Vacancy announcement:
5 researcher positions in Informatics / Geoinformatics.
July 2013-December 2014

A series of **5 researcher positions for 18 months**, financed by the European Community, are available within the European Marie Curie Initial Training Network "CHANGES" (www.changes-itn.eu). The CHANGES network will develop an advanced understanding of how global changes (related to environmental and climate change as well as socio-economical change) will affect the temporal and spatial patterns of hydro-meteorological hazards and associated risks in Europe; how these changes can be assessed, modelled, and incorporated in sustainable risk management strategies, focusing on spatial planning, emergency preparedness and risk communication.

One of the main components of the project is the development of a Web-based Spatial Decision support System to analyze the effect of risk reduction planning alternatives on reducing the risk now and in the future, and support decision makers in selecting the best alternatives.

In order to implement this system we are looking for 5 experts:

- With MSc in informatics/ computer sciences/ geoinformatics
- Good programming skills
- **Have less than 5 years experience (received your first MSc less than 5 years ago).**
- Willingness to travel as the selected researchers will be meeting frequently and will spend about 30% of their time with one of the other project partners in Europe.
- Able to work in a team, as the development of the SDSS is a team-effort.

The starting date is **1 July 2013 and the positions are for 18 months until 31 Dec 2014**. For information on the individual positions, see the descriptions later in this document.

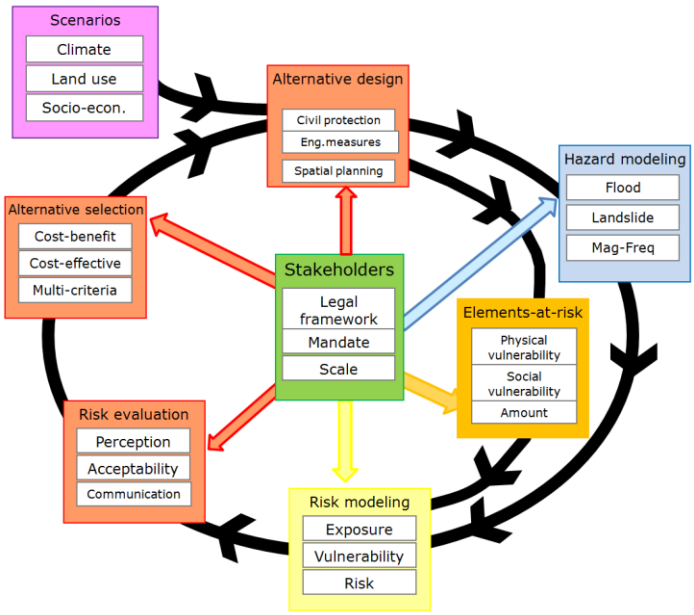
Applications with cv, motivation letter, names of 2 references, and list of preference for the positions should be submitted by e-mail to: Dr. C.J. van Westen (Faculty ITC, University of Twente, The Netherlands), e-mail: c.j.vanwesten@utwente.nl or m.f.noomen@utwente.nl

Incoming applications will be reviewed continuously, and suitable candidates will be interviewed, until the 5 positions are filled. We do not use a fixed deadline for application. Therefore we advise you to apply as soon as possible. Please do not apply if you received your MSc longer than 5 years ago – in that case you will not be eligible for this position.

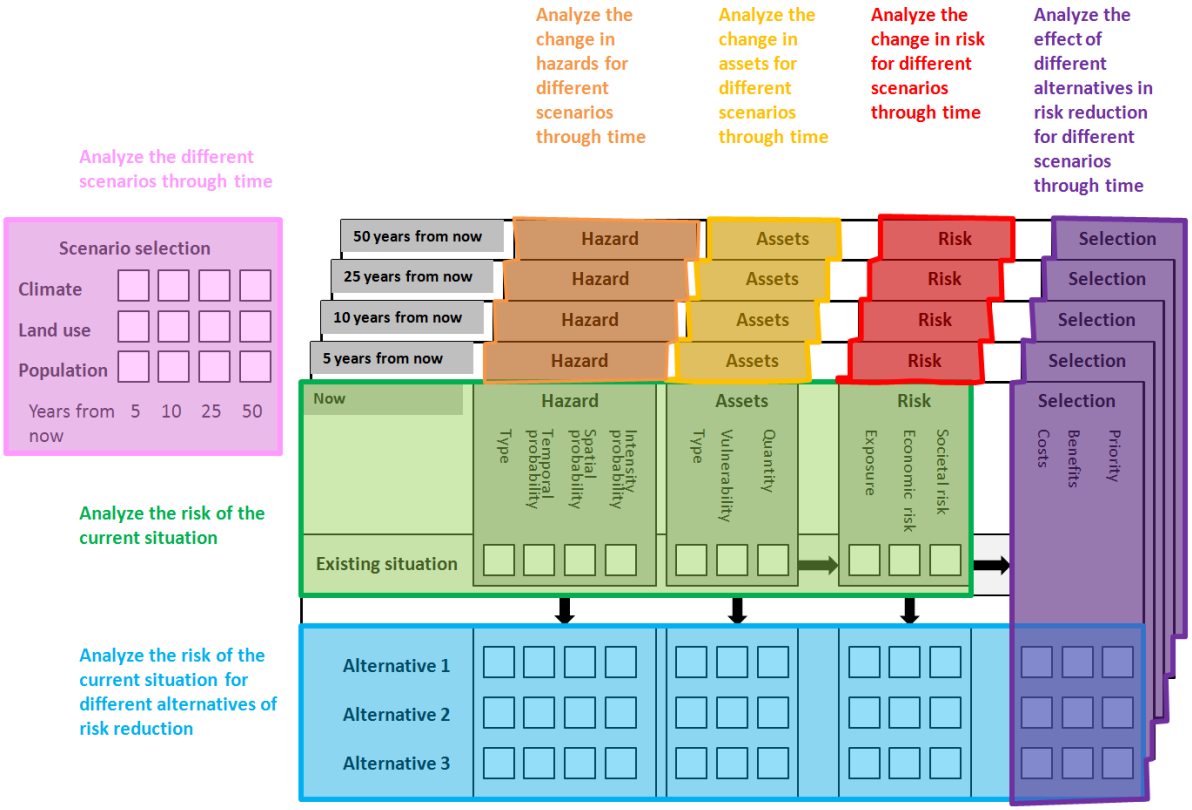
For more information on the Marie Curie Initial Training Network Programme and Early Stage Researchers you can consult the website
http://ec.europa.eu/research/mariecurieactions/index_en.htm
In addition to the salary component, the selected researchers will receive a monthly mobility allowance (exact amount depending on country as well as on personal and family circumstances).

About the Spatial Decision Support System

The CHANGES SDSS should be able to "Analyze the effect of risk reduction planning alternatives on reducing the risk now and in the future, and support decision makers in selecting the best alternatives
The figure shows the conceptual design of the CHANGES platform. Different colors refer to different components: **green** = stakeholders, **Blue** = organizations responsible for providing hazard maps. **Orange** = organizations responsible for providing elements at risk maps, **Yellow** = organizations responsible for providing risk modeling, **Violet** = Organizations that are working on the analysis of trends related to climate changes, land use change and population change, **Red** = end-users of the platform that use the information from the others.



The Figure to the right gives the intended purposes:



The positions

The following 5 positions are available:

NR	Title	With	Where
01	Development of the spatial data management of the SDSS	PLUS	Salzburg (Austria)
02	Development of the data analysis modules within the SDSS	ITC	Enschede (Netherlands)
03	Development of the Spatial Decision Support Framework	UNIL	Lausanne (Switzerland
04	Development of web-based risk communication and visualization methods of the SDSS	TUDO	Dortmund (Germany)
05	Development of the cost-benefit component of the SDSS	TUD	Delft (Netherlands)

Below a description is given for each of the 5 positions:

Position 1:	**Development of the spatial data management of the SDSS**
Host	PLUS. Paris-Lodron Universität Salzburg. Interfaculty Department of Geoinformatics Z_GIS, Austria.
Brief description 	- Responsible for the development of the data model (most probably object-oriented model) and databases which include different types of temporal scenarios - Meta data and Catalogue management - Need to closely work together with other ESRs in development team
Requirements	- Geo-informatics/Computer Science with data management background - Strong experiences in working with relational data model and database such as Postgres and PostGIS with SQL. - Expertise in Object Oriented and web programming languages such as C++, Python, Php, Java Script, etc., and OGC web services and standardizations. - Knowledge in Spatial Decision Support Systems and web-GIS development
Contact person	Peter Zeil (peter.zeil@sbg.ac.at)
Website	http://www.zgis.at/index.php/en/

Position 2:	**Development of the data analysis modules within the SDSS**
Host	Faculty of Geo-Information Science and Earth Observation (ITC), University of Twente, Enschede, The Netherlands. www.itc.nl
Brief description ITC UNIVERSITY OF TWENTE.	- Responsible for the development of data analysis modules which would finally lead to Risk Assessment (RA) module of the SDSS (most probably to be based on Open Source GIS software ILWIS) - Development of interactive real-time components for risk calculation and generation of vulnerability curves - Explore the GIS processing modules of ILWIS (most probably to link and run on the web) - Development of the interface for RA module - Need to closely work together with other ESRs in development team
Requirements	- Strong object oriented programming background (e.g. C++, Python) - Strong experience in working with open source GIS software and their built-in functionalities - Experiences in working with relational database such as Postgres and PostGIS with SQL. - Good knowledge in risk assessment and web programming
Contact person	Cees van Westen (c.j.vanwesten@utwente.nl)
Website:	http://www.itc.nl/ESA or http://www.unu-drm.nl

Position 3:	**Development of the Spatial Decision Support Framework**
Host	UNIL. Center for Research on Terrestrial Environment - CRET GEOPOLIS. Faculty of Geosciences and Environment-FGSE, University of Lausanne, Switzerland
Brief description UNIL | Université de Lausanne	- Responsible for the main background development of the framework and decision making module of the SDSS. - To link all the modules in the SDSS in terms of a modular structure - To develop Multi-criteria decision making (MCDM) component with online participatory platform - Development of the interface for SDSS - Need to work closely together with other ESRs in development team
Requirements	- Geo-informatics /Computer Science with strong programming background - Strong experiences in working with database such as Postgres and PostGIS with SQL. - Expertise in Object Oriented and web programming languages such as C++, Python, Php, Java Script, etc., and OGC web services and standardizations. - Experience in web-GIS development and online participatory platform - Knowledge in Spatial Decision Support Systems and MCDM methods
Contact person	Michel Jaboyedoff [michel.jaboyedoff@unil.ch]
Website	http://www.unil.ch/igar

Position 4:	
Title	**Development of web-based risk communication and visualization methods of the SDSS**
Host	TUDO. Technical University Dortmund, Faculty of Spatial Planning, Germany
Brief description	- Responsible for the development of the visualization methods to embed wherever necessary within the different modules of the SDSS - To apply dynamic visualization methods to show the changes of temporal scenarios (along with different risk reduction measures) - To create a narrative styling in terms of words and figures to explain the different scenarios - To develop good visualization tools to demonstrate maps, curves and related statistics - Need to work closely together with other ESRs in development team
Requirements	- Geo-informatics/Informatics with visualization/cartographic background - Experiences in working with/designing GIS, maps, animation, movies, 3D visualizations, etc. - Expertise in Object Oriented and web programming languages such as C++, Java, PHP, JavaScript, SVG - Creative design and imagination
Contact person	Stefan Greiving (stefan.greiving@tu-dortmund.de
Website	http://www.raumplanung.uni-dortmund.de/irpud/

Position 5:	**Development of the cost-benefit component of the SDSS**
Host	TU-Delft. Delft University of Technology. Department of Water Management, Netherlands.
Brief description	- Responsible for the development of the cost-benefit analysis component which will be included in Decision Making module of the SDSS. - Manage to link with Risk Assessment Module in order to obtain the risk exposed/reduced - Develop Multi-criteria Evaluation method for non-quantifiable cost and benefits - Need to work closely together with other ESRs in development team (especially with ESR 15, ESR 09 and ESR 14)
Requirements	- Economic with knowledge of programming - Experiences in working with Cost Benefit Analysis - Knowledge in Multi Criteria Evaluation methods and different risk reduction measures - Expertise in web-programming languages such as C++ or Java is an asset
Contact person:	Thom Bogaard (T.A.Bogaard@tudelft.nl)
Website:	http://www.citg.tudelft.nl/