

Supervisor statement to PhD theses by Richa Saggar

Richa Saggar successfully underwent a 2.5 years training period as an Early Stage Researcher (ESR) within European ITN project GlaCERCo (Glass and Ceramic Composites for High Technology Applications – Initial Training Network, FP7-PEOPLE-2010-ITN, Nr. 264526). She was contracted from 5th of November 2012 and later, from 1st of January 2013, she was enrolled into PhD study program at Faculty of Mechanical Engineering. Her PhD study program has been carried out in the frame of Brittle Fracture Group, Institute of Physics of Materials, CAS. The initially topic of her PhD project was focused on “Design and manufacturing of glass fibre reinforced composites” but later, during state exam it was precised to **“Processing and Properties of 1D and 2D Boron Nitride Nanomaterials Reinforced Glass Composites”**.

At present (from February 2015), R. Saggar has been employed as a researcher on project of Czech Science Foundation (Experimental evaluation and computational modelling of response of ceramic foam on mechanical load, Nr. 14-11234S).

Richa Saggar successfully passed through all planned activities, in addition, she participated on all activities organised by GlaCERCo consortium including GlaCERCo School on Micromechanics of Ceramics and a number of special workshops focused on soft skills. During her PhD study she visited several laboratories working in the complementary field and made some experiments in close collaboration with Nanoforce Ltd London, Prof. M. Reece, Element Hitchin, Dr. Stefanos Giannis, and Politecnico di Torino, Prof. M. Salvo. She has got experience with precursor functionalisation, composite samples preparation for microstructural observations and mechanical testing, with all necessary ceramographic techniques and materials characterisation methods including scanning electron microscopy. Then she focused her interests on preparation of glasses reinforced by nanotube and nanosheets. All the stages of her research and results of partial tasks solutions have been discussed by scientific community thanks to her presentations at conferences and project workshops.

She has been working systematically and effectively with effort concentrated on the particular problem solution. After she obtained corresponding experimental skills and experimental results, she approached to thesis completion. Note that the topics included into the thesis cover comparably extensive number of material science fields, from pure chemical routes of nano-phase functionalisation up to fracture micromechanisms evaluation. She published 4 papers in impacted journals and independently of short time after opening the paper for public she already got 17 citations (excluding self-citations) to these papers.

Results up to now have shown that she is capable to work creatively and is having potential for new findings.

She is capable to work independently having original ideas in her approaches and being able to formulate future goals for the further continuation of the work in field of her thesis and/or also other scientific fields. Because of filling all criteria for PhD qualification I do recommend to accept her thesis as PhD thesis and as a proof of her skills. After successful defence I recommend to award her PhD title in Materials Sciences.

Prof. Ing. I. Dlouhý, CSc.

Brno, 2.12. 2016