



GLOBAL EDUCATION DIALOGUES  
**The East Asia Series**  
2013-2014

## **Researcher Links:**

### **International Research Collaboration**

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Thailand Research Fund

# Agenda Research Framework of TRF

- Linking National Policy to Transnational Relations
  - ASEAN Community and East Asia
  - Reducing Inequality
  - Educational Reform and Improving Education and Learning
  - Corruption Eradication and Promotion of Good Governance
  - Benefits and Maritime Security
  - Ethics, Culture and Discipline of Thais
  - Sciences, Social Sciences and Humanities
  - Overcoming Middle Income Trap
- Strengthening Thailand's Competitiveness in the Global Arena
  - Specific collaborative activities
    - Science, technology and innovation
  - International collaborations
    - Human resource development through mobility funding
      - Royal Golden Jubilee PhD programme (RGJ)
      - Research and Researchers for Industry programme (RRI)
      - International Research Network program (IRN)
    - Joint research funding

# International collaborations: through mobility funding of graduate students and researchers

<b>1996-present</b>	<b>Royal Golden Jubilee-Ph.D. Programme (RGJ)</b>	<ul style="list-style-type: none"> <li>• Ph.D. fellowships (oversea research collaboration)</li> </ul>
<b>2007-2011</b>	<b>RGJ-Industry Programme</b>	<ul style="list-style-type: none"> <li>• Ph.D. fellowships (oversea research collaboration)</li> </ul>
<b>2012-present</b>	<b>Research and Researcher Programme (RRI)</b>	<ul style="list-style-type: none"> <li>• Ph.D. fellowships (oversea research collaboration)</li> <li>• Master degree fellowships</li> <li>• Research questions must come from industries</li> </ul>
<b>2013-present</b>	<b>International Research Network (IRN)</b>	<ul style="list-style-type: none"> <li>• Ph.D. fellowships (oversea research collaboration)</li> <li>• Post-Doc fellowships (Thai and oversea post-doc working in Thailand)</li> <li>• Research grants</li> <li>• Working as research network</li> </ul>

# Progress and Achievement of RGJ and RGJ-Industry Programme



Distribution of Fellowships among Thai universities

as of 30 September 2013

No	University	Engineering	Environment-Technology	Physical Science	Biological Science	Health Science	Agriculture	Humanities-Social Sci.	Total
1	Mahidol	1	85	96	346	242		55	825
2	Chulalongkorn	146	209	101	106	159		69	790
3	Chiang Mai	37	64	75	109	68	32	12	397
4	Kasetsart	50	50	47	64		140		351
5	Khon Kean	18	18	25	99	75	59	8	302
6	KMUTT	112	157	4	6		9		288
7	Prince of Songkla	15	62	38	77	75			267
8	Suranaree U. Tech.	37	49	63	15	1	15	2	182
9	Thammasat	59	17			21		40	137
10	KMITL	44	4	14				3	65
11	Naresuan	1	4	20	8	14	3	4	54
12	Silpakorn	1		2	2	27		2	34
13	Srinakarinwirot		2	5	17	6			30
14	KMUTNB	17							17
15	Mae Fah Luang		7	3	4			1	15
16	Burapha		4	1	7			3	15
17	Ramkhamhaeng			12				1	13
18	Walailak	1	1	6			4		12
19	Mahasarakham	3	3					3	9
20	Ubon Rajathanee			3			3	1	7
21	CGI			2	3				5
22	Rangsit	2	1						3
23	Shinawatra		1					1	2
24	NIDA							1	1
25	Maejo						1		1
	Total	544	738	517	863	688	266	206	3822

# RGJ - Ph.D. MANAGEMENT SYSTEM

## Quality Measures :

(1) Highly qualified Ph.D. advisors

(2) **High quality Ph.D. students**

(3) Requirement to produce international publications

More than 1,600 Thai advisors  
from 25 leading universities

Financial support from  
government

Financial support from  
international organizations

Financial support from  
OHEC, University

More than 2,800 Foreign advisors from  
900 institutions in 45 countries

Management and inputs from the  
program's staff (16 persons)

RGJ-Ph.D. Program  
3,822 students

### Outputs:

- Ph.D. graduates
- International publications, Patents
- Strengthened graduate programs and research units
- International research interactions and collaborations

### Quality enhancing activities

(Organized by RGJ-Ph.D. Network Coordinators):

- RGJ-Ph.D. Congress
- RGJ-Ph.D. Seminar Series
- RGJ-Ph.D. Electronic Network
- RGJ-Ph.D. Newsletters
- Site Visits

### Impact:

Strengthening of research  
capability and improvement in  
competitiveness

## Budget for each Ph.D. student

USD 47,000 (3 year grant) – USD  
65,000 (5 year grant)

- 72% to student (living expenses, education fee, travel expense)
- 14% to local advisor (travel expenses, honorarium)
- 14% for international cooperation (travel expenses for foreign advisor, research consumables)

# Research Interactions with overseas Institutions through RGJ and RGJ-Industry Programme

No.	Countries	No. of collaborating projects
1	USA	1003
2	Japan	497
3	Australia	299
4	UK	314
5	Germany	181
6	France	146
7	Canada	142
8	Sweden	64
9	The Netherlands	48
10	Austria	41
11	New Zealand	40
12	Denmark	37
13	China	35
14	Korea	34
15	Singapore	32
16	Taiwan	26
17	Belgium	24
18	Switzerland	21
19	Italy	15
20	Spain	13
21	Portugal	11
22	Ireland	9
23	Norway	8

as of 30 September 2013

No.	Countries	No. of collaborating projects
24	Finland	7
25	South Africa	6
26	Russia	5
27	Slovak Republic	5
28	Hungary	4
29	Czech Republic	4
30	India	4
31	Poland	4
32	Greece	3
33	Israel	3
34	Malaysia	2
35	Mexico	2
36	Croatia	1
37	Hong Kong	1
38	Iceland	1
39	Slovenia	1
40	Turkey	1
41	Vietnam	1
42	Romania	1
43	Algeria	1
44	Brazil	1
45	Philippines	1
Total of collaborating projects		3,099
No. of foreign collaborators		2,792 <sup>6</sup>

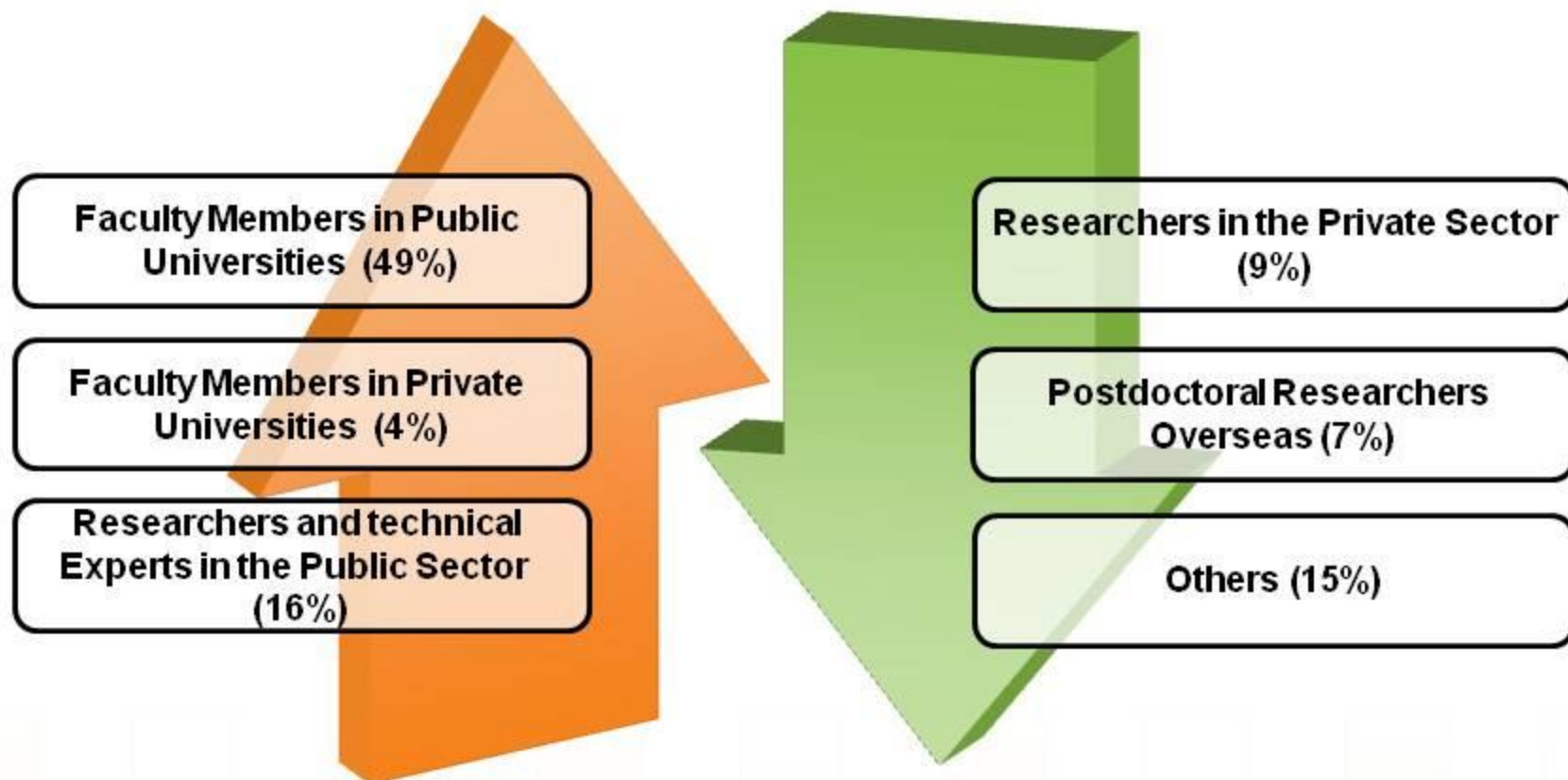
- Under RGJ-Industry Programme (2007-2011)

- 187 Ph.D. students
- 24 Ph.D. graduates
- 95 foreign collaborators/co-advisors
- Industrial sectors involved
  - Agri-food 41 %
  - Petrochemicals 18 %
  - Electrical and electronics 8 %
  - Materials 7 %
  - Etc. 21 %



# PROGRESS AND ACHIEVEMENT OF RGJ PROGRAMME

as of 30 September 2013



**RGJ-Ph.D. graduates have played significant roles in higher education and research in both public and private sectors.**



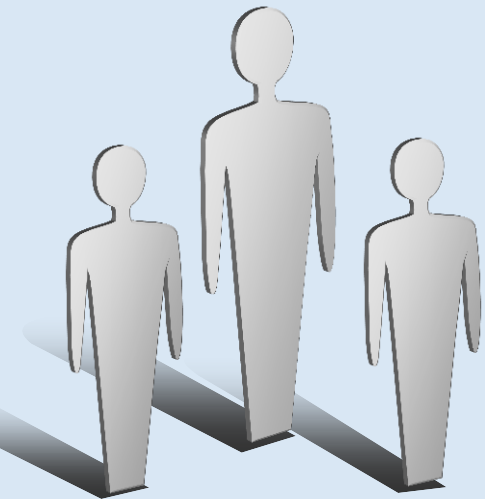
From...

RGJ & RGJ-Industry Programmes  
Master Research Grant (MAG)



... to

Research and Researchers for Industries



From...

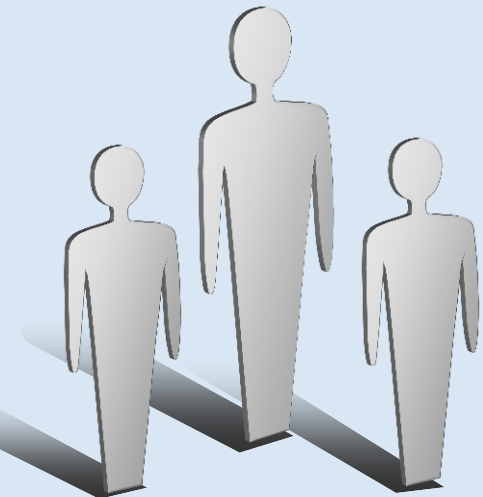
RGJ's International Cooperation



**Pilot IRN project – started in 2011**  
... to



**International Research Network (IRN)**  
**Started October 2013**



# Clusters of Network prioritized by TRF under IRN Programme

Socio-economic impact & sustainable competitiveness for Thailand

- Climate Change, Water, Land and Environment
- Energy and alternative energy
- Food Security and Food Safety
- Health and Demographic Transition
- Logistics and Supply Chain

## Pilot IRN initiated by RGJ since 2011

- **Food Security and Food Safety**
  - Food Borne Disease (*Campylobacter*) [RGJ + BBSRC + NSTDA]
  - Food Matrix Microstructure and Gut Health [RGJ]
- **Energy and Alternative Energy**
  - Clean Combustion and Biofuels [RGJ + CIRAD]
- **Climate change, Water, Land and Environment**
  - LCA and Policy on Food, Fuel, and Climate Change [RGJ]
  - Rubber Agronomy [RGJ+CIRAD]
- **Health and Demographic Transition**
  - Natural Product [RGJ + BBSRC + NSTDA]
  - Thalassemia [RGJ]
- **Logistics and Supply Chain**
  - Pavement technology [RGJ]

## IRN – New TRF initiative

(Application deadline for Letter of Intent – 31 Jan 2014)

- New IRN establishment
- Strategic international collaborations (IRN)
  - Bilateral collaboration (Workshops & Travel Grants)
    - British Council (Social Sci. & Humanities, Biomedical Sci., Agri-Env. Sci., PhySci.& Engineering)
  - Trilateral collaboration (Ph.D. program)
    - TICA + France → CLMV
    - TICA + Sweden → CLMV + South Asia



- Bilateral cooperation for the development of the potential Thai and UK early career researchers (MoU signing ceremony 18<sup>th</sup> November, 2013)
- Co-funding for research exchange programmes through
  - workshops
  - travel grants for short research visits

# Workshops supported by Researcher Links programme

Workshop	UK University	Thai University
Cholangiocarcinoma: share diseases burden in UK and Southeast Asia	Department of Medicine, Imperial College London	Faculty of Medicine, Khon Kaen University, Khon Kaen
Roboshop: A workshop for Research into Aerial and Terrestrial Robotics	School of Aerospace Engineering, University of Manchester	Institute of Field Robotics, King Mongkut's University of Technology Thonburi, Bangkok
Antimicrobial use in livestock and antimicrobial resistance in foodborne pathogens	Institute of Infection and Global Health	Faculty of Veterinary Science, Chulalongkorn University, Bangkok
University technology transfer and knowledge exchange	Management School, Queen's University	Institute of Knowledge and Innovation, Bangkok University, Bangkok
The Impact of social media upon corporate and marketing communications in Thailand and UK	The Media School, Bournemouth University	Faculty of Communication Arts, Chulalongkorn University, Bangkok
Genetic Improvement to reduce photooxidative stress in rice	School of Biosciences, University of Nottingham	Rice Science Center, Kasetsart University, Kamphaeng Saen Campus, Nakorn Pathom
Collaboration for language preservation and revitalisation in Asia	Department of Linguistics, School of Oriental and African Studies, University of London	Research Institute for languages and Culture of Asia, Mahidol University, Salaya Campus, Nakorn Pathom

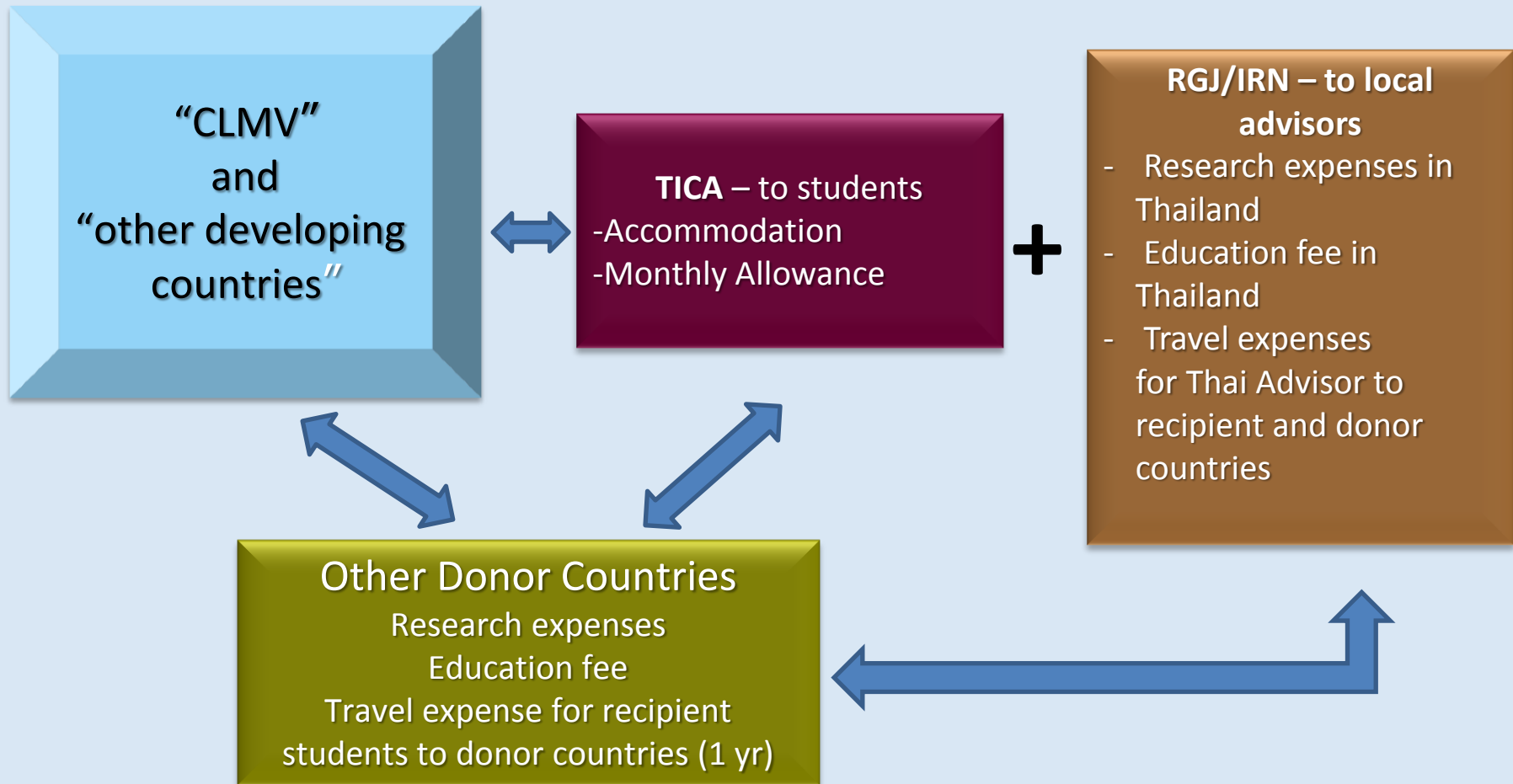


# IRN packages – starting October 2013

- **TRF-IRN (3 years' program): re-entry every 3 years**
  - S: 4 Ph.D. fellowships + 2 (man-year Post-Doc fellowship + research grant) [320,000 USD/IRN]
  - M: 6 Ph.D. fellowships [387,000 USD/IRN]
  - L: 6 Ph.D. fellowships + 6 Ph.D. research grants + 3 (man-year Post-Doc fellowship + research grant) [550,000 USD/IRN]
- **Pilot IRN: 2 Pilot IRNs each year**
  - 2 Ph.D. fellowships, re-entry every year
- **Eligibility for IRN application**
  - Apply by full-time researchers in Thai universities/research institutes
  - At least 3 institutions in Thailand doing research in answer of Thailand's agenda
  - Highly qualified research team
  - Supports from PI's institution
  - Previous international collaborations exist
- **Mobility funding**
  - Workshops (inbound) with counterpart countries
  - Travel grants for research abroad (3 months) in counterpart countries

-  The Biotechnology and Biological Sciences Research Council (BBSRC)
-  The Science and Innovation Network, British High Commission, Singapore
-  The British Council, Thailand
-  The French Embassy in Thailand
-  The National Science Foundation (NSF)
-  The Netherlands Organization for Scientific Research (NWO)
-  The German Academic Exchange Service (DAAD)
-  Le Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD)

# TRI-LATERAL AND MULTI-LATERAL COLLABORATIONS



- RRI activities

- Research funding for Master degree students
- Research funding for Ph.D. students
- Funding for innovative research work or research to solve industrial-based problems
- Developing networking among researchers in academia and industry both in the local and international arena

- IRN activities

- Mechanisms to increase more synergies with industrial/private sectors
  - Solutions for future measures/technologies/innovations

# Pilot IRN: Food Matrix Microstructure and Gut Health

## 1<sup>st</sup> Workshop

- British High Commission, Singapore
- TRF
- Kasetsart University



**13-14 March 2012**

## 2<sup>nd</sup> Workshop

- British High Commission, Singapore
- TRF
- NSTDA
- Kasetsart University
- Morinaga Institute of Biological Science, Inc., Japan
- Waters Solution Centre, Singapore



**18-19 February 2013**

### Inputs

from Research Funding Agencies

**TRF – RGJ fellowships**

**Thai  
research  
Funding?**

**Overseas  
Research  
Funding?**

from Universities

**Infrastructure KU  
: Existing**

- KU Food Science Park for Food SMEs
- Pilot plants with certified GMP for production test-run & consumer trials

**: Supported under this pilot IRN to KU researchers**

- Advanced analytical equipments

**From private sector?**

**Research focus:**

**Heathy diets & Health claims**

- Oral processing during chewing and swallowing semi-solid foods (oro-sensometric-bolus formation, flavours & taste molecules and perception)
- Gut-brain signaling (satiety)
- Gut microbiota
- Food and immunomodulation

## Establishment of Pilot-IRN: Food Matrix Microstructure and Gut Health

Coordinator: KU

Core members (Thailand): KMUTT, MU, KKU

Core members (UK): Institute of Food Research, Rothamsted Research, University of Manchester, University of Birmingham, University of Reading, University of East Anglia

Core member (The Netherlands): Wageningen University

### Outputs

- PhD graduates (25)
- International Publications (>50)
- Innovative products
- Innovative processes
- Innovative policies

### Impact

**Assuring future food and nutritional security for Thailand**

**Strengthening capacity building on food science and nutrition for Thailand**

**Sustaining research and development both in public and private sectors**



# Summary

- TRF has mechanisms that can be used as a platform for **international collaboration** in terms of
  - Student and Researcher mobility
  - Bi-lateral collaboration: co-funding for research
  - Tri-lateral collaboration: co-funding with other countries for Ph.D. students from recipient countries



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**Thank you for  
your attention**

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