

#### **IAEA Technical Cooperation Project:**

RER7009: Enhancing Coastal Management in the Adriatic and the Black Sea by Using Nuclear Analytical Techniques

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#### **Facts and Figures**



#### 170 Member States (as of 30<sup>th</sup> April 2018)



#### HQ in Vienna

- Laboratories in Seibersdorf, Monaco and Vienna.
- Regional offices in Toronto and Tokyo.
- Liaison offices in New York and Geneva

#### Organization



- Director General
- Director General's Office for Coordination
- Secretariat of the Policy-Making Organs
- Offices of Legal Affairs; Public Information and Communication; and Internal Oversight Services, and
- 6 Departments:



### The Technical Cooperation Programme



- Main mechanism for IAEA to deliver services to its Member States
- Support Member States to build capacities in safe and peaceful use of nuclear technology for sustainable socioeconomic development



### **Technical Cooperation: A shared responsibility**

#### **Technical Cooperation Programme**



### **Technical Cooperation Department**



- Interface between Member States and the Secretariat
- Management of TC programme in cooperation with technical departments
- Vehicle to support programme implementation and monitoring across the IAEA



### What services does the TC Programme provide?





Training fellowships & scientific visits



Equipment & materials



Training courses & workshops

Capacity building Networking Knowledge sharing Partnership building

TC Programme aims to support sustainable socioeconomic development in Member States



Expert assistance



Conferences, symposia & seminars

Technical Cooperation (TC) Projects

#### **TC Programme Stakeholders**



### TC programme topic areas

#### Water & Environment









#### Energy







#### Health & Nutrition







#### Food & Agriculture







#### **Radiation Technology**







Knowledge Management

#### **TC project types**

Infrastructure building

Address country's specific needs About 60-65% of the programme

**National** 

#### Regional

Networking and experience sharing

Address issues of common interest and issues of regional dimension



#### Interregional

Networking and experience sharing

Address issues of common interest to the four regions



#### Member States Europe & Central Asia





> MSs with TC national programmes: 29

MSs participating in TC regional programme only: 4



Member State	Contact person Address
Albania	Nikolla Civici, University of Tirana
Bosnia & Herzegovina	Mirza Nuhanovic, University of Sarajevo, Sarajevo
Bulgaria	Krasimira Slavova, Bulgarian Academy of Sciences, Varna
Croatia	Jasmina Obhodas, Ruder Boskovic Institute (RBI), Zagreb
Georgia	George Melikadze, Institute of Geophysics, Tbilisi
Italy	Stefano Ridolfi, Università Sapienza, Rome
Montenegro	Danijela Joksimović, University of Montenegro, Institute of Marine Biology (LMCO-IMB),
Romania	Daniela Aura David, National Environmental Protection Agency Bucharest
Russian Federation	Marina Frontasyeva, Joint Institute for Nuclear Research, Applied Research, Dubna
Slovenia	Marijan Nečemer, Jozef Stefan Institute (JSI), Ljubljana
Turkey	Gunseli Yaprak, Institute of Nuclear Sciences; Ege University, Izmir,
Ukraine	Gennadiy Laptev, Department of Environment Radioactivity Monitoring (DERM), Kiev

#### Scope:

- Construction of temporal trends of anthropogenic pollution
- Sources and processes of contaminants
- Use of sediments as natural archives

#### Outcome:

- Assist decision makers in environmental protection policies
- Sustainable coastal management

#### Use of nuclear techniques for sediment analysis

- Alpha, beta gamma spectrometry (incl. PIXE and PIGE)
- Radiometric dating methods (14C, 210Pb and 137Cs).
- Stable isotope ratios (C, O),
- X ray fluorescence (EDXRF/WDXRF),
- Instrumental neutron activation analysis (INAA),
- Mass spectrometry (ICP-MS, GC-MS, LC-MS, AMS),
- Raman spectrometry,
- Scanning electron microscope (SEM/EDS)

#### Strategy:

- Review monitoring data for radionuclides and heavy metals,
- Identify gaps
- Harmonization of sediment sampling strategy (methodology)
- Capacity building
- Quality Assurance
- Database

#### Atlas of sediments for Croatian Adriatic Sea





#### **Results:**

Gap finding workshop at Institute of Oceanology, Bulgarian Academy of Sciences, Varna, Bulgaria, from 25-27 9. 2018

- Capacity building
- Harmonization of sediment sampling strategy (methodology)
- Networking nationally and regionally
- Database collection
- Collection of surface and core sediments on board R/V Academic



#### **Results:**

• Gap finding workshop in Varna, Bulgaria



3 sampling stations
8 cores/ 1 bulk sample





#### **Results:**

Gennadiy Laptev, Department of Environment Radioactivity Monitoring (DERM), Kiev, Ukraine



#### **Results:**

Quality Assurance of data:

- IAEA Certified Reference Material provided
- Proficiency tests for radionuclides and Trace Elements



#### **Results:**

Mid-Term-Meeting February 2019, Vienna

- Reporting on national monitoring
- Development of phase 2 project
- Participation in SEDNET conference, April 2019, Dubrovnik

#### Planned Training Courses/Meetings in 2019:

- April- Beta and Alpha spectroscopy, Izmir, Turkey
- June- X-ray emission techniques, IAEA Vienna
- Oct Regional Workshop Results and Database population
- Nov- Nuclear activation and gamma analysis, IRB, Zagreb
- Dec- Final Meeting of Counterparts

#### Impacts:

- Capacity built!
- Harmonization of sampling and analysis methodology
- Comparability of data
- Filling gaps in coastal pollutant database 'EU Atlas of coastal sediments'
- Assist decision makers developing sediment quality standards
- Provide basis for sustainable ecosystem approach

#### Future:

- Extension of scope in Phase II
  - (metal)organic contaminants
  - Climate change parameters
  - Microplastics
  - Seafood safety
- Expansion to Caspian Sea and bordering countries





Technical Cooperation Programme

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