

Work And Budget Plan
ES1401 Grant Agreement Period 3
 01/05/2016 to 30/04/2017

Section I: Action Profile

Action General Information

Action Code	ES1401	MC Chair	Dr Andrea Morelli
Action Title	ES1401 - Time Dependent Seismology (TIDES)		
MOU	029/14	Draft MOU	oc-2013-2-16102
CSO Approval Date	2014-05-14		
Action Start Date	2014-11-03	Action End Date	2018-11-02
Science Officer	Dr Deniz Karaca	Administrative Officer	Ms Tania Gonzalez Ovin

Participating COST Member Countries and Cooperating State:

	ITC		Non-ITC		Total
Cost Countries having accepted the MOU	Number	10	Number	15	25
	% of all ITCs	40%	% of all non-ITCs	60%	
Number of MC Members	15		25		40

Country and Acceptance Date		
AT 14/10/2014	IE 27/08/2014	SK 19/09/2014
BE 25/11/2015	IT 31/07/2014	ES 22/05/2014
BG 17/07/2014	LU 29/09/2014	SE 09/09/2014
CZ 27/08/2014	MT 14/10/2014	CH 05/09/2014
FI 22/10/2015	NL 02/06/2014	TR 02/03/2015
FR 26/06/2014	NO 10/07/2014	UK 27/05/2014
DE 20/05/2014	PL 01/04/2015	MK 17/09/2015
EL 16/02/2015	PT 03/07/2014	
IS 30/09/2015	RS 27/01/2016	

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International cooperation

	NNC	IPC	Specific Organisation	Total
Number of entities formally approved to join Action	2	0	0	2
Number of countries	2	0	0	2

Working Groups

	WG Title	WG Leader	Number of Members
WG1	Workflow integration of data and computing resources	Prof Heiner Igel	10
WG2	Seismic interferometry and ambient noise	Dr Martin Schimmel	10
WG3	Forward problems, High-performance computing applications	Dr Yann CAPDEVILLE	10
WG4	Seismic tomography, full waveform inversion, uncertainties	Prof Karin Sigloch	10
WG5	Applications in the natural environment and industry	Prof Christopher Bean	10

Section II: MoU objectives and Grant Agreement Period Goals and Activities

Action Objectives from MoU

Aim/primary Objective	The main objective of the Action is to (1) merge expertise in academia and industry on seismic data processing and modeling for inverse problems; (2) develop the emerging field of time-dependent seismology to monitor complex Earth systems.
Secondary objectives	<ul style="list-style-type: none"> • integration and validation of innovative data mining techniques and numerical methods • development of new design for massive field experiments • evaluation of uncertainties in full-waveform inversion and time-dependent tomography • development of strategies for real-time data assimilation • development of reliable techniques for monitoring active processes (earthquakes, volcanic eruptions, landslides,) • networking of top-level laboratories, coordination among academia and industry in time-dependent seismology • organization of effective exchange programs for early-stage researchers • catalysis of creative initiatives • stimulation of discussion with other data-driven disciplines, climate and ocean science, acoustics, geology, astrophysics

Grant Agreement Period

Grant Agreement Period Start Date	01/05/2016	Grant Agreement Period End Date	30/04/2017
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Grant Agreement Period Goals

Number	Grant Agreement Period Goal	MoU Objective(s) it relates to
GAPG 1	Improve knowledge of seismic ambient noise generation, propagation, scattering, and its applications for earth imaging and monitoring at different scales and in different environments.	<ul style="list-style-type: none"> • Aim/Primary objective • Secondary objective 4 • Secondary objective 5 • Secondary objective 8 • Secondary objective 9
GAPG 2	Improve networking of laboratories and scientific growth of young scientists, thus facilitating new directions and widening application of well-recognised techniques, through promotion of short-term scientific missions and exchange among laboratories	<ul style="list-style-type: none"> • Aim/Primary objective • Secondary objective 6 • Secondary objective 7 • Secondary objective 8
GAPG 3	Ensure adherence of Action development to the planned goals by monitoring current Action activities, plan future ones, and discuss possible adjustments. Increase Action impact and timeliness through assessment of the development of other parallel initiatives.	<ul style="list-style-type: none"> • Aim/Primary objective
GAPG 4	Communicate current and planned Action activities to the research community at large, policy makers, and relevant industry (oil and gas, energy).	<ul style="list-style-type: none"> • Aim/Primary objective • Secondary objective 6 • Secondary objective 9

Section IV: Work and Budget Plan for the Grant Agreement Period

Work and Budget Plan Summary

A. COST Networking Tools	EUR
(1) Meetings	31,500.00
(2) Training Schools	55,700.00
(3) Short Term Scientific Missions (STSM)	18,400.00
(4) COST Action Dissemination	4,050.00
(5) Other Expenses Related to Scientific Activities (OERSA)	200.00
B. Total Science Expenditure (sum of (1) to (5))	109,850.00
C. Financial and Scientific Administration and Coordination (FSAC) (max. of 15% of B)	16,477.50
D. Total Expenditure (B+C)	126,327.50

Meetings

Overview

Meeting Title	Meeting Type	Dates	Location	ITC	Total Cost(EUR)
Meetings of MC, CG, WGs	Management Committee Meeting, Core Group Meeting, Working Group Meeting	19/09/2016 - 23/09/2016	Sesimbra (Portugal)	Yes	31,500.00
				Total	31,500.00

Details

Meeting Type	Management Committee Meeting, Core Group Meeting, Working Group Meeting		
Title of the Meeting	Meetings of MC, CG, WGs		
Grant Period Goal(s) it will address	Ensure adherence of Action development to the planned goals by monitoring current Action activities, plan future ones, and discuss possible adjustments. Increase Action impact and timeliness through assessment of the development of other parallel initiatives.		
Description	Separate and joint meetings of Core Group, Management Committee and Working Groups WG1, WG2, WG3, WG4, WG5. The CG will draft proposed activities for the next GP -- to be discussed and approved by MC -- and then start implementation of MC decisions. WGs will meet separately to discuss of new research directions and outstanding open issues, and report to MC and to all. CG, MC, WG members will also capitalise on concurrent Training School to interact with young scientists.		
Output(s)	Draft plan of activities for next GP (CG and MC). Location, timing, and topic of third Advanced Training school (CG and MC). Outline of new research directions and outstanding open issues (WGs). Plans for improving dissemination of research results enabled by the Action (WGs). Plans for future WG meetings. Exchange of information about job opportunities and candidates. Evaluation of Action progress (MC). Planning of any other future activity (CG and WG through MC).		
Location	Sesimbra (Portugal)	ITC	Yes
Start Date	2016-09-19 09:00:00	End Date	2016-09-23 17:00:00
Duration	5 days		
Number of expected total participants	30	Number of participants to be reimbursed from COST funds	30
Average reimbursement(per participant)(EUR)	950.00	Total Reimbursement costs (EUR)	28,500.00
Local Organiser Support (EUR)	3,000.00		
Total cost of the meeting (EUR)	31,500.00		



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Training Schools

Overview

Title of the Training School	Dates	Location	ITC	Total Cost(EUR)
Seismic noise: from generation to interferometry	19/09/2016 - 23/09/2016	Sesimbra (Portugal)	Yes	55,700.00
			Total	55,700.00

Details

Title of the Training School	Seismic noise: from generation to interferometry		
Grant Period Goal(s) it will address	Improve knowledge of seismic ambient noise generation, propagation, scattering, and its applications for earth imaging and monitoring at different scales and in different environments., Improve networking of laboratories and scientific growth of young scientists, thus facilitating new directions and widening application of well-recognised techniques, through promotion of short-term scientific missions and exchange among laboratories		
Description	Advanced Training school on seismic noise and its practical use for imaging. The school will target observed seismic noise characteristics; mechanisms for ground noise generation by ocean/solid earth interaction; wave propagation and scattering in complex media; basic and advanced interferometry and data analysis; dependence on earth structure; detection of time variations. Open-source software tools and packages will be demonstrated by the authors with hands-on practice. Lectures will be given by world-renowned specialists in the field.		
Output(s)	Trainees will learn how to extract useful information from ambient noise and scattered waves, how to cope with limitations, and how to apply such techniques to image earth structure, and possibly its variation with time, at different spatial scales. Trainees will gain practical knowledge on how to use up-to-date software tools, distributed at the school.		
Location	Sesimbra (Portugal)	ITC	Yes
Start Date	2016-09-19 09:00:00	End Date	2016-09-23 17:00:00
Number of trainers	14	Number of trainees	61
Number of trainers to be reimbursed	9	Number of trainees to be reimbursed	50
Average trainer Reimbursement(EUR)	1,050.00	Average reimbursement per trainee(EUR)	825.00
Total trainer Reimbursement(EUR)	9,450.00	Total trainee Grant(EUR)	41,250.00
Local Organiser Support (EUR)	5,000.00		
Total cost of the Training School(EUR)	55,700.00		

Short Term Scientific Missions (STSM)

Number	Average cost per STSM(EUR)	Total cost(EUR)
8	2,300.00	18,400.00
Grant Period Goal(s) it will address	Improve networking of laboratories and scientific growth of young scientists, thus facilitating new directions and widening application of well-recognised techniques, through promotion of short-term scientific missions and exchange among laboratories	
Description	Support exchange of young scientists among institutions in participating countries.	
Output(s)	Increased diffusion of expertise and improvement of networking among laboratories	

COST Action Dissemination

Title	Type	Publisher/provider	Expected date of Release	Cost(EUR)
Article on "Impact" magazine	Printed publication	Science Impact Ltd., Bristol, UK	30/11/2016	2,550.00
Grant Period Goal(s) it will address	Communicate current and planned Action activities to the research community at large, policy makers, and relevant industry (oil and gas, energy).			
Description	Preparation and publication of an article describing the Action, including interviews to Chair and WG leaders, on a special issue of "Impact" magazine (impact.pub) devoted to environmental and natural hazard monitoring and management. The article will target stakeholders in the environmental and Earth System Sciences field within universities, research institutes, national and regional funding agencies, policy, NGOs, government and private and public sectors including environmental agencies, natural resource management, with the goal to improve wide knowledge of COST Action TIDES. The publication will examine research across a number of different themes including: environmental hazard monitoring and management, natural disaster management and mitigation, preparation and environmental research. The report will look at a number of different areas including: hazard and environmental monitoring and modelling, access to research infrastructures and services, environmental collaboration and collaborative policy development, climate change prediction impact, management, reduction and policy. atmospheric research, marine and coastal research ecosystem and environment research, resource allocation, land use and rural development, impact assessment, biodiversity, large scale data modelling, sharing and coding, collection and sharing of data for stakeholders and education, environmental technologies, sustainable program development, water and maritime issues, collaboration in addressing environment and climate issues, modelling interoperability and standards, decision support tools, joint action plan development, policy recommendations, driving the science, policy, stakeholder interface and engagement etc. With presence on such a wide-ranging publication, with such a broad distribution, we will reach a large and multi-faceted community, useful to improve the impact of the action and to build or strengthen interaction with other disciplines.			
Output(s)	Publication and distribution in printed and digital format, in November 2016, to			

	35,000 readers worldwide targeting stakeholders in the environmental and Earth System Sciences field within universities, research institutes, national and regional funding agencies, policy, NGOs, government and private and public sectors including environmental agencies, natural resource management. Full ownership of the final article will be transferred to Action partners partners for further personal dissemination, reprint and hosting on personal websites or social media.
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Title	Type	Publisher/provider	Expected date of Release	Cost(EUR)
Maintenance of Action website	Action Website	INGV (Istituto Nazionale di Geofisica e Vulcanologia)	19/09/2016	1,500.00
Grant Period Goal(s) it will address	Improve knowledge of seismic ambient noise generation, propagation, scattering, and its applications for earth imaging and monitoring at different scales and in different environments.,Communicate current and planned Action activities to the research community at large, policy makers, and relevant industry (oil and gas, energy).			
Description	Hosting and basic maintenance of Action website. Updates to online information. Implementation of further functionalities. Setup of account on social media.			
Output(s)	Continued availability of Action website. Updated Action website, to offer further information of WG activity, open software tools, any information on research catalysed by the Action, and dissemination documents. A new social media account will be set and continuously updated following ongoing activity.			

Total Disseminations	4,050.00
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Other Expenses Related to Scientific Activities (OERSA)

Item	Cost(EUR)
Bank expenses incurred in reimbursements to participants	200.00