



**Safety
Quality
Traceability**

Welcome and introduction

Milena Horvat



ERAChair – what it is? (1/2)

- is a new EU measure to bridge the research and innovation divide in Europe. These grants are intended to help develop research excellence in EU Member States, Associated Countries and regions.

ERAChair – what it is? (2/2)

- “ Universities or other eligible research institutions with a demonstrated potential and a concrete plan for research excellence, will be selected by the Commission to appoint research leaders: the "ERA Chairs" and his/her research team.”
- ... to develop, in a particular field, the level of excellence required to successfully compete internationally and effectively widen participation.

Food quality, safety and traceability? (1/3)

- **Food traceability:**

- Under EU law, “traceability” means the ability to track any food, feed, food-producing animal or substance that will be used for consumption, through all stages of production, processing and distribution.
- Normally based on continuous “paper-trail” and effective labeling; however,

Food quality, safety and traceability? (2/3)

- ... **analytical techniques** enabling the provenance of food provide:
 - an independent means of verifying “*paper*” traceability system
 - help to prove product *authenticity*, to combat fraudulent practices and
 - to control *adulteration*, which are important issues for economic, religious or cultural reasons.

Food quality, safety and traceability? (3/3)

- **Traceability** combined with traditional food safety programmes provides the ideal control system for maintaining **food safety and quality** and protecting the consumer.

ERAChair: Iso-food

- ERA Chair for **isotope techniques** in food quality, safety and traceability
- **mobilize** the knowledge and capacities at 4 JSI Departments and 2 CoE
- to **develop** analytical tools to verify the origin (provenance) of agricultural produces and foodstuffs, agricultural practices, food contamination, contamination sources and food safety for the consumers and sustainability of food production.
- To contribute/develop **database** infrastructures
- To **develop a new doctoral** study programme on food research - MPS

Who is involved?

- **JSI research departments**

- Department of Environmental Sciences (O2)
- Department of Condensed Matter Physics (F5)
- Department for Nanostructured Materials (K7)
- Computer Systems Department (E7)

- **Centres of Excellence**

- Advanced Materials of the Future (NAMASTE)
- Nanoscience and Nanotechnology (NANOCENTER)

- *Jožef Stefan International Post Graduate School*

JSI Departments and CoE



- **Department of Environmental Sciences – O2:**
coordination, organic and inorganic environmental analytical techniques, nuclear chemistry, stable isotope geochemistry
- **Department of Condensed Matter Physics – K7:**
nanoparticles characterization, self-ordering, inorganic nanotubes
- **Department for Nanostructured Materials – F5:** electron microscopy and microanalysis
- **Computer Systems Department – E7:** automation of computing structures and systems – web-based and mobile applications, web services for data interchange and harmonisation, food composition and consumption databases in public-health and clinical nutrition

JSI Department

- **Department of Environmental Chemistry**: coordination, organic and inorganic analytical techniques, geochemistry
- **Department of Condensed Matter Physics**: nanoparticles characterisation, nanotubes
- **Department for Nanoscience**: microscopy and microanalysis
- **Computer Systems Department – E7**: automation of computing structures and systems – web-based and mobile applications, web services for data interchange and harmonisation, food composition and consumption databases in public-health and clinical nutrition

Mass spectrometers for stable isotopes (CF-IRMS, GC-C-IRMS), ICP-MS, HPLC-ICP-MS, GC-ICP-MS, GC-MS/MS, UPLC MS, TOF-ESI-MALDI MS, NNA, alpha and gamma spectrometry, beta counters

MC-ICP-MS

UHV-AFM/STM, Near Field Optical Microscope (SNOM) with atmospheric AFM and confocal Raman spectrometer, HRTEM and SEM-EDS, zetameter, stereomicroscopes, Scanning Mobility Particle Sizer (SMPS)-TSI and Dekati Impactor for detecting nanoparticles in air, Focussed Ion Beam FIB

International collaborating institutions

LGC, Teddington, UK	INRA, French National Institute for Agricultural Research, France	Department of Hydrogeology and Analytical Chemistry, University of Almería, Spain
JRC Ispra, Italy	Mainz University: Institute for Chemistry, Mainz, Germany	<ul style="list-style-type: none"> ○ Joint projects ○ Workshops ○ Metrology support ○ Staff exchange
JRC IRMM, Geel, Belgium	University of Birmingham, UK	
BAM, Federal Institute for Material Research and Testing, Germany	Technical University of Denmark, National Food Institute, Søborg	University of Pannonia, Veszprem, Hungary
Institute of Chemistry-Analytical Chemistry, Karl-Franzens University Graz	Josephinum Lehr und Forschungszentrum, Wieselburg, Austria	



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JRC Ispra, Italy	Mainz University: Institute for Chemistry, Mainz, Germany	University of Bari, Chemistry Department, Italy
JRC IRMM, Geel, Belgium	University of Birmingham, UK	Ruđer Bošković Institute, Zagreb, Croatia
BAM, Federal Institute for Material Research and Testing, Germany	Technical University of Denmark, National Food Institute, Søborg	University of Pannonia, Veszprem, Hungary
Institute of Chemistry-Analytical Chemistry, Karl-Franzens University Graz	Josephinum Lehr und Forschungszentrum, Wieselburg, Austria	

National stakeholders



Slovenian Research Agency	Chemical Office of R Slovenia	Waters' Technology Platform	
Ministry of Agriculture and Environment	The Administration of R Slove for Food Safety, Veterinary and Plant Protection	<ul style="list-style-type: none"> ○ Research funding ○ Expert advise ○ Accreditation ○ Analytical services ○ Research collaboration 	
Metrology Institute	Health Inspectorate of R Slove		
Slovenian Institute for Hop Research and Brewing, Žalec	Inspectorate of R Slovenia for Agriculture and the Environment		Univ. of Nova Gorica, Faculty of Envir.Sc., Sch. of Viticulture and Enology
Nat. Inst. of Public Health	Univ. of Maribor, Faculty of Agriculture and Life Science		Slovenian Chemistry Institute
Slovenian Beekeepers' Association	Agricultural Institute of R Slovenia		Environment Agency
Agriculture and Forestry Institute, Maribor	Customs Administration of the Republic of Slovenia	Ljubljanske mlekarne, Pomurske mlekarne, Celeia, Vipavske mlekarne, Mlekarna Planika.	
Fructal d.o.o	Labs d.o.o	Lotrič d.o.o.	
IEI, d.o.o.	Etol d.o.o	Public Health Institute Celje	
ZPS - Slovene Consumers' Association (NGO)	Slovene Association of Arterial Hypertension Slovene	Celiac Society	





