

**KFKI RESEARCH INSTITUTE  
FOR PARTICLE AND NUCLEAR PHYSICS  
OF THE HUNGARIAN ACADEMY OF SCIENCES**



*Address: Konkoly Thege Miklós út 29-33, H-1121 Budapest,  
Hungary*



*NuPECC Meeting, 7-8 October, 2011, Budapest, Hungary*



Prof. Károly Simonyi  
1916 - 2001

Builder of the first particle  
accelerator in Hungary  
initiator of nuclear physics  
research in KFKI  
(father of Charles Simonyi)

## MISSION OF KFKI RMKI



KFKI RMKI is the Hungarian basic institution of three so-called „high-tech physics” fields using high technology and studied in large multilateral international collaborations.

These fields are:

- High-energy nuclear and particle physics, heavy ion physics
- Energetic oriented fusion research
- Cosmic physics and space technics

In addition KFKI RMKI is also acting as the co-ordinator of the Hungarian research activities in these fields.

# RESEARCH ACTIVITIES



## High Energy and Heavy Ion Physics

major experiments with KFKI RMKI participation LHC ALICE and CMS, NA61 (CERN), RHIC PHENIX (Brookhaven), the LHC Grid project; engineering: fast data links

## Nuclear Solid State Physics

fundamental research on condensed-matter systems of potential technological application utilising nuclear methods, methodological development of nuclear techniques for solid-state physics and materials sciences

## Theoretical Physics

high energy heavy ion collisions, theory of gravitation, field theory and particle physics

## Plasma Physics

tokamak edge plasma physics, plasma diagnostics even in the ITER project, (host of HAS-EURATOM Association), laser physics, atom optics

## Space Physics

solar wind interactions with planets and solar system bodies, the physics of the geospace, spacecraft instrumentation for several international space missions (Rosetta, Cassini, etc)

## Biophysics

computational neuroscience, study of complex systems  
elemental analysis of biological and environmental samples,  
non-destructive analysis of art and archaeological objects

## Computer Centre

Internal and Campus network, LHC Grid node

# MAIN STATISTICAL DATA (2010)



Staff: ~ 214 (including ~ 125 research fellows)

Annual budget: 1554 million HUF (5.65 million EUR)

core funding from HAS:	1036 MHUF
National Research Fund:	98 MHUF
EURATOM:	167 MHUF
ESA PECS:	86 MHUF
Nat. Off. Res. Tech.	86 MHUF
contracts (tenders):	71 MHUF

Number of publications in SCI journals: ~ 600

Staff members teaching in universities: ~ 40

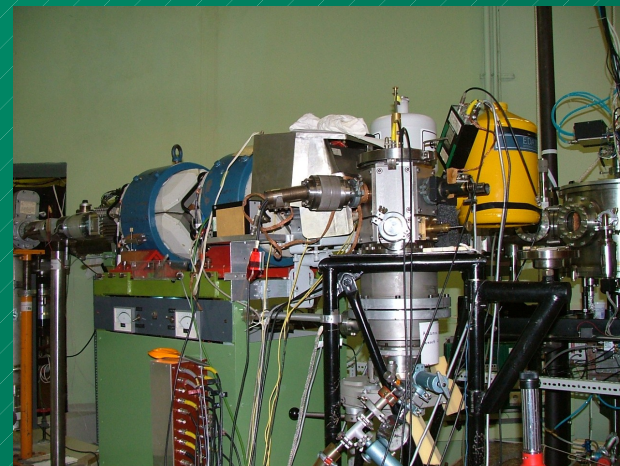
# THE ACCELERATOR COMPLEX



The 5 MV Van de Graaff

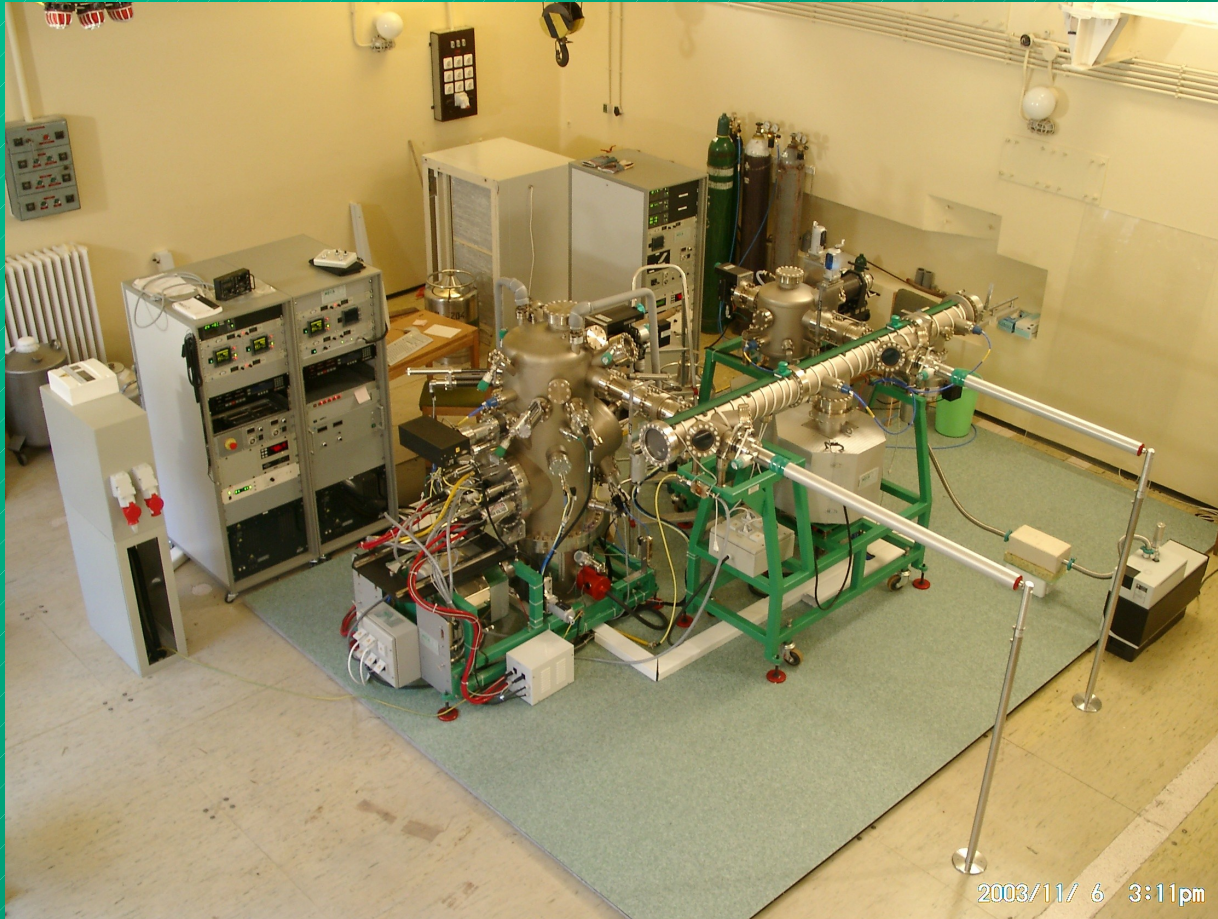


the 500 keV Heavy Ion Cascade



the proton microbeam

# THE MOLECULAR BEAM EPITAXY MACHINE





# THE GINA POLARIZED NEUTRON REFLECTOMETER

