ROGANTE ENGINEERING OFFICE AND THE BUDAPEST NEUTRON CENTRE — 20 YEARS OF COOPERATION

Dr. Eng. **Massimo Rogante**, Director of REO

The Rogante Engineering Office (REO, STUDIO D'INGEGNERIA ROGANTE) http://www.roganteengineering.it and the Budapest Neutron Centre (BNC) http://www.bnc.hu are now celebrating 20 years of cooperation.

REO, which is primarily a nuclear and mechanical engineering office, is a landmark in Italy for Industrial Applications of Neutron Techniques (Applicazioni Industriali delle Tecniche Neutroniche®), and it is qualified supplier of Institutions and Companies at international level.

Dr. Eng. Massimo Rogante, Director of REO, has been working in the neutron field for over 25 years. He has a Degree in Mechanical Engineering, PhD in Nuclear Engineering, he is also a Member of the International Scientific Advisory Committee of the BNC, as well as Member of various other International and National Scientific Institutions (e.g., the Scientific Selection Panel of the Centre of Accelerators & Nuclear Analytical Methods of the Nuclear Physics Institute of the Czech Academy of Sciences). In Italy, during the preparatory phase of the European Spallation Source (ESS) project, REO has been selected and committed to coordinate Italian industry, i.e. the Workgroup "Industry and Industrial Applications" in the frame of the ESS-Italia Project Committee. The said Committee has been formed by the Italian Research Council, the Italian Nuclear Physics Institute and the Trieste's Synchrotron (see the web page http://www.roganteengineering.it/public/ESS-ITALIA-WG13.pdf).

Several pioneering experiments have been carried out by the REO at the BNC related to different industrial fields (e.g. automotive, energy, medical, building, footwear, welding, as also presented in the BNC official web page http://www.bnc.hu/?q=node/33, in which the cooperation with REO is underlined), as well as in the Cultural Heritage sector.

Some works carried out by Dr. Rogante at the BNC have been selected by the

responsible of the NMI3 Project (Integrated Infrastructure Initiative for Neutron Scattering and Muon Spectroscopy) in the frame of the EU 6th Framework Programme (FP6), as the first works:

- in the NMI3 report “Engineering, Archaeology, Earth Sciences and Environment”
- representing Engineering in the NMI3 Scientific Highlights Section.

In these 20 years, more than 50 publications have been produced by Dr. Rogante and BNC colleagues as co-authors, also in high impact factor journals. Researchers from both institutions presented the results of the mutually fruitful cooperation at many international conferences, e.g. the Int. Conf. on Mechanical Technologies and Structural Materials (co-organized by the REO in Split, Croatia), the Int. Conf. on Materials, Energy and Design 2006 (co-organized by the REO in Dublin, Ireland), the 20th Bratislava International Conference on Macromolecules, Advanced Polymeric Materials 2006, June 11-15, 2006, or the International Conference on Neutron Imaging and Neutron Methods in Archaeology and Cultural Heritage (NINMACH) 2017.

In the year 2008, Dr. László Rosta of the BNC attended the 1st Italian Workshop for Industry "Industrial Applications of Neutron Techniques - AITN 2008", organized by the REO in Civitanova Marche, Italy, as a keynote speaker. This workshop involved the participants in a "full-immersion" in the world of neutron techniques for the investigation of materials and components of industrial interest.

The cooperation of the REO with the BNC has also included:

- collaborations with related scientific and technical Institutions, i.e. Wigner Research Centre for Physics (WRC), KFKI Atomic Energy Research Institute (AEKI), MTA Research Institute for Solid State Physics and Optics, HAS Centre for Energy Research, ESS Hungary Non-profit Plc.
- collaboration in the frame of the Central European Training School on Neutron Scattering (CETS) in Budapest and other training courses.

Perspectives for the future are to enhance further this mutual cooperation and to exploit neutrons in many others of the forefront areas of science and technology: investigating various other materials and industrial components, as well as more archaeological artefacts; developing investigation projects related to different strategic industrial fields and beneficial for the industrial community at the international level.

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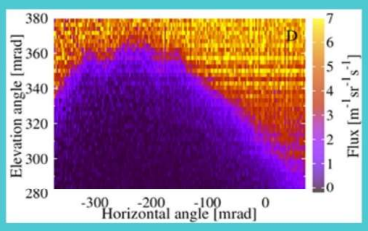

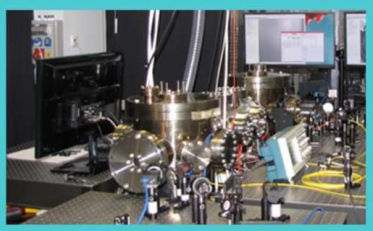

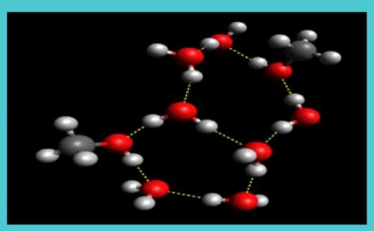

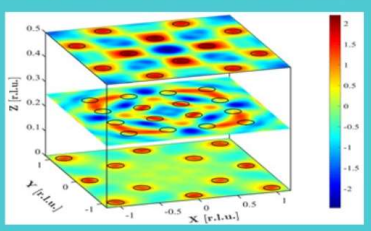

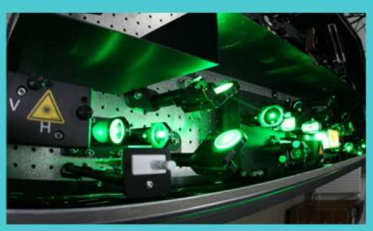

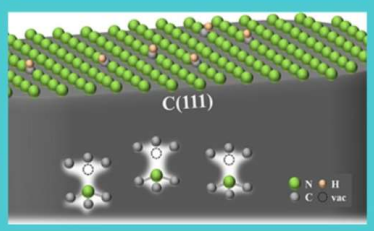

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