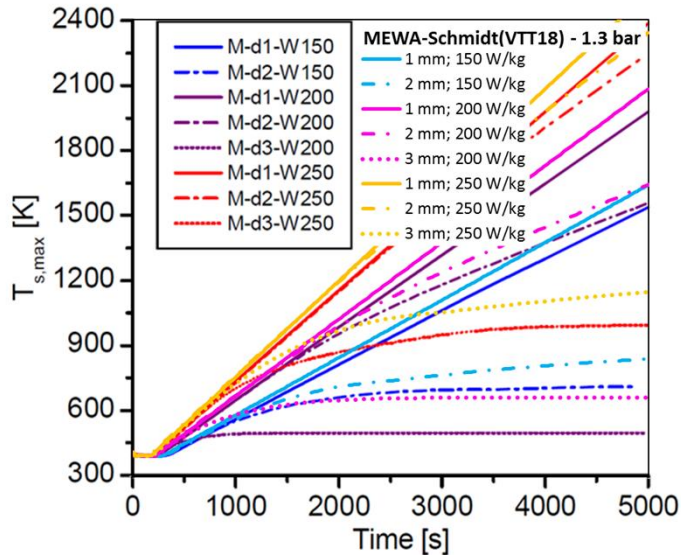
Anna Korpinen, Mikko Ilvonen, Jukka Rossi,
Tuomo Sevón, Magnus Strandberg, Veikko
Taivassalo, Eveliina Takasuo

Analysing Fukushima Accidents

- § Unique opportunity for gaining more information
 - Progress, prevention, mitigation
- § MELCOR models for all three units

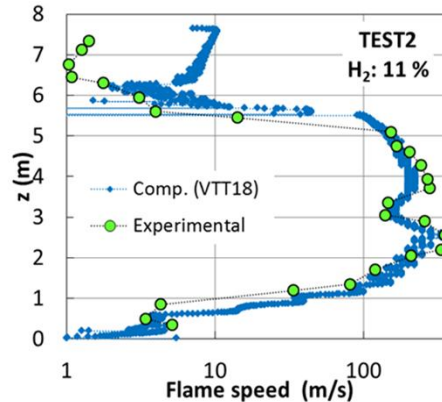
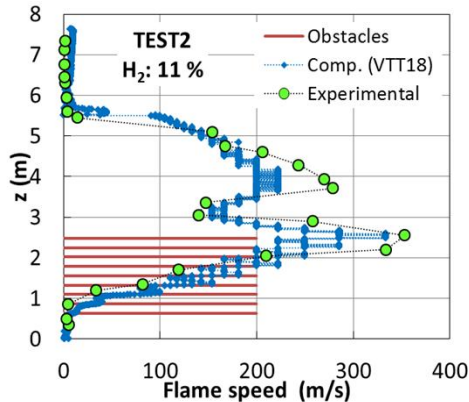


Debris Bed Coolability



- § Coolability criteria for a debris bed could be defined based on a post-dryout temperature behaviour of particles
- § Comparison to KTH's DECOSIM analyses
- § Effect of heat transfer and friction models studied

Hydrogen Combustion



- § VTT's combustion model has been implemented in CFD-code Fluent
- § Validation against experiments comparable to realistic containment geometries
 - a) Etson-Mithygene ENACCEF2
 - Obstacles
 - b) OECD/NEA THAI-3
 - Two-compartment system

Environmental Consequences

- § In-house models for emergency preparedness and level 3 PSA
 - ARANO: short to medium range
 - Weather remains the same
 - VALMA: long range
 - Weather conditions can vary
- § VALMA has been further developed
 - Ingestion dose pathways
 - Calculation of acute and late health effects of radiation doses

