



## FP Mobility – Marie Curie ToK Experience

Alpbach, august 20, 2008

Đurđica Ugarković  
Ruđer Bošković Institute, Zagreb  
Croatia

## Marie Curie Host Fellowship for the Transfer of Knowledge – ToK

The fellowship is targeted towards:

-**Organizations (universities, research centers, enterprises, SMEs)** which need to develop new areas of competence.

It allows experienced researchers to be hosted at such organizations for the transfer of knowledge, competences and technology

**The aim of the action is to develop research capabilities in the less-favoured regions of the EU**

There were two types of **Marie Curie –ToK** fellowships within FP6:

**MC –ToK Development Scheme (TOK-DEV):**

Aimed to develop the research potential of institutions in less-favoured regions in the EU

**MC- ToK Industry-Academia Strategic Partnership Scheme (ToK-IAP):**

Supports the development of long-lasting collaborations between industry and Academia via the exchange of researchers

**The size of MC-ToK projects: 200 000 – 1 200 000 EUR**

**Equivalent programmes within FP 7**

FP6 action “MC-ToK-Industry Academia Strategic Partnership” (ToK IAP) exists under the name “Industry-Academia Pathway and Partnership” u FP7

FP6 ToK- Development (ToK-DEV) scheme exists within “Capacities” Specific Programme as action “Research Potential” u FP7

### MC-ToK DEV fellowship

The research institution applies to the EC for funding

The Commission selects the suitable proposal and signs the contract with the successful host

The host institution selects the fellows (experienced researchers) directly, following the guidelines set by the Commission

Fellowships last between two months and two years and are open to experienced researchers of all EU nationalities

The host institution may also send experienced researchers from among their own staff to one (or more) partner institutions in another country for the acquisition of new knowledge to be transferred in their return home

### Marie Curie Host Fellowship for Transfer of Knowledge (TOK) – MTKD-CT-2006-042248

**“Structural and functional analysis of noncoding heterochromatic DNA in insect *Tribolium castaneum*”**

***Project coordinator: Đ. Ugarković***

#### **Abstract:**

The overall aim of the project is to improve a knowledge and develop an experimental skill in the field of eukaryotic genome organization, in particular of heterochromatic and centromeric regions composed of repetitive, noncoding DNA, followed by functional analysis of noncoding DNA. This improvement will include introduction of bioinformatic tools necessary for the survey of the whole genomes such as *T. castaneum* and *B. mori* with the aim to detect and map tandemly repeated noncoding sequences. Following bioinformatic approach, these sequences will be further experimentally characterized and their function will be studied. These analyses will include transfer of modern molecular biological methods and techniques such as chromatin immunoprecipitation (ChIP) and gene silencing using RNAi, as well as biochemical methods for RNA-protein interaction analysis. Adjacent of the whole-mount *in situ* hybridization for the *T. castaneum* and *B. mori* systems and introduction of cell assay with suitable reporter genes will further contribute to the development of the competence in the field of genomics related to noncoding DNA organization and function.

**Work plan for MC-ToK project:**  
**“Structural and functional analysis of noncoding heterochromatic DNA in insect *Tribolium castaneum*”**

Task No. – Title of the task	Organizations involved	Fellows involved	Start month	End month
1. Centromeric DNA analysis – ChIP assay	RBI	1 recruited exp. researcher, RBI PhD student ½ of full time	1.	24.
2. Heterochromatic DNA assembly, BAC cloning and sequencing	RBI, Pompeu Fabra University	RBI PhD student ½ full time, RBI staff member trained in PFU, RBI postdoc ½ of full time	1.	24
3. Bioinformatic screening of repetitive DNA	RBI, Pompe Fabra University	RBI staff member and senior researcher trained at PFU, recruited highly experienced researcher	1.	36.
4. Transcriptional analysis of tandemly repeated sequences	RBI	2 PhD students, full time	13.	36.
5. Functional analysis of tandemly repeated sequences using cell assay	RBI,	1 recruited exp. researcher, 1 RBI PhD student, full time	25.	48.
6. <i>In situ</i> localization of transcripts	RBI, Univ. Balearic Islands	IRB staff member and senior researcher trained at UBI, recruited highly experienced researcher	25.	48.

**Provisional recruitment or exchange of staff calendar**

year	Recruited experienced researcher - period (months)	Recruited highly experienced researcher - period (months)	Outgoing Staff - period (months)
1	1 – 24		1 – 12
2		1 – 3	1 – 3
3	1 - 24		2 – 6 and 2 months
4		1-3	

### Financial basis of the MC-toK project

Salaries (gross) of researchers:

<10 years of experience: 47 000 EUR

>10 years of experience : 70 500 EUR

Research costs : (1200 EUR/researcher/month)

Overheads: 10%

Management costs: 3%

MC ToK project: "Structural and functional analysis of noncoding heterochromatic DNA in insect *Tribolium castaneum*"

2006.-2010. total financing: 550 000 EUR

### Motivation for applying for MC-ToK project

MC-ToK project enables improvement of research at host institution by:

- Recruitment of experienced researchers
- Training of researchers from host institution abroad, at partner institutions
- Provides financial support for the experimental work of recruited and outgoing researchers (1 200 EUR/month/researcher)

### Advantages of MC-ToK project relative to other EC actions

- MC-ToK Project is not restricted to specific research topics
- **Relatively simple preparation** which includes:
  - Research plan
  - Mobility schema
  - Simple financial calculation

### Experience with MC-ToK project:

- positive
  - Experienced researchers are recruited from Hungary and Italy (vacancies advertised according to EC instructions)
  - Researchers from Ruđer Bošković Institute are trained at partner institutions (Pompeu Fabra University and University of Balearic Islands) according to the proposed schedule
- RBI administration acquires experience in processing of EC projects

#### **Problems:**

Legal regulation in Croatia: complicated procedure for the employment of foreign citizens