

International Atomic Energy Agency

**The Agency's Laboratories:
For a Safer, Cleaner and
sustainable Environment**

**Department of Nuclear Sciences and
Applications**

G. Voigt, DIR-NAAL



Our mission



*Direct support to Member States
through training, quality assurance,
measurements, calibration and auditing services.*

*Applied Research and Development
within the IAEA programmes in food and
agriculture, human health, environment and
hydrology, physics and chemistry, and
safeguards verification*



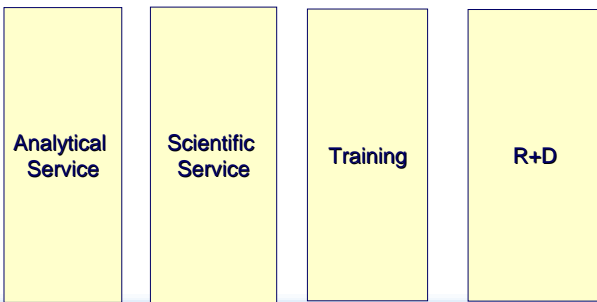
- Together with NAML (Monaco Laboratories) the only laboratory facility within the UN system with R&D activities

The Laboratories at a Glance

Annual Budget ~ 15 Mio €
Premise ~ 18 000 m²
Staff ~ 180 + 20 fellows



The 4 columns of NAAL



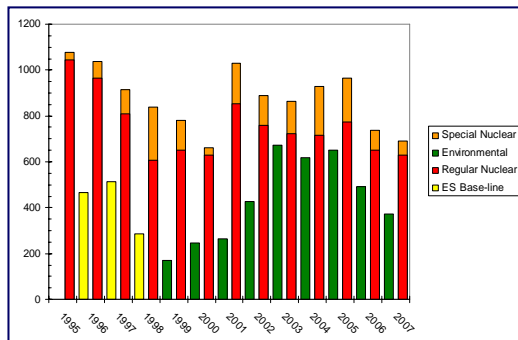
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Organization

- Director's office and Quality Management
- FAO/IAEA joint Agriculture and Biotechnology Laboratory (ABL)
- Safeguard Analytical Laboratory (SAL)
- Physical-Chemical Instrumentation (PCI)
- General Service and Safety (GESS)

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Nuclear Material and Environmental Samples received at SAL, 1995 - 2007



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Higher food quality and productivity
Radiation in Plant Breeding

• Development of Black Sigatoka Disease resistant banana mutants



• Salt tolerant varieties of rice through mutation breeding



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Banana cultures in Seibersdorf





Disease Control
SIT: Tsetse, Med fly and mosquito



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Management of the Environment: from measurements to impact assessment

Terrestrial Ecosystems

- Natural/semi-natural
- Agricultural

Aquatic Ecosystems

- Freshwater
- Marine

Urban/Industrial Ecosystems

Combination with impact e.g. health effects

⇒ **Integrated Environmental Approach**



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Objectives of environmental projects

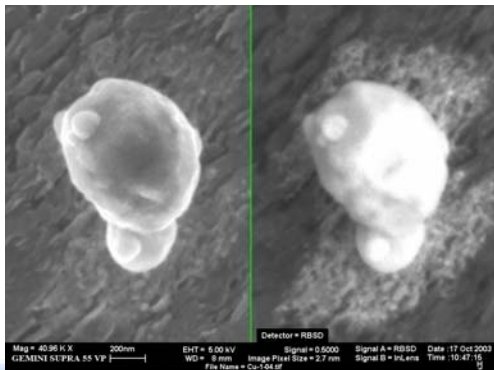
To enhance the analytical but also theoretical (modelling) capacities of MS

- Understanding the fate of pollutants in the terrestrial environment
- Assessing the impact of radiation on nature which will allow to effectively manage/remediate the environment for sustainable development



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Study of the fate of Depleted Uranium



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Nuclear Instrumentation for cultural heritage



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Reference Materials for Science and Trade

- The IAEA is the major world-wide provider of natural matrix reference materials characterized for radionuclides.
- More than 90 reference materials are available, totalling 25000 units.
- RMs address the needs of MS laboratories for four different analyte groups:
 - Radionuclides,
 - Organic Contaminants,
 - Stable Isotopes and C-14,
 - Trace Elements and Methylmercury.



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RM Services of NAAL

- Preparation, certification and distribution of Reference Materials (RMs)
- Organisation of interlaboratory exercises
- Organisation of proficiency tests
- Assisting QA/QC procedures by providing RMs
- Assisting with training and analytical advice



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Agency's Laboratories Seibersdorf
