

NRFCC: LIST OF PROSPECTIVE PROPOSAL-TOPICS/ THEMATICS

In the area of

Reliability, Sensitivity & Uncertainty Analysis

<u>RELIABILITY, SENSITIVITY & UNCERTAINTY ANALYSIS</u>			
Sl. No.	Title of the Prospective Proposal-topic / Thematic	Proposed by	Nodal Collaborating Unit of DAE
1	Development of methodology for quantifying the reliability of software in computer based systems	Contact: Head, Computer Dvn., BARC	BARC (Computer Dvn.)
2	Uncertainty analysis of soil-structural interaction in 700 MWe nuclear reactor building	Shri H.S. Kushwaha, RRF, DAE (kushwaha746@gmail.com)	BARC (Reactor Safety Dvn.)
3	Uncertainty Analysis of groundwater flow and contaminant transport using hybrid approach	Shri. M. Pandey, HPD, BARC; Dr. D. Datta, HPD, BARC; Dr. Faby Sunny, RSSD, BARC (mpandey@barc.gov.in); (ddatta@barc.gov.in); (fabys@barc.gov.in)	BARC (Health Physics Dvn. & Radiation Safety Standard Dvn.)
4	Development of sensitivity methods for PSA Level 3	Dr. (Ms.) Gopika V, RSD, BARC Shri Pradeep Bhargava, HPD, BARC (vgopika@barc.gov.in); (pradeepb@barc.gov.in)	BARC (Reactor Safety Dvn.)
5	Nuclear reactor containment probabilistic failure analysis	Shri V. Bhasin (vivekb@barc.gov.in)	BARC (Reactor Safety Dvn.)
6	Development of an integrated risk assessment system	Dr. M. K. Samal, RSD, BARC Dr. B.K. Dutta, HRDD, BARC (mksamal@barc.gov.in) (bkdutta@barc.gov.in)	BARC (Reactor Safety Dvn.)
7	Uncertainty quantification in dynamic response of framed structures	Shri Pradeep Jadhav, RSD, BARC (pajadhav@barc.gov.in)	BARC (Reactor Safety Dvn.)
8	Uncertainty propagation in puff based dispersion model using polynomial chaos and	Dr. R. B. Oza, RSSD, BARC Dr. D. Datta, HPD, BARC (rboza@barc.gov.in);	BARC (Health Safety & Environment Group)

	evidence theory	(ddatta@barc.gov.in)	
9	Study and development of algorithms for global sensitivity analysis with classical and non-classical probabilities (imprecise probabilities)	Dr. D. Datta, HPD, BARC (ddatta@barc.gov.in)	BARC (Health Physics Dvn.)
10	Development of uncertainty and sensitivity methodology for Large Break LOCA	Shri D. Mukhopadhyay, RSD, BARC (dmukho@barc.gov.in)	BARC (Reactor Safety Dvn.)
11	Methodology development on uncertainty analysis for Anticipated Operating Occurrences (AOO) & non-LOCA accidents/transients in nuclear reactor	Shri Avinash J Gaikwad, NSAD, AERB Shri Rajesh Kumar, RSD, BARC Shri. A. Srivastava, RSD, BARC (avinashg@aerb.gov.in); (rajeshku@barc.gov.in); (abhisri@barc.gov.in)	AERB & BARC (Reactor Safety Dvn.)
12	Development of a user-interactive integrated software package on sensitivity analysis and uncertainty management	Shri. A. Srivastava, RSD, BARC (abhisri@barc.gov.in)	BARC (Reactor Safety Dvn.)
13	Uncertainty analysis in natural frequency and mode-shape of compact high temperature reactors	Shri H.S. Kushwaha, RRF, DAE (kushwaha746@gmail.com)	BARC (Reactor Safety Dvn.)
14	Uncertainty analysis: estimation of uncertainties for design pressure evaluation of nuclear reactors	Shri D. Mukhopadhyay, RSD, BARC (dmukho@barc.gov.in)	BARC (Reactor Safety Dvn.)
15	Time series system identification software package development	Shri Avinash J Gaikwad, NSAD, AERB Shri. B. Ghosh, RSD, BARC (avinashg@aerb.gov.in); (bghosh@barc.gov.in)	AERB & BARC (Reactor Safety Dvn.)