





National Institute of Chemistry Slovenia

Invitation to one-day workshop

TEM techniques and Instrumentation for supporting Li ions batteries development

We are pleased to invite you to our one-day workshop on *In-situ* TEM techniques and Instrumentation for supporting Li ions batteries development, which will take place in Ljubljana, Slovenia at National Institute of Chemistry on Tuesday, June 17th 2014.

The workshop is jointly organized by the National Institute of Chemistry, Centre of Excellence for Low – Carbon Technology and JEOL Europe and will consist of nine lectures held by the JEOL application specialists. Talks will be held in English and will be covering the applications of advanced instrumentation for *in-situ* transmission electron microscopy and Li ion battery development. The use of methods like TEM, SEM, FIB, EPMA, Auger, XRF, NMR and MS will be described and discussed.

The workshop is free of charge. We kindly ask you to send your name and affiliation by email to meta.skumavc@ki.si in order to register at the event.

30 minutes presentations, followed by discussion will be given by Mr. Franck Charles, Dr. Guillaumme Brunetti, Dr. Hiroaki Sasakawa and Mr. Junichi Osuga.

Program of the workshop:

10:00 -10:30 Atomic resolution JEM -ARM 200CFEG latest applications - Dr. Guillame Brunetti

10:30 -11:00 **UHR Field emission SEM – JSM 7800F Prime -**Mr. Franck Charles

11:00 - 11:15 **Coffee break**

11:15 – 11:35 New FIB applications - Dr. Guillame Brunetti

11:35 – 11:55 **Cross section polisher (CP) Clean Sample Preparation Instrument for SEM-** Mr. Franck Charles

11:55 – 12:15 Introduction of latest instruments for supporting Li ion battery development – Dr. Guillame Brunetti and Mr. Franck Charles

12:15 - 13:30 Buffet lunch and discussions

13:30 -13:50 Air-isolation function of various instruments which are inevitable for Li battery development - Mr. Franck Charles

13:50 -14:10 Applications of latest SEM to battery materials - Mr. Franck Charles

10-14:40 **Evaluation of battery materials by NMR -** Dr. Hiroaki Sasakawa

14:40-15:10 Analysis of generated gases in an over-discharged Li-Ion secondary battery by MS - Mr. Junichi Osuga

15:10 Discussions and short tour in the TEM lab "JEM ARM 200CF"

We are looking forward to see you at the National Institute of Chemistry in June.

Prof. Dr. Janko Jamnik Dr. Bruno Achard
Director President and CEO

National Institute of Chemistry, Ljubljana, JEOL Europe SAS, Paris

Slovenia France