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**Please note that information is still tentative and subject to modification**

Workshop of the Cost Action IS1304  
“Expert Judgment Network: Bridging the Gap Between Scientific Uncertainty and Evidence-Based Decision Making”

## **Science, uncertainty and decision making in the mitigation of natural risks**

Dipartimento della Protezione Civile, Via Vitorchiano 2, 00189 Roma

October 8-10, 2014

Workshop organizers:  
W.Aspinall, T.Bedford, J.C.Komorowski, A.Neri, M.Rosi

*The aim of the workshop is to develop closer links and better understanding between scientists with expertise in natural hazards and civil authorities who need to take decisions and actions, under varying time scales, when these are informed by incomplete scientific theory or uncertain data (usually both). The workshop will illustrate, based on past experience and test-cases, the present state of knowledge and main challenges in forecasting the dynamics and hazards of natural phenomena and assessing associated risks under uncertainty. A prime focus will be the challenges posed by explosive volcanoes to highly urbanized territories, the present state of procedures and protocols for decision-making in the face of major uncertainty and current good-practice. Attention will be also given to the specific expectations, roles and responsibilities of scientists and authorities, and to how these contribute to the actions needed for robust, effective, and defensible management of natural dangers. Most of the talks will be by invitation but part of the workshop will be open to contributions on the workshop theme and for networking activities.*

The workshop is part of the COST Action “Expert Judgment Network: Bridging the Gap Between Scientific Uncertainty and Evidence-Based Decision Making” and is organized by the University of Strathclyde and the Istituto Nazionale di Geofisica e Vulcanologia in cooperation with the Dipartimento della Protezione Civile.

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## **October 8 (Wednesday), 2014**

*Morning: Arrival of participants*

10.0 Registration Open

*12 00 Lunch at the DPC cafeteria*

### **Session 1. Introduction and setting of the scene (Chair M.Rosi)**

13.30 Welcome and introduction, *Organizers and Institutions Representatives*

13.45 The COST Expert Judgement Network and its goals, *T.Bedford*

14.15 Experts in emergency, *R.Cooke*

### **Session 2. Assessing and managing natural risks (Chair R.Cooke)**

15.00 From science to action: the risk analyst intermediary, *G.Woo*

15.30 Forecasting and management of flood risk, *J.Neal*

16.00 Assessing uncertainty in sea level rise due to ice sheet melting under global warming – using expert elicitation to characterize variable dependences and tail correlations, *W.Aspinall*

*16.30 Coffee break*

16.50 Communicating hurricane risks to local officials for protective action decision making, *M.Lindell (audio connection)*

17.20 The Italian Civil Protection and scientific advice system, *L.D'Angelo*

### **Session 3. Assessing and managing volcanic hazard and risk (Chair A.Neri)**

17.50 Scientists advising decision-makers: experiences from Mt.St.Helens and Mt. Pinatubo, *C.Newhall*

18.20 Failed magmatic eruptions, uncertain precursors and false alarms: lessons learned from the 1976-77 La Soufrière of Guadeloupe volcano (French Antilles) crisis, *J.C.Komorowski*

*18.50 End of the day*

*20.00 Social dinner*

## **October 9 (Thursday),**

### **Session 3. Assessing and managing volcanic hazard and risk (continued) (Chair M.Rosi)**

8.30 *Coffee and tea*

9.00 The 1995-2013 eruption of Soufriere Hills volcano (Montserrat, West Indies): lessons from 18 years of application of EJ techniques to an erupting volcano, *G.Wadge*

9.30 Hazard early-warning system as a tool for forecasting volcanic eruptions: the case of Sinabung's 2013 eruption, *A.Budianto*

10.00 Use of Bayesian Event Trees in forecasting outcomes of volcanic unrest, *J.Pallister*

10.30 Assessing vulnerability curves for natural risks, *G.Zuccaro*

11.00 The emergency planning for volcanic risk at Vesuvio and Campi Flegrei, *F.Curcio*

### **Session 4. Science and decision-making (Chair W.Aspinall)**

11.30 The role and responsibility of scientists in the Italian Civil Protection: possible mitigation actions, *D.Miozzo*

12.00 *Lunch at the DPC cafeteria*

12-13.30 **Early Stage Researchers Meeting** (Chair *S.French*, Sala *Cassisi*)

### **Session 4. Science and decision-making (continued) (Chair W.Aspinall)**

13.30 The role of Science within the rule of Law, *R.Bretton*

14.0 Scientific advice for policy-making: lessons learned from recent crises, *F.Sgard*

### **Session 5. Assessing and managing volcanic and other risks (Chair J.C.Komorowski)**

14.30 Monitoring, hazard assessment and decision-making during the ongoing crisis at Bardarbunga volcano (Iceland), *S.Barsotti*

14.50 Evidence-based volcanology in a rare eruption scenario: a future Laki- style, Icelandic eruption and predicting its impact on mortality and morbidity in the UK, *P.Baxter*

15.10 Assessing volcanic hazard at Campi Flegrei caldera (Italy) with uncertainty quantification, *A.Bevilacqua*

15.30 Expert elicitation in natural hazard and risk assessment in New Zealand, *A.Christophersen*

15.50 Using expert elicitation to characterize long-term tectonic risks to radioactive waste repositories in Japan, *E.Scourse*

16.10 *Coffee break*

**16.30 Panel and general discussion**

***“Bridging the gap between scientific uncertainty and evidence-based decision making for mitigating natural risks”***

*Participants: R.Bretton, R.Cooke, F.Curcio, L.D’Angelo, C.Newhall, J.Pallister, F.Sgard, G.Wadge. Moderator: M.Rosi*

18.0 *End of the day*

## **October 10 (Friday)**

### **Session 6. Discussion on the EJM activities (Chair T.Bedford)**

9.0 Parallel meetings of WGs, *All*

*This will be organized in separate tables all located in the main workshop hall.*

10.30 *Coffee and tea*

11.00 Report from the WGs and plan ahead, *Working group leaders: J.Quigley (WG1), O.Morales Napoles (WG2), R.Cooke (WG3), W.Aspinall (WG4), S.French (WG5)*

11.50 General discussion and wrap-up, *T.Bedford*

12.30 *End of the workshop*

12.30 Meeting of the core group of the EJM

12.30 *Lunch available at the DPC cafeteria (until 15)*