

# WIGNER GPU LABORATORY PRESENTS GPU DAY 2020

---

20-21. OCTOBER

MORE INFORMATION AND REGISTRATION:

[HTTPS://GPUDAY.COM/](https://gpuday.com/)

[HTTPS://INDICO.KFKI.HU/EVENT/1218/](https://indico.kfki.hu/event/1218/)

PATRON: PÉTER DOMOKOS, PÉTER LÉVAI

# THE FUTURE OF COMPUTING, GRAPHICS AND DATA ANALYSIS

EMERGING ACCELERATOR PLATFORMS

IMAGE PROCESSING, COMPUTER VISION, AND RECONSTRUCTION

INDUSTRIAL APPLICATIONS

GRAPHICS, RENDERING, AND IMAGE SYNTHESIS

COMPUTING AND VISUALIZATION IN EDUCATION

QUANTUM COMPUTING

MACHINE LEARNING, NEURAL NETWORKS, FEATURE RECOGNITION

MANY-CORE COMPUTING IN PHYSICS AND OTHER FIELDS OF SCIENCE



# The Wigner GPU Laboratory



The aim of the Wigner GPU Laboratory is to provide support for any fields in science in sense of parallel computing techniques, especially for faster numerical calculations in gravitational and high-energy physics, astronomy, astrophysics, material sciences, and detector simulations. We have started with GPU technologies in 2009, but later our aim was improved to any kind of parallel computing technology. Today, many- and multi-core, GPU, FPGA, Xeon Phi technologies are all available in the laboratory. Beside the academic environment and other institutes, we have connections to industrial partners as well.

# History



- 2005-2008 Idea of using GPU in HEP calculations  
Starting of the WLCG Grid (ALICE & CMS) Tier-2 at the Wigner
- 2009 Discussion with GGB & P. Lévai & G. Debreczeni  
2 main direction: HEP & Gravity
- **2010- 1<sup>st</sup> GPU Day & formation of the Wigner GPU Laboratory**  
Students: M. F. Nagy(-Egri) & D. Berényi
- 2010- GPU Day series
- 2016- Lectures on Modern Computing in Science series  
2016- Wigner GPU Lab Fellowship

# The Staff



Barnaföldi, Gergely Gábor

LEADER OF THE LOCAL ALICE GROUP AND  
GPU LAB.



Kacskovics, Balázs

PHD STUDENT, ADMINISTRATOR



Szigeti, Balázs

MSC STUDENT, ADMINISTRATOR



Bíró, Gábor

PHD STUDENT, ADMINISTRATOR

# Academic & Industrial Partners

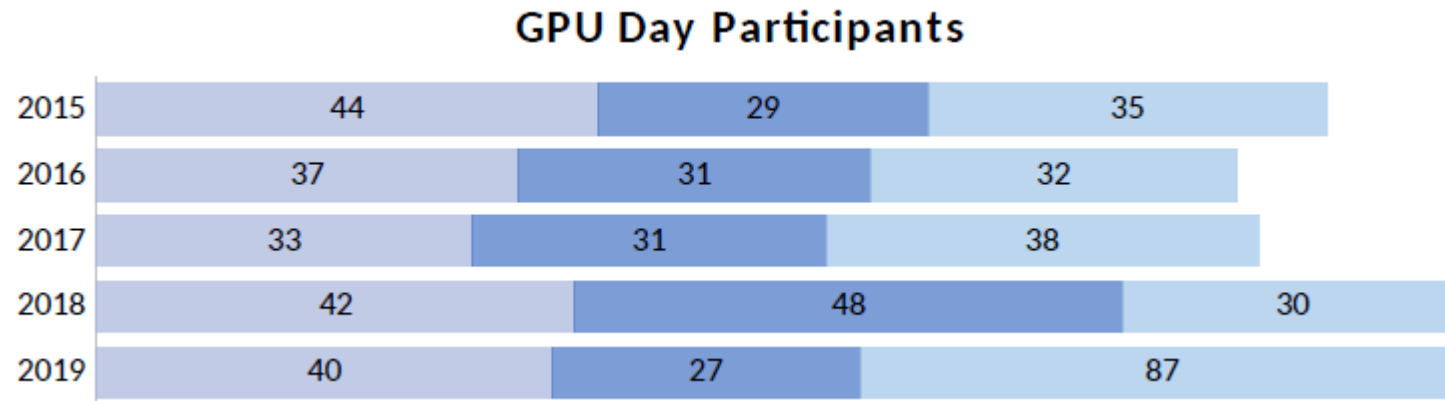




# Results in numbers



- 6 Lectures on Modern Computing in Science
- 10 GPU Days



- 25 Wigner GPU Lab Fellowship
  - 14 finished fellowships
  - 11 running fellowships
- 23+ industrial & academic partners (Lombiq LTD, Ericsson, Khronos, CERN)
- 25+ scientific publications and program codes

# Wigner GPU Day 2020 - [gpuday.com](http://gpuday.com)





# The era of mixing virtual & real...



See more at: [gpu.wigner.hu](http://gpu.wigner.hu)