

## Conference

**‘Inspiration, innovation, competitiveness...’**

# Budapest Neutron Centre

where neutrons advance industry

Budapest  
3<sup>rd</sup> of May, 2019

### INVITATION

We have the pleasure to invite you to participate “A one-day journey from Inspiration to Impact” with us, a conference, which aims to bring together experts, new-comers, students already using, or potentially interested in utilizing Research Infrastructures (RI), in particular neutron techniques available at the Budapest Neutron Centre (BNC). The European Union and the Hungarian Government pay special attention to promote innovation and the efficient transfer of scientific results into industrial applications, so improving their economic impact. Research performed with neutrons lies at the heart of a number of challenges and questions encountered by the modern society. The Budapest Research Reactor of the Hungarian Academy of Sciences via its user organisation the BNC – the largest research infrastructure in Hungary and a significant entity of the European neutron landscape – is organising this Conference devoted to applications of neutrons for industry, healthcare and cultural heritage. This one day event will be held on the 3<sup>rd</sup> May, 2019 and sponsored by the SINE2020 project (within the framework of H2020), in which BNC is one of the 12 EU partners. The project focuses on industrial partnership, so that the meeting is foreseen as a conference of the university units with strong industry relations. We expect participants from the academia and industry in Hungary and abroad. Professors and students from universities, as well as experts from industry are encouraged to actively participate. The Conference enjoys the strong support and engagement of the Ministry for Innovation and Technology (MIT). Research infrastructures, neutron application examples for materials research will be presented by the invited speakers. Contributed talks from participants are welcome.

## Practical information

**Conference date:** 3<sup>rd</sup> May 2019, from 9:00 to 19:00

**Venue:** Budapest University of Technology and Economics,  
Building "A" (1111 Budapest, Egry József u. 20-22.)

**Participation:** Free of charge, but registration is required. (The number of attendees limited to 150)

**Oral and poster presentations:** Participants are encouraged to contribute by oral or poster presentations. Presenters are requested to submit a half-page abstract.

**Conference language:** English (no translation will be provided).

**Travel:** Those arriving from outside Budapest may claim the reimbursement of the travel expenses on the registration form (a limited budget is available).

**Accommodation:** For those who arrive on the day before the conference, accommodation for one night may be provided in a nearby hotel by the organisers (a limited budget is available). Reimbursement priority will be assigned to lecturers / presenters and attendees who share / distribute the available information on the event.

**Further information on the BNC web pages:**

<https://www.bnc.hu/ind4con19/en/overview>

**Register here:** <https://forms.gle/PpMGhBZEkpCzqhRo8>

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## Background information

The Budapest Research Reactor (BRR) turned 60 – it went critical for the first time on March 25, 1959. Since then BRR has remained the largest operating Research Infrastructure in the Central-European region. Besides basic research, innovation and technology transfer as well as commercial applications has been always in the focus of BRR's activities. The Budapest Neutron Centre provides services to applications of neutrons for industry, healthcare, Cultural Heritage (CH) and various other fields with high society impact. Support for the automotive industry, for nuclear and alternative energy research as well as energy saving, pharmacology, food technologies are among the country's priority areas, where neutrons can make relevant contribution. Some unique features of the neutrons – their non-destructive interaction with matter; their deep penetration into the bulk of components; sensitivity to hydrogen atoms, thus revealing structure of biological matter; their spin to unveil magnetism – make neutron techniques indispensable in complement other scientific methods and ideal for supporting pre-competitive and commercial R&D. They provide unique insights into existing products, help resolve technical uncertainties, validate alternative materials testing tools, so enabling innovation. Neutron research was so far mostly limited to nuclear reactor sites. For the coming decade a new paradigm is expected: compact accelerator based neutron sources will come into operation. The lower cost and ease in handling these sources will make neutron beam studies much more accessible in industrial and university environment. The first European prototype of such facility is being built in Martonvásár (Hungary).

## Preliminary programme

9:00 Opening – Ákos Horváth (Director General, BNC)

9:15 Introductory lecture – László Rosta (Scientific coordinator, BNC):

Neutron Techniques and the Budapest Neutron Centre

9:45 Invited lecture – István Szabó (vice-president, NRD Office):

Innovation and Research Infrastructures

10:15 Invited lecture – Marc Thiry (HZ-Geesthacht, DESY):

European Initiative: Neutrons for Industry – Highlights from the SINE2020 Project

### **10:45 – 11:15 Coffee break**

11:15 Invited lecture – László Szentmiklósi (Head, Nuclear Analysis and Radiography Dept., BNC):

Industrial Applications – Highlights from European Neutron Centres

11:35 Invited lecture – Károly Osvay (ELI-ALPS Research Institute):

Laser Induced Neutron Production for Transmutation

11:55 – 12:40 Contributed talks – Special applications (including CH), 3 talks, 15 min each

12:40 – 13:10 Synergy of training-industry-research infrastructures, 2 talks, 15 min each

### **13:10 – 14:15 Lunch**

14:15 Invited lecture – Michel Hübner (École Polytechnique Fédérale de Lausanne):

Towards a Pan-European Industry Liaison Officer (ILO) Network for Research Infrastructures.  
Experience from the Swiss ILO Office

14:45 Invited lecture – Massimo Rogante (Head, Rogante Engineering Office):

Rogante Engineering Office - Italian landmark for Industrial Applications

15:15-16:00 Contributed talks – Special applications (including healthcare), 3 talks, 15 min each

### **16:00 -16:20 Coffee break**

16:20 Cinema: video-clips on neutron applications

16:40 Round-table/Panel discussion – **Invited Panel members:** Dr. Belgya Tamás (BNC), Brányik Tibor (TRIGO – TBC), Kilián Csaba (MAGE), Prof. Mészáros István (BMGE), Prof. Mezei Ferenc (Wigner), Dr. Szabó István (NKFIH), Szammer István (Autopro – TBC), Dr. Marc Thiry (HZ-Geesthacht, DESY), Dr. Ujfalussy György (EGIS – TBC).

18.00 **Farwell drink** Free discussions, matchmaking

19:00 End of the Conference

## Organisers

Rózsa Baranyai, MTA Centre for Energy Research, [baranyai@bnc.hu](mailto:baranyai@bnc.hu)

László Bottyán, MTA Wigner Research Centre for Physics, [bottyan@bnc.hu](mailto:bottyan@bnc.hu)

Tibor Kun, Budapesti Neutron Centrum, [kun@bnc.hu](mailto:kun@bnc.hu)

László Rosta, MTA Wigner Research Centre for Physics, [rosta@bnc.hu](mailto:rosta@bnc.hu)

László Szentmiklósi, MTA Centre for Energy Research, [szentmiklosi@bnc.hu](mailto:szentmiklosi@bnc.hu)

Attila Varga, Diamond Congress Kft., [diamond@diamond-congress.hu](mailto:diamond@diamond-congress.hu)

Conference email: [ind4con19@bnc.hu](mailto:ind4con19@bnc.hu)