COST Action as a platform for future SCERIN Network activities

Jana Albrechtova
Charles University in Prague, Faculty of Science, Prague, Czech Republic, albrecht@natur.cuni.cz

About COST

COST is an intergovernmental framework for European Cooperation in Science and Technology, allowing the coordination of nationally-funded research on a European level.

http://www.cost.eu/

COST Mission

COST aims to enable breakthrough scientific developments leading to new concepts and products. It thereby contributes to strengthening Europe's research and innovation capacities.

In order to achieve its mission, COST endeavours to:

- **Build capacity** by connecting high-quality scientific communities in Europe and worldwide
- Provide **networking opportunities for Early Stage Researchers** (ESR)
- **Increase research impact on policy makers, regulatory bodies and national decision makers as well as on the private sector**.
- Through its inclusiveness policy, COST **supports the integration of research communities, leverages national research investments and addresses issues of global relevance.**
- COST is, thus a building block of the European Research Area, instrumental for successful innovation strategies and global cooperation.

EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY

COST Strategy and GOALS: An overview of the COST building blocks leading up to Horizon 2020 COST at a turning point

Looking at the next seven-year programme for research and innovation, Horizon 2020, COST has been working towards achieving its **Vision 2020 goals:**

- COST has ensured a quality performance in implementing its activities, as previous and ongoing impact assessment studies have shown
- COST has seen its Actions steer towards **new concepts and products** - a result of the networks' bottom-up nature and of their support for innovative ideas
- Inclusive and open Actions have enabled **cooperation within COST countries and beyond**
- The COST Association has been established to ensure **good governance** under the new programme for research and innovation

How COST works

COST funds pan-European, bottom-up networks of scientists and researchers across all science and technology fields. These networks, called 'COST Actions', promote international coordination of nationally-funded research.

COST does not fund research itself, but provides support for networking activities carried out within COST Actions. COST Actions are bottom-up science and technology networks open to researchers and stakeholders, with a four-year duration and a minimum participation of five COST Countries.

COST Actions are active through a range of networking tools, such as **meetings, workshops, conferences, training schools, short-term scientific missions (STSMs) and dissemination activities**. COST Actions are open to researchers from **universities, public and private research institutions, as well as to NGOs, industry and SMEs**. To learn more about participating in COST Actions, please visit the Participate page.

COST has a very specific mission and goal. It contributes to reducing the fragmentation in European research investments and opening the European Research Area to cooperation worldwide.

As a precursor of advanced multidisciplinary research, COST plays a very important role in building a European Research Area (ERA). It anticipates and complements the activities of the EU Framework Programmes, constituting a “bridge” towards the scientific communities of emerging countries. It also increases the mobility of researchers across Europe and fosters the establishment of scientific excellence in the **nine key domains**:

the **nine key domains**:

Biomedicine and Molecular Biosciences

Food and Agriculture

Forests, their Products and Services

Materials, Physics and Nanosciences

Chemistry and Molecular Sciences and Technologies

Earth System Science and Environmental Management

Information and Communication Technologies

Transport and Urban Development

Individuals, Societies, Cultures and Health

In addition, Trans-Domain Proposals allow for broad, multidisciplinary proposals to strike across the nine scientific domains.

Trans-Domain Proposals

Do you work in a research area which is interdisciplinary, yet does not find an outlet for development? Is your research agenda constrained by grant and funding opportunities that are too narrowly defined for your scientific networking purposes? Is an international network a potential solution?

Trans-Domain (TD) COST Actions offer researchers fertile ground for future networks across many science and technology disciplines, by allowing unusually broad, interdisciplinary proposals to cover several scientific fields.

COST Proposal 2013

EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

Title: **Remote sensing for European forests: evaluation of changes and their driving forces**

Acronym:**RESFOREST**

Forests are among the most important natural assets. Their spatial distribution and stand condition have been influenced by many natural and anthropogenic factors including climate change, air pollution and specifically in Eastern and Central Europe, by changes in management influenced by special socio-economic driving forces after the fall of communist regime. Remote sensing offers an efficient tool for monitoring of forest cover and its change, forest health status and the identification of driving forces of ecosystem changes. The main objective is to develop and improve the currently existing approaches and methods for assessment of status and dynamics of forest ecosystems using combination of groundtruth ecophysiology, field spectroscopy and remote sensing approaches. The existing and newly proposed methods will be tested on case studies in different forest type ecosystems. This will enable to compare and validate application of the methods on regional scale in forest ecosystem mapping, detection of changes, health evaluation, identification of trends and assessment of the response of forest ecosystems to land use change and climate anomalies. The other goal is to identify main driving forces (natural, social and economic), which influence ecosystem changes. The proposed analysis of the growth, stability and vulnerability of forest ecosystems in Europe will support effective forest management and their preservation on the local, regional and pan-European scales. A background platform of the proposed TDP is the South Central and Eastern European Regional Information Network connected to „Global Observation of Forest Cover and Global Observation of Land Dynamics“ (http://www.fao.org/gtos/gofc-gold/).

COST Proposal 2013

Major challenges and impacts corresponding to the Objective Categories of the TDP:

1) **A4: The survey, comparison, performance assessment and improvement of the methodology of RS studies on forest ecosystems involving foliage and canopy spectral data. In particular**

2) **A6: Achievement of specific tangible outputs of RS studies of LCLUC of forest ecosystems employing a multidisciplinary approach that cannot be achieved without international coordination on country, regional or pan-European levels.**

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3) **B11: Establishing and widening a community of scientists oriented on RS-based research of forest ecosystems allowing for knowledge exchange and the development of a joint research agenda beyond the objectives 1 and 2.**

Next COST Proposal ?

Trans-Domain Proposal http://www.cost.eu/domains_actions/TDP

Domain proposal:

1) Forests, their Products and Services (FPS)

http://www.cost.eu/domains_actions/fps

(Forestry Research, Forests and Environment)

or 2) Earth System Science and Environmental Management (ESSEM)

http://www.cost.eu/domains_actions/essem (The core of Environmental Management)

Next COST Proposal ?

Earth System Science and Environmental Management ESSEM

The core of Earth System Science is to enhance our capacity and operational forecast systems to understand, observe, model and predict these interactions at a variety of spatial and temporal scales. A key aspect is to analyse and predict the trends, and to assess the impacts of natural processes and human activities on the Earth system functioning and natural resources.

The core of Environmental Management is to provide support to decisions related to environmental issues, especially in the context of competition for natural resources, city development, risk management, and development of environmental policies. ESSEM puts emphases on science and technology related to improving natural resource management for minimising environmental degradation.

Next COST Proposal ?

EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

Forests, their Products and Services (FPS)

DC FPS offers a forum for encouraging a scientific debate on ensuring a sustainable provision of forest products and services, such as wood and wood products, water and soil protection, climate regulation, bioenergy, rural development, recreation and public health, habitats for wildlife, landscape diversity, carbon sinks and reservoirs.

Forests and Environment research activities focus on the protection of forests from pollution, abiotic and biotic hazards (fires, storms, pests and diseases…) in order to maintain their full multiple values and the important roles of forests in climate change mitigation and adaptation. In this context adequate importance is attached to the provision of timely, reliable and accurate information on forests and forest ecosystems as they are essential for public understanding and knowledge-based decision-making.

Next COST Proposal ?

FG1: Forest monitoring: disturbances, health and biomass,

FG2: Land Cover Changes: climate change, agricultural land abandonment, urban expansion.

FG3: Validation/verification network for support of current and future satellite missions [e.g. NASA's LDCM and HyspIRI, and ESA's GMES program].

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