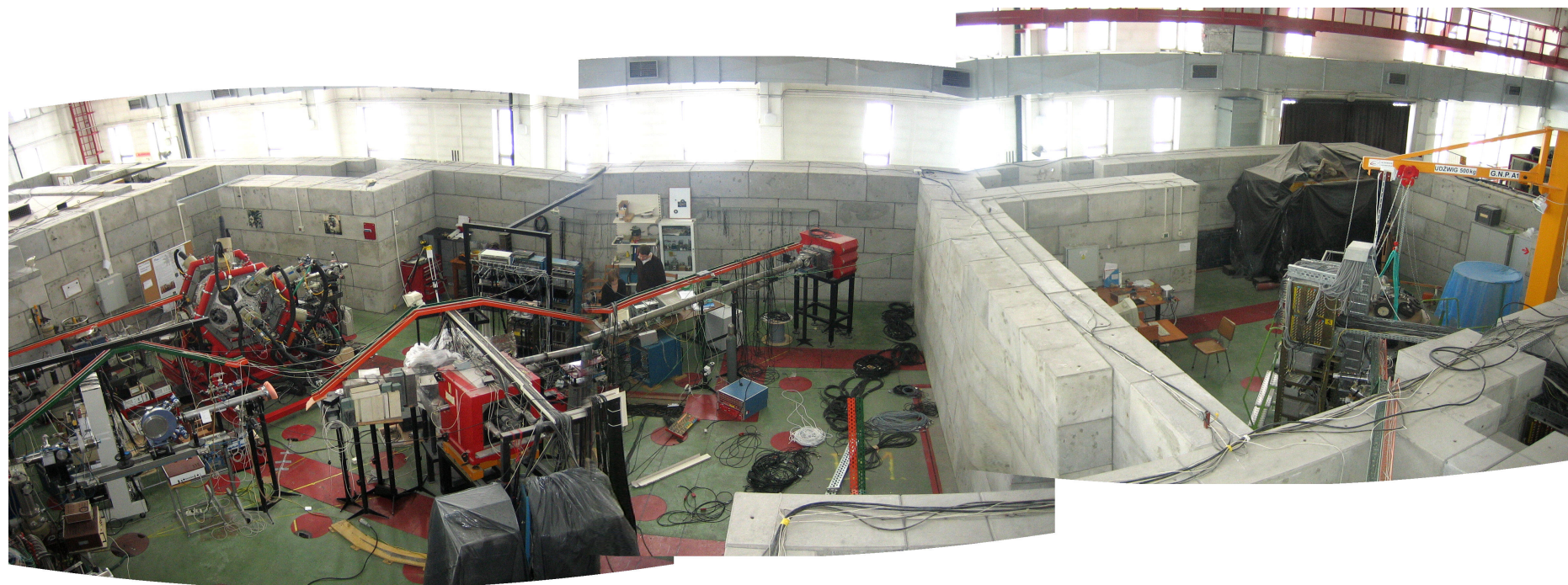


Heavy Ion Laboratory, University of Warsaw

an overview

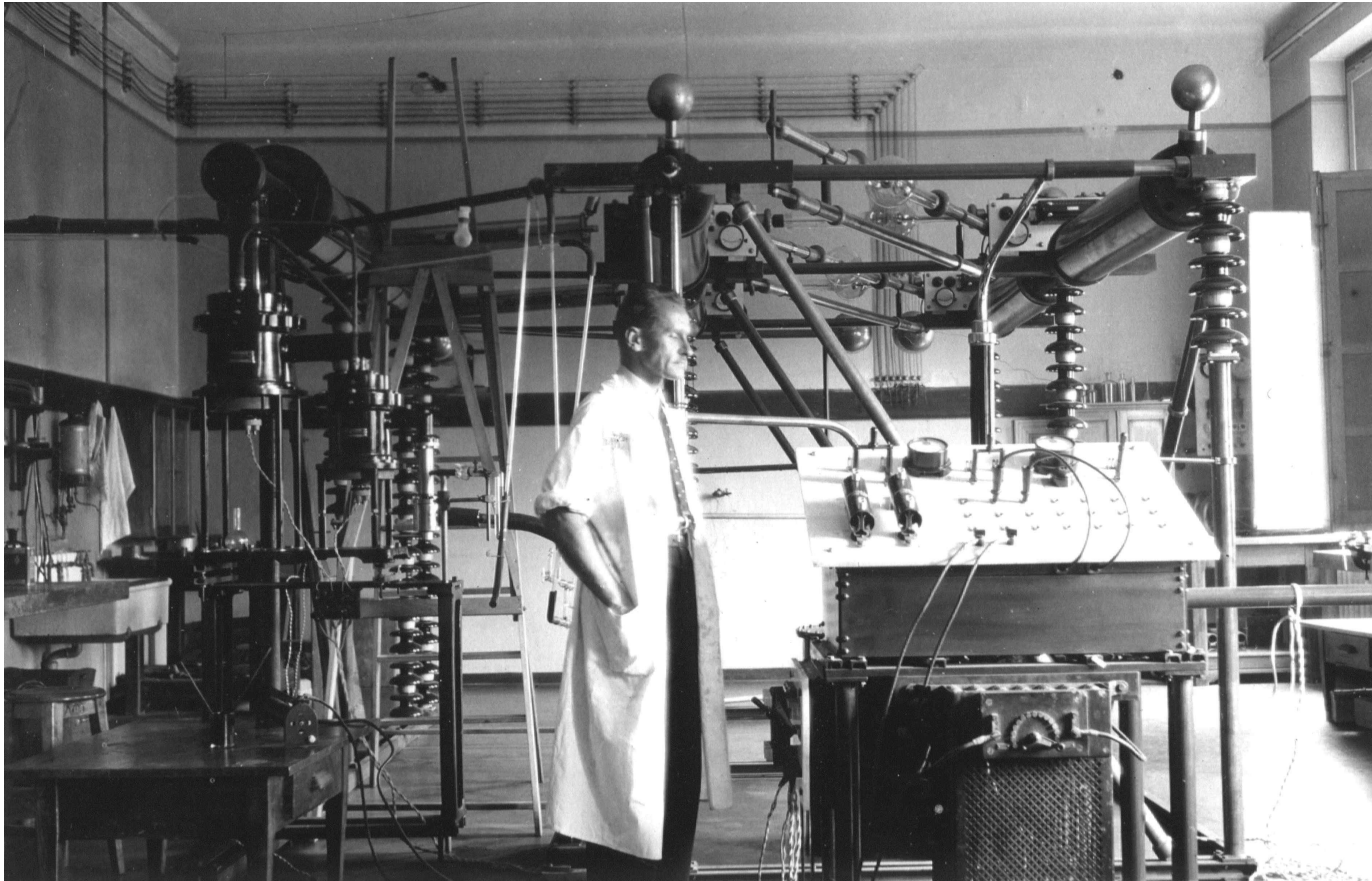
Krzysztof Rusek



First Nuclear Physics Lab in Poland

Hoża 69, prof. A. Sołtan (1937)


deuterons 0.4 MeV, I up to 200 μA




NuPECC Long


Range Plan 2010


 Accelerator Laboratory JYFL, University of Jyväskylä, Finland

 Electron accelerator ELSA, University of Bonn, Germany


 European Centre for Theoretical Studies in Nuclear Physics and Related Areas, ECT*, Trento, Italy

 Forschungszentrum Jülich, FZJ (COSY and HPC), Jülich, Germany

 Institut de Physique Nucléaire, IPNO, Orsay, France

 Grand Accélérateur National d'Ions Lourds, GANIL (SPIRAL), Caen, France


 Helmholtzzentrum für Schwerionenforschung GmbH, GSI, Darmstadt, Germany


 European Organisation for Nuclear Research, CERN (ALICE, AD, COMPASS and ISOLDE), Genève, Switzerland

 Kernfysisch Versneller Instituut, KVI, Groningen, The Netherlands

 Laboratori Nazionali del Sud of INFN, LNS, Catania, Italy

 Laboratori Nazionali di Frascati of INFN, LNF, Frascati, Italy

 Laboratori Nazionali di Legnaro of INFN, LNL, Legnaro (Padova), Italy

 Mainzer Mikrotron, MAMI, University of Mainz, Germany

Max-lab, University of Lund, Sweden

JINR Dubna
Kurtchatov
IPN Kiev
IPN Almaty
Univ. of Astana

-  NuPECC member countries
-  FP7 facilities
-  Smaller-scale facilities

Nuclear Facilities in Poland



○ Szczecin



○ Warszawa

Lodz ○

Katowice ○

○ Lublin

○ Kraków

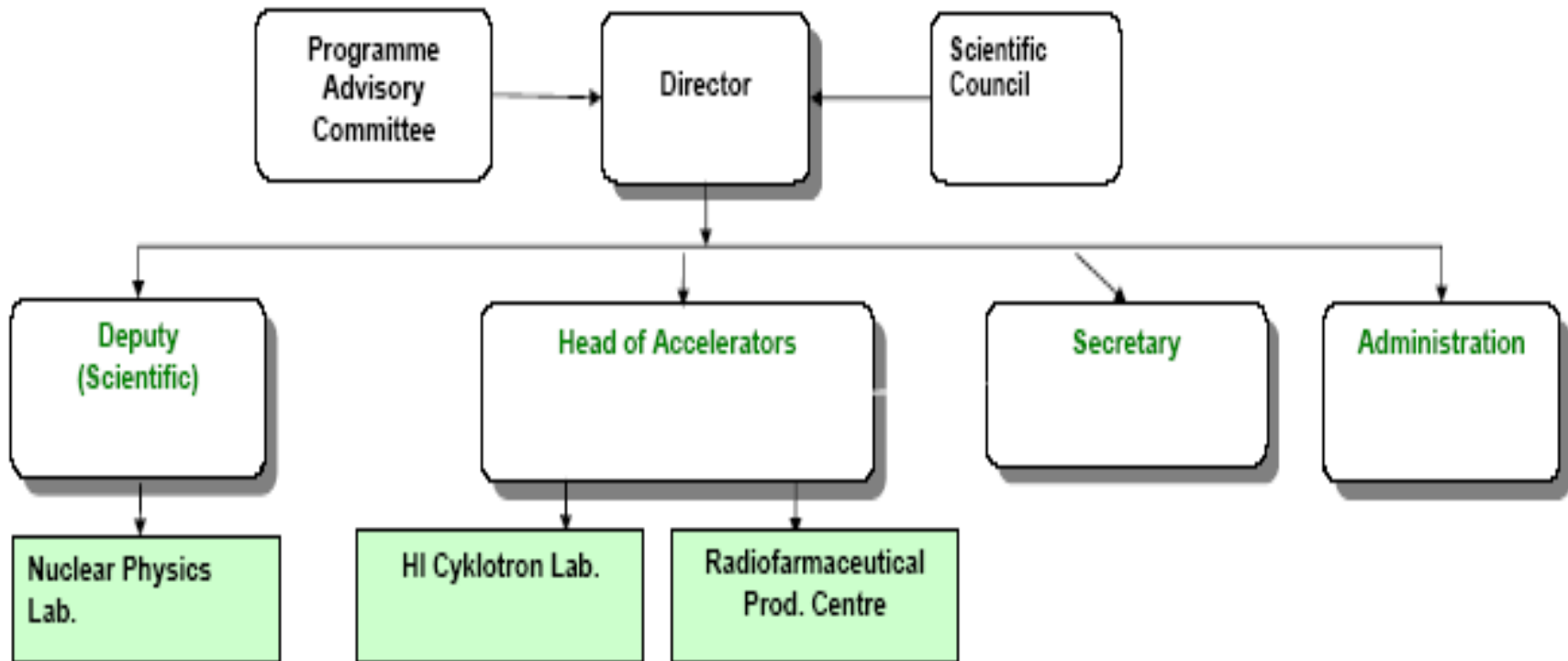




Science Campus Ochota



Heavy Ion Laboratory UW - a user laboratory



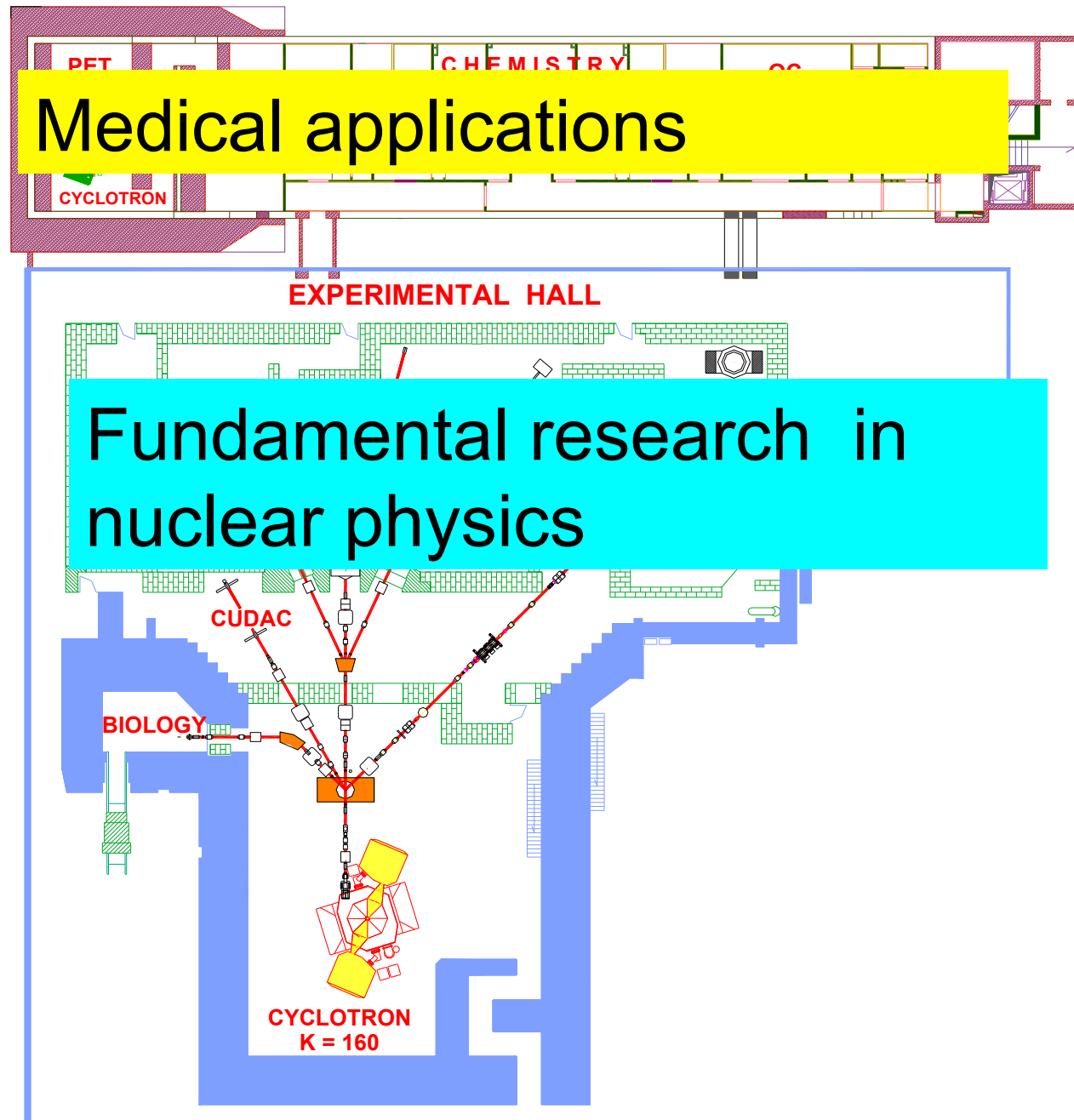
Staff

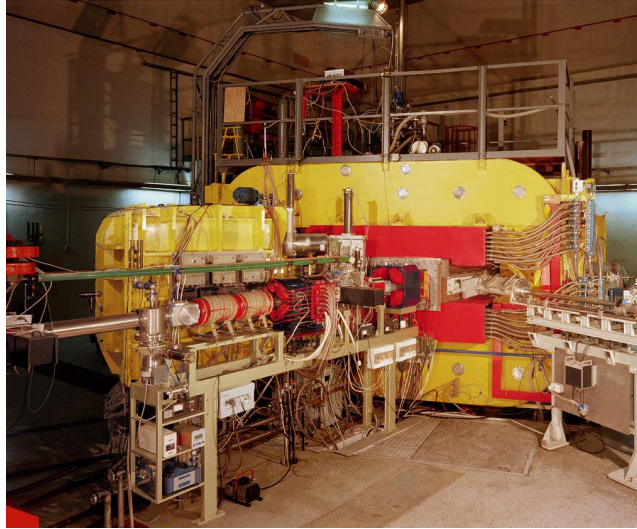


Scientists – 13
PhD students – 7
Technicians – 35
Administration - 8

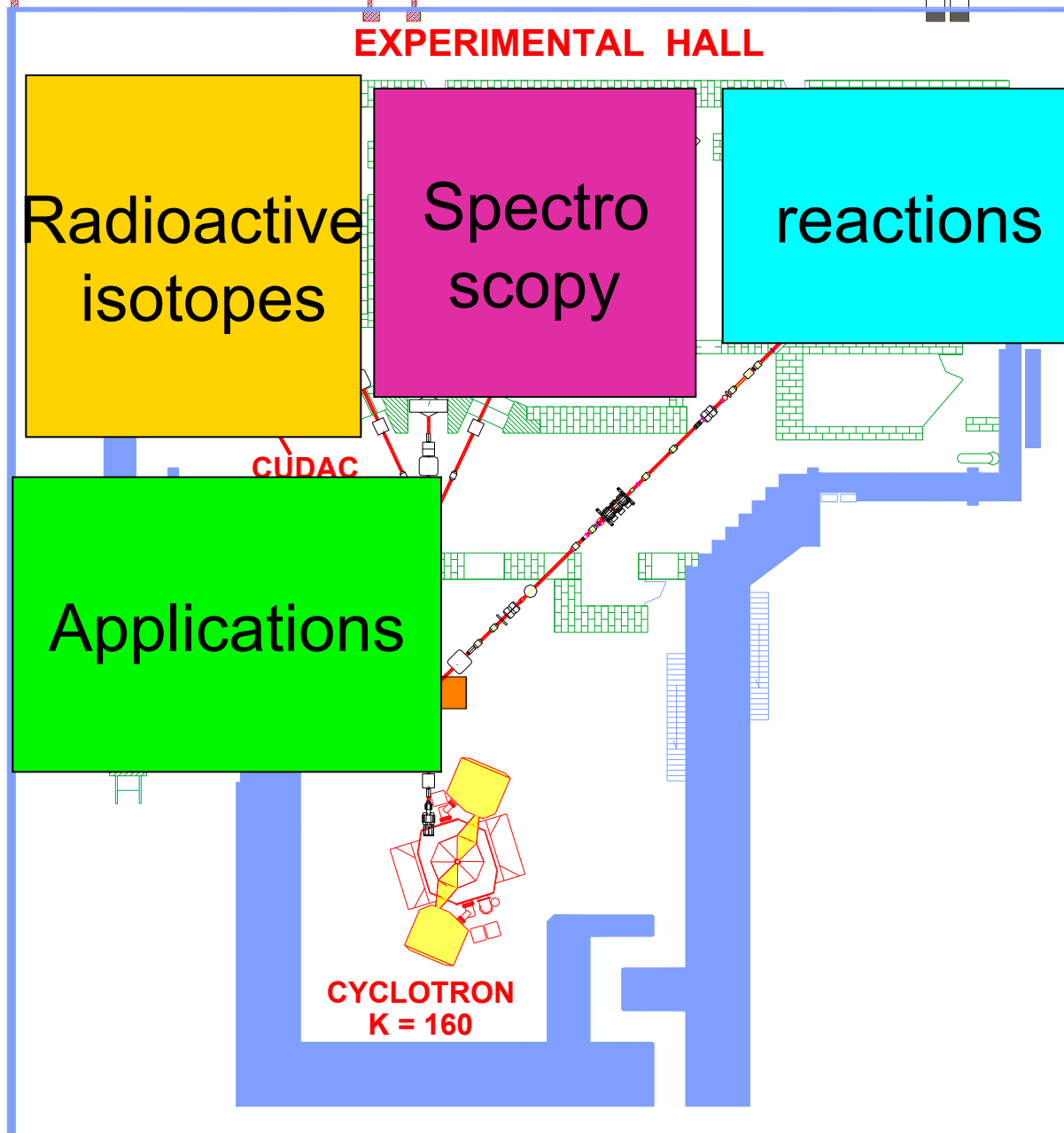
Medical applications

Fundamental research in nuclear physics

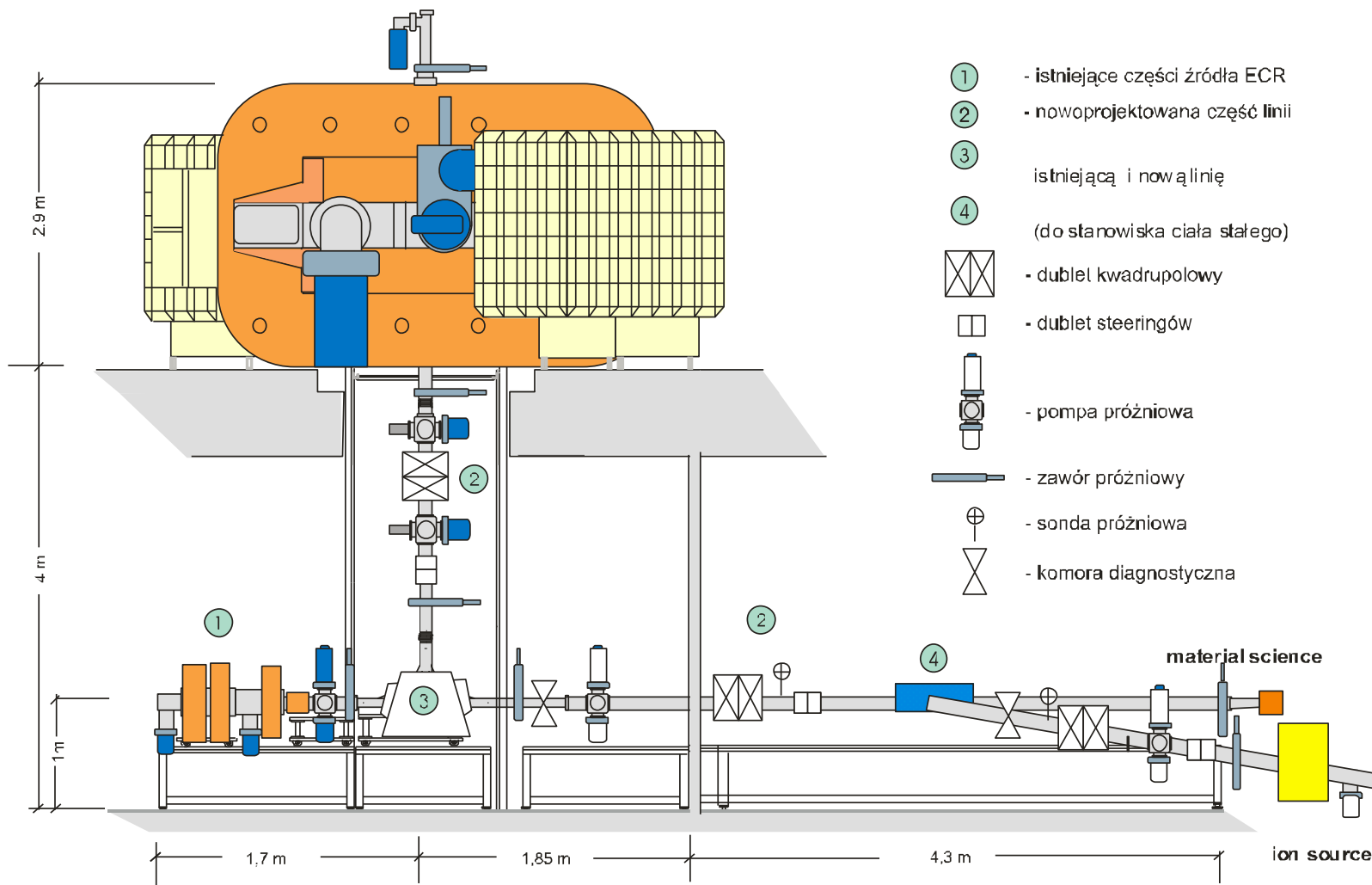




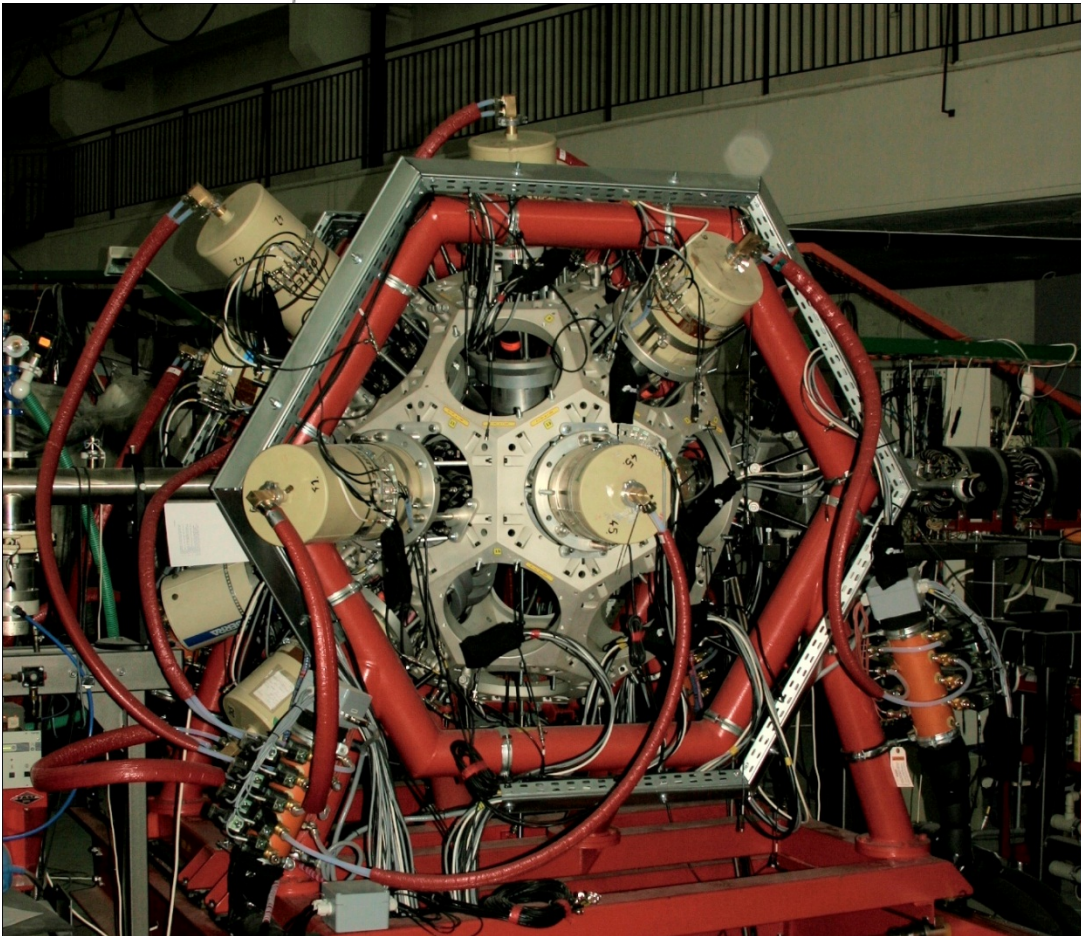
Energies 2 ÷ 10 MeV/A



Cyclotron U-200 and ion sources

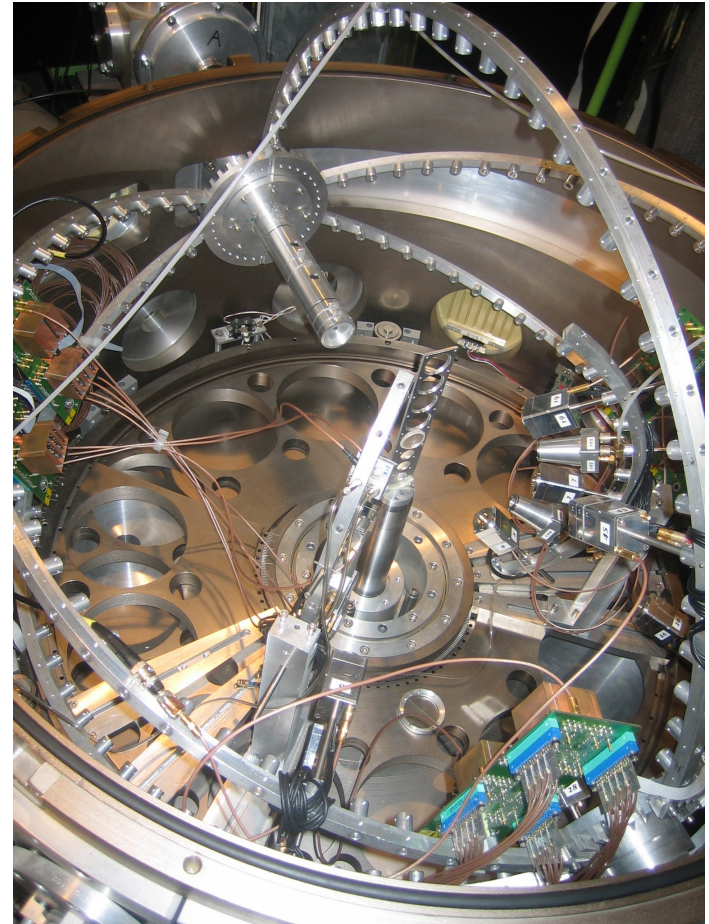
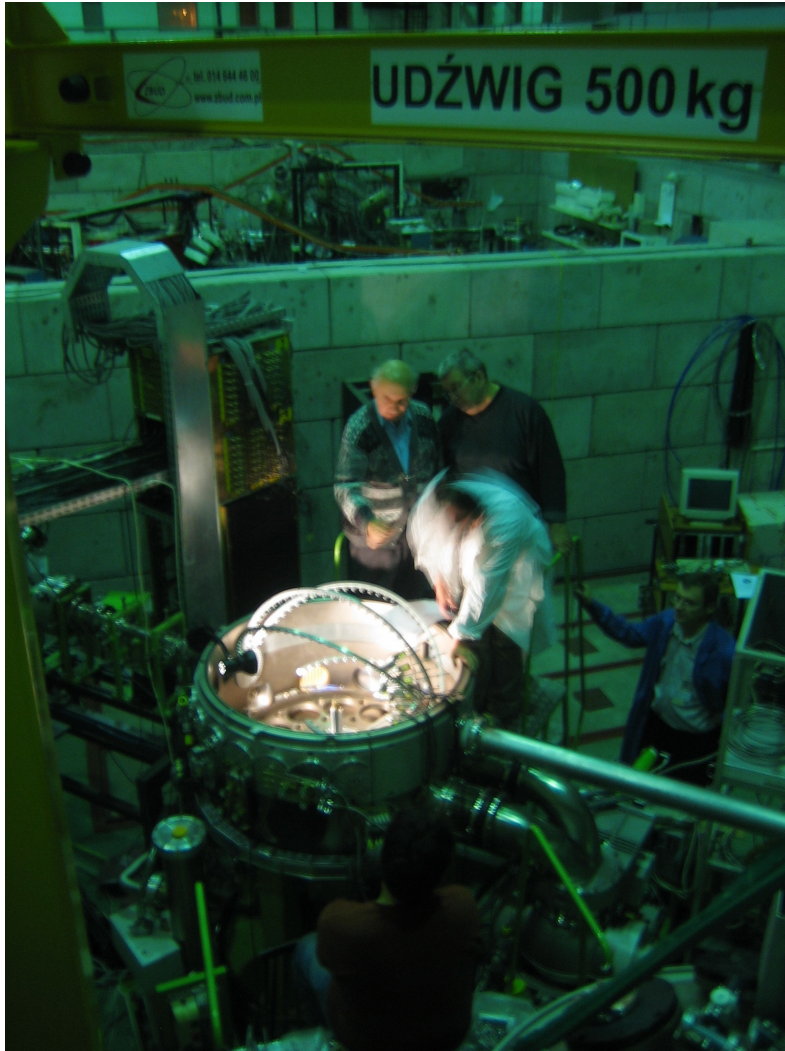


EAGLE γ - spectrometer



- up to 30 HP Ge detectors coupled to:
 - ◆ Internal conversion electron spectrometer
 - ◆ Scattering chamber with charged particles detectors

ICARE large scattering chamber



IGISOL set-up

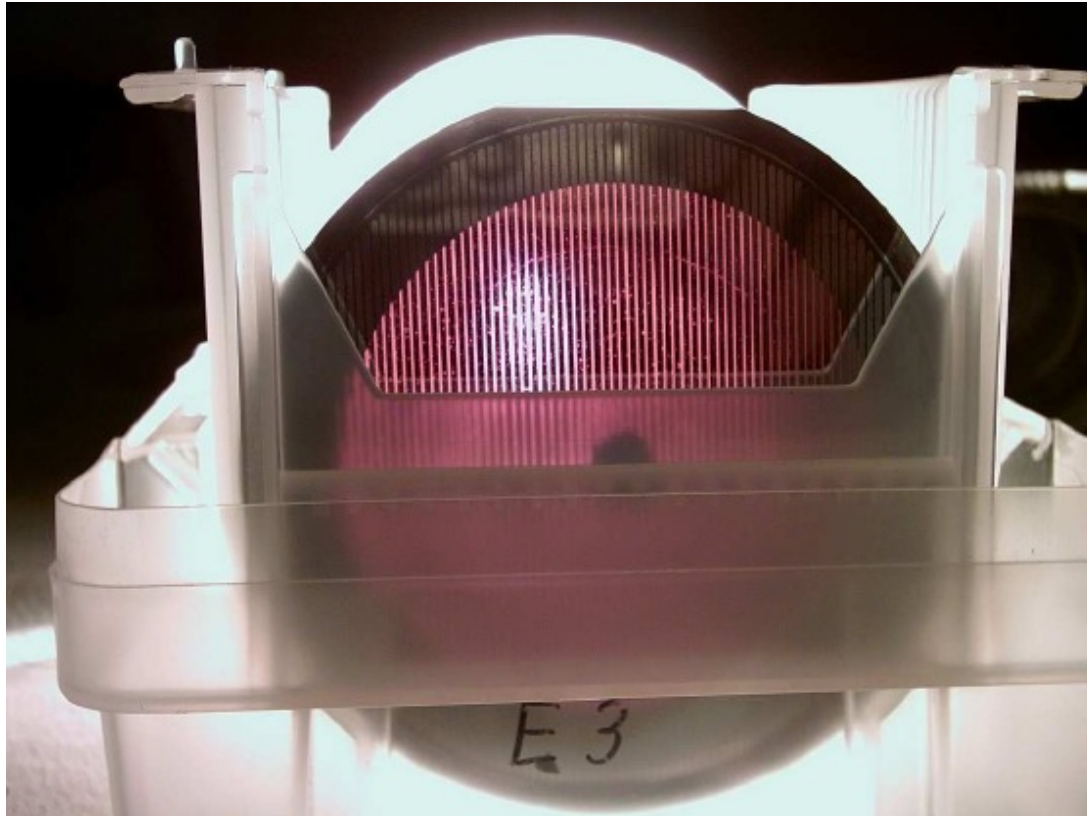
- Ion source
- Helium jet
- Mass separator
- Detection system



Computer codes

- GOSIA
- Davydov-Filippov
- COMPA

Detector laboratory



4 inch, 7.3 μm
Si strip detector

prof. A. Kordyasz

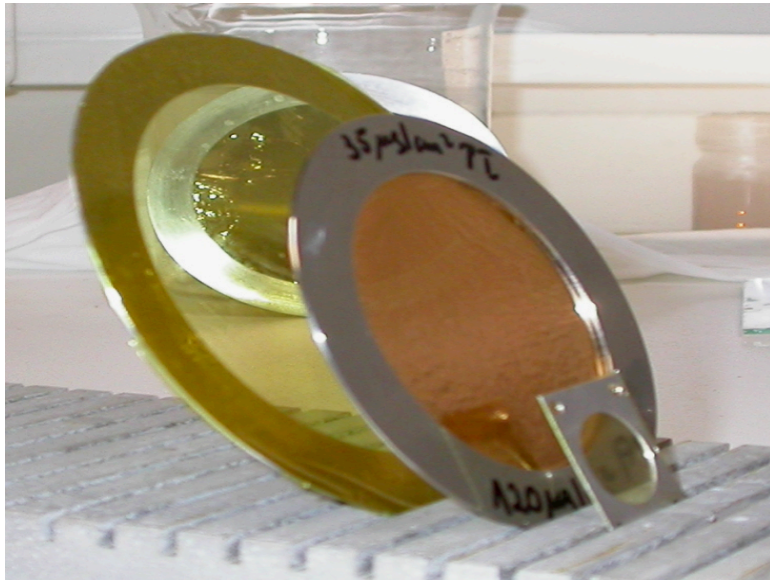
Target laboratory

dr Anna Stolarz



Head of *International Nuclear Target Development Society*

www.intds.org



polyimide (C²²H¹⁰N²O⁴)_n

**Perfect mechanical
properties, high chemical
resistance, low radiadion
damage**

Fundamental research

- Coulomb excitations
- Life time measurements
- K-isomers
- Coulomb barrier distributions
- Transfer reactions
- Exotic alpha-emitters
- Surviving of irradiated cells
- Atomic clusters
- New radiopharmaceuticals

Teaching



National and international student workshops

Integrating actions:

XXXIII Mazurian Lakes Conference on Physics Frontiers in Nuclear Physics Piaski, Poland, September 1-7, 2013

Topics

- Super-heavy nuclei
- Towards the drip lines
- Nuclear physics near Coulomb barrier
- From direct reactions to heavy-ion fragmentation
- Nuclear structure and astrophysics
- New facilities
- Applications

Programme Advisory Board

Juha Äystö (Jyväskylä)
Georg Bollen (MSU)
Maria J.G. Borge (ISOLDE CERN)
Angela Bracco (Milano)
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Janusz Wilczyński (Świerk)

TASCA workshop:
Christoph Düllmann, (Mainz/GSI/HIM)
Alexander Yakushev, (GSI)

Further information:

e-mail: mazurian@fuw.edu.pl,
<http://www.mazurian.fuw.edu.pl>

Local Organizing Committee: K. Rusek (Chairman), K. Rykaczewski (Vice-chairman),
D. Chmielewska, K. Delegacz, M. Godlewski, S. Małek, C. Mazzocchi, L. Próchniak, M. Wolińska-Cichocka

Organized by: the University of Warsaw, National Centre for Nuclear Research, the Pro Physica Foundation

Summary

Heavy Ion Laboratory, University of Warsaw :

- National nuclear physics laboratory open for external users
- Recognized in Europe
- Involved in teaching
- developing medical applications

Thank you!