

# ***RA1: Materials Properties and Failure***

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**MSEE**

MATERIALS SCIENCE IN  
EXTREME ENVIRONMENTS  
UNIVERSITY RESEARCH ALLIANCE





# RA1 Description

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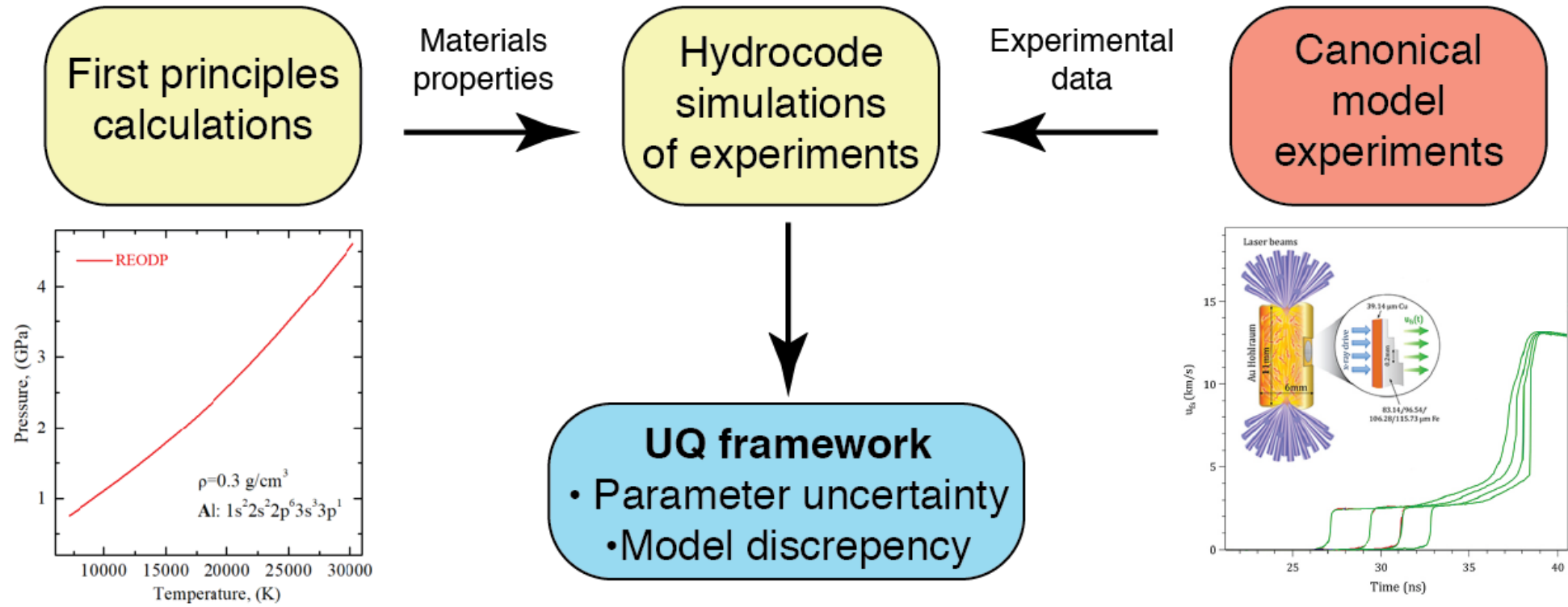
- Quantify materials properties and failure and their associated uncertainties in conditions relevant to WMD attacks using advanced experiments and models





# RA1 Focus Areas

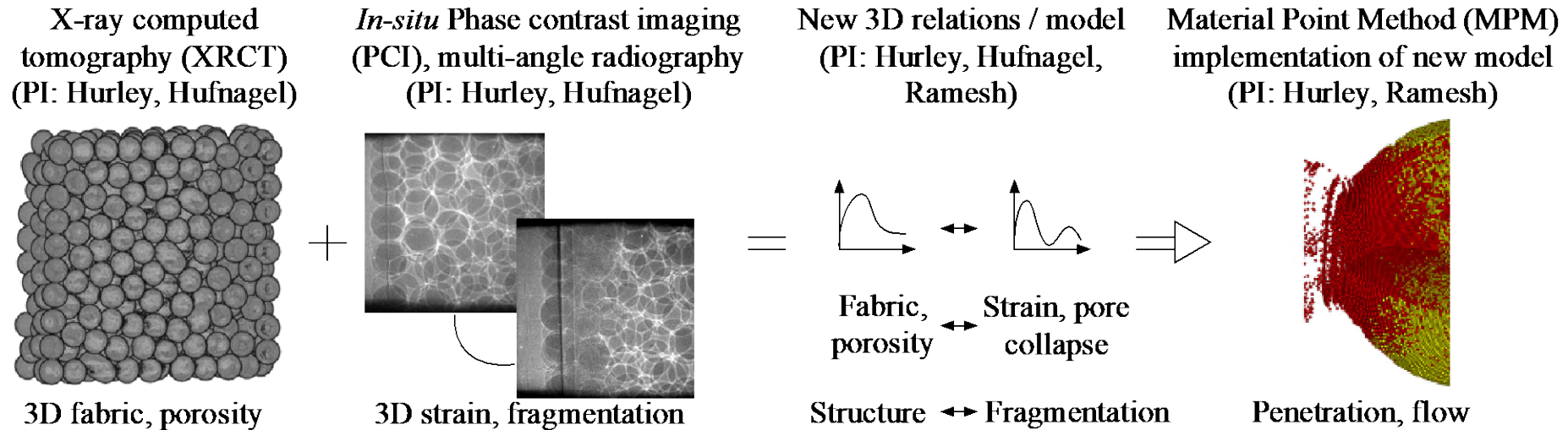
- FA1: Material Properties for Reducing Model Uncertainty





# RA1 Focus Areas

- FA2: Material Constitutive Models (Soil, Rock, Concrete)



- FA3: Materials Properties of Energetic Materials and Additively Manufactured Energetics Materials (delayed)



# RA1 Personnel

## RA1-FA1

Investigators and Collaborators	Position	Institution
<b>Jim Gaffney</b>	<b>FA Coord</b>	<b>LLNL</b>
June Wicks	PI	JHU
Gena Miloshevsky	PI	VCU
Mike Shields	PI	JHU
Todd Hufnagel	Collaborator	JHU
KT Ramesh	Collaborator	JHU
David Elbert	Collaborator	JHU
Sean Regan	Collaborator	Rochester
Rick Speilman	Collaborator	Rochester
Jacob Calkins	Collaborator	DTRA

## RA1-FA2

Investigators and Collaborators	Position	Institution
<b>Ryan Hurley</b>	<b>FA Coord</b>	<b>JHU</b>
Todd Hufnagel	PI	JHU
KT Ramesh	PI	JHU
Mike Shields	PI	JHU
Brian Barnes	Collaborator	CCDC ARL
Mark Foster	Collaborator	JHU
Tim Mueller	Collaborator	JHU
Jeff Davis	Collaborator	DTRA



# RA1 connections to other RAs (from IPP)

