



Laboratory of excellence OT-Med

A support for research and training on climatic change and natural risk in the Mediterranean

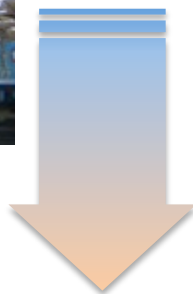
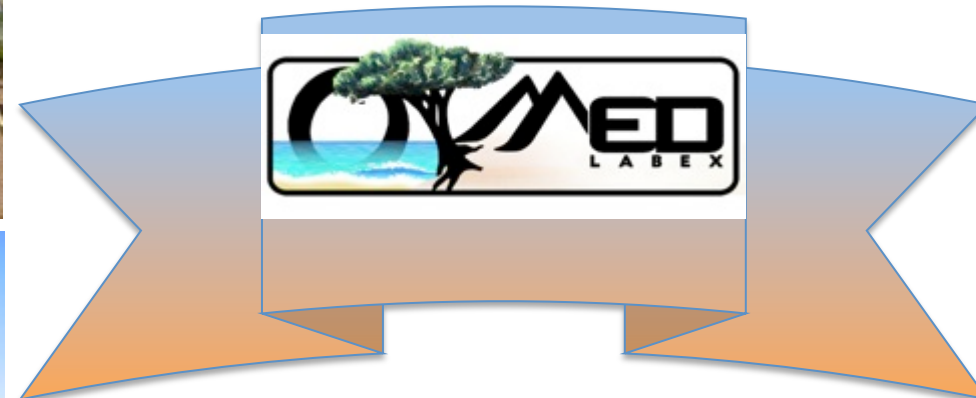
**Happy New
Year 2016**

Progress meeting, Aix-en-Provence, 6-8 January 2016



Enseigner la recherche en train de se faire

OT-Med : outline



science



Governance

Training

Transfer

International

Funding

Outreach

Future plans

- Study the impacts of environmental changes on ecosystem resources and services (ecosystem functioning, biodiversity and socio-economics): **global --> local**
- Develop an integrated model for the Mediterranean: **climate -> society**
- Account for the various time scales of the ecosystem development: **past -> future**
- Promote interdisciplinary research on human-environment interactions in Mediterranean: **natural <--> social sciences**
- Produce knowledge for decision helping: **scientists --> stakeholders**

Governance

- 10 labs + 1 network (ECCOREV, 36 labs)
- All the disciplines of the environment sciences are represented
- Institute of Research for Development (IRD) present in 4 labs → connection to MENA

Involve partners from South

Reinforce the human dimension (social sciences)



Partner		Discipline
Centre Européen de Recherche et d'Enseignement en Géosciences de l'Environnement (CEREGE)		Géosciences terrestres, marines: (paléo)climatologie, géomorphologie, alea sismique, hydro(géo)logie
Ecosystèmes Continentaux et Risques Environnementaux (ECCOREV)		Toutes les disciplines environnementales
Groupe de Recherche en Economie Quantitative d'Aix-Marseille (GREQAM)		Économie de l'environnement
Mediterranean Institute of Oceanology (MIO)		Géosciences marines: physique, biogéochimie, écologie, ressources
Institut Méditerranéen de Biodiversité et d'Ecologie marine et continentale (IMBE)		Écologie, biodiversité terrestre et marine, services écosystémiques, paléoécologie
Droit public comparé, Droit international et Droit européen (DPCDIDE), équipe CERIC		Droit international, droit de l'environnement
Géochimie des Sols et des Eaux (GSE)		Biogéochimie des sols
UMR ESPACE, équipe DESMID		Sociologie, géographie, ressources en eau
REAX (Risques et Environnement Aix)		Risques, hydraulique, forêts, hydrologie
Ecodéveloppement (ECODEV)		Économie, agronomie
Laboratoire Population – Environnement Développement (LPED)		Ecologie, sociologie, démographie, anthropologie, géographie

Committees

- Executive committee
- Management board
- Institutional committee
- End-user committee
- International Scientific Committee

Staff

- administrative support: ½ administrative dir., ½ accountant, 1 project manager
- support for modelling and GIS (2 specialists)

Scientists

- 2-yr post-doc and 3-yr Ph.D.
 - 14 Ph.D. (2012-2015)
 - 18 post-doc (2012-2015)
- active participants: ~100 scientists



Carry-le-Rouet, 2014, meeting of PhD and post-doc

Work packages

- WP1. Understanding and evaluating Mediterranean climatic changes and natural hazards
- WP2. Impact of climate and anthropogenic changes on Mediterranean ecosystems and services they provide
- WP3. Human-environmental interaction: perception, adaptation and mitigation
- TWP1. The observation systems and databases
- TWP2. Toward an integrated modelling of the Mediterranean systems

Focus sectors

- International
- Training
- Transfer of knowledge

A light orange, multi-pointed starburst shape with a thin black outline, containing the text 'A suivre ...'.

A suivre ...

Recommendations of the scientific committee and ANR mid-term assessment

Science

Thematic dispersion, lack of transversality

Clarify limits of the Mediterranean area

Reinforce studies on ecosystem services

Natural hazards: clarify the niche of OT-Med

Acknowledgement of OT-Med in all the publications related to OT-Med scope

Modelling : how and for which questions

Databases: for who?

Strategy

Clarify roadmaps for the WP (top-down)

Improve link with circum-Med authorities

Improve connection to East-Med

Clarify how south partners are involved

Training

Improve communication of young scientists (english, conferences)

Improve interaction between young scientists

Interdisciplinary questions must be co-constructed

Science

6 projects funded in 2015 on 20 submitted



discipline	Post-doc	PhD	Nb lab	area
1) Organic pollution of the sea (MEDPOP)	1		2+1	FR, GR, SP
2) Coastal groundwater (ECOMED-LOC, ANR chair @RAAction 650 k€)	0.5		3+2	FR, TU
3) Natural risk assessment (GEORISK-MOR)			2+4 SHS	FR, Mor
4) Ecosystem services of forests (EU Operas), CRITIAS	0.5		4 SHS	Med
5) Biodiversity WOODIV (CESAB 192 k€)	1		3+6	Med
6) Integrated modelling LASERMED (interaction agrosystems-rivers-sea)	1		5 SHS	Med

Interaction land-sea (1,2, 6)

Thematic dispersion, lack of transversality

Reinforce studies on ecosystem services (4)

Interdisciplinary questions must be co-constructed (3,4,6)

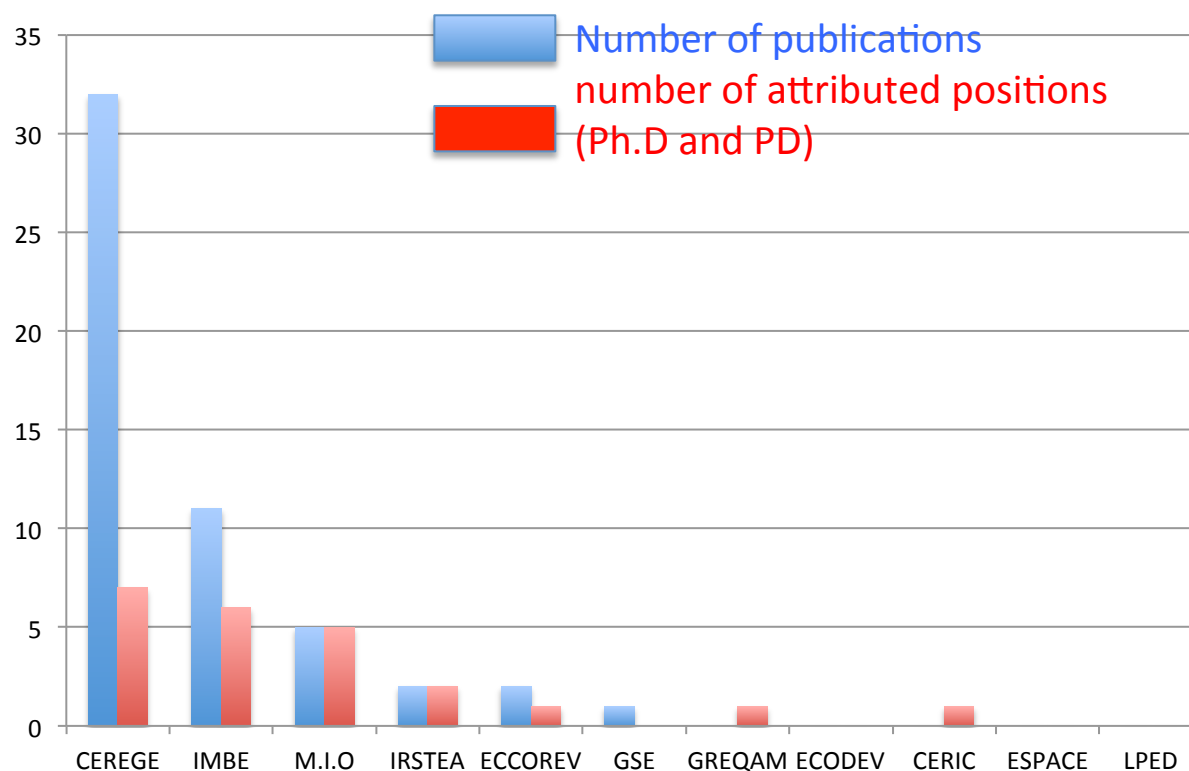
Modelling : how and for which questions (6)

Science

Publications

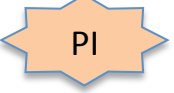

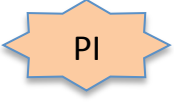

Labex OT-Med is acknowledged in 53 publications in international journals : exponential increase but not well distributed

- 4 in 2013,
- 17 in 2014
- 32 in 2015



Acknowledgement of OT-Med in all the publications related to OT-Med scope

The MISTRALS program

- **BioDivMex** (BioDiversity of the Mediterranean Exp) 
- **ChArMEX** (Chemistry-Aerosol Mediterranean Exp)
- **HyMeX** (Hydrological cycle in the Mediterranean Exp) 
- **MerMeX** (Marine Mediterranean Exp) 
- **PaleoMeX** (Paleo Mediterranean Exp) 
- **TerMeX** (Terra Mediterranean Exp)
- **SICMED** (Continental Surfaces and Interfaces in the Med area) 
- Transversal group on modelling = TWP2 
- Bridge to decision makers = MedECC



New top-down strategy

- Availability: 10 fellowships (3-yr PhD or 2-yr PD), 150 k€/year
- Discussion in each WP to define 2-3 projects corresponding to the most important questions of the WP
- Presentation of the 9 selected projects during the WP meetings (two in nov-dec) and this progress meeting - Discussions to improve/merge (?) the projects (tomorrow)
- Submission of the projects to the call mid-February (deadline):
- Review of the projects by external experts
- Selection of the projects by the management board according to the reviews, the priorities of OT-Med and the available funds

Thematic dispersion, lack of transversality

Clarify roadmaps for the WP (top-down)

Interdisciplinary questions must be co-constructed

- MED-Net: Mediterranean Network of environmental training sites
 - Hydro and geosciences in arid regions (Sahel)
 - French-Tunisian field school in ecology
 - Valorisation of biodiversity, Tunisia, Morocco
 - Annual summer school: climate, biodiversity, geomorphology, risk (30 p from France, 35 p from Med countries)
- Summer school on restoration of Mediterranean ecosystems, Practical course in chemical ecology in marine and terrestrial environments
- Seminars, training for masters and Ph.D. (statistics, modelling)
- Seven short videos (5 minutes each) on climate change (YouTube), collaboration with “Aix-Marseille Academy” (training secondary school professors)
- (co-)funding participation to international conferences for PhD/PD



Improve
interaction
between young
scientists

Improve
communication of
young scientists
(english,
conferences)

Transfer

A regional group of experts on climatic changes (GREC PACA)



- Regional government (with ADEME) organised and funded a group of experts on climatic change of the region Provence-Alpes-Côtes d'Azur (PACA)
- To improve the exchanges between researchers and regional stakeholders, public, policy makers
- 50 scientists, 35% from OT-Med, including co-presidence
- Coordination by associations AIR-Climat and GeographR
- A first publication (40 pages) in June 2015
- Six publications in 2016 based on six working groups
- [details tomorrow]



International

Visits, conferences, exchanges

- Support for 16 International Conferences/ workshops
- Visiting scientists: Israel (1), USA (6), Tunisia (1), Germany (1), Switzerland (1), Spain (1), Russia (1), UK (1)
- PhD (5 international/9 French), post-doc (14 international/4 French): 60%
- Organisation of international workshops, session in international conferences (CFCC, EGU, GLP, Food Security)
- Reception of master students from southern countries
- Building the Mediterranean Expert group on Climatic Change (MedECC)
- Building the Mediterranean Earth System Analysis Network (MESAN)



Leverage effect



Attractivity

- Co-Funding
 - Grants from AMIDEX: 8 projects, 2.4 M€
 - Two EU projects (FP7) on ecosystem services : OPERAs and LUC4C, 0.5 M€
 - Post-docs and PhD co-funding (EU, region etc) = 0.2 M€
 - Meetings and workshops co-funding = 0.2 M€
 - IMERA visiting scholars: 20 months (S. van der Leeuw, D. Lea, T. Deporte), cofunding = 0.1 M€
 - Ph.D. theses on the OT-Med topics: approx. 100 theses have been funded since 2012 in our 10 labs
- Recruitment related to OT-Med
 - Economics: 1 CR CNRS (2014), 2 AMU professorships (2015, 2016)
 - Geosciences: 1 professorship (2015)
 - Biodiversity: 1 CR CNRS (2013)
- New structures related to OT-Med
 - International lab (IRD LMI): Cosys-Med, with Tunisia

55% of the total funding by ANR



Institutional Strategy



The role of OT-Med for the university and the Mediterranean

- The strategy of Aix Marseille University
 - Coordinator for geo- and ecosciences for the Committee of Strategy of Aix-Marseille University (COS, 2015-2025)
 - Important role for developing collaborations in the climatic change domain with other Mediterranean countries: Conference Mediterranean (feb 2015), MEDCOP21 (June 2015)
 - Training of master students from Mediterranean (MEDNET)
- Relation with other labex
 - Forum of the Mediterranean (4 labex: Labex-Med, RESMED, ARCHIMEDE, OT-Med) mainly centered on social sciences, March 2016
 - AMSE, Serenade
- The Mediterranean Earth Institute
 - In the international context of the MESAN
 - Research, transfer of knowledge in the domain of environment
 - Support for Mediterranean Group of Experts on Climatic Change
 - To develop collaborations with Southern/Eastern countries
 - Extension of OT-Med after 1999



Dispatching by heading

Items	Total	Committed	Remaining
Engineers	1 111	408	703
PhD fellowships	1 388	1 130	258
Post Doc	1 867	1 433	434
EU Cofund / IMERA / invitations	181	161	20
Research Projects (excl. Personnel)	1 000	444	556
Outreach activities, transfer	233	90	143
Training	120	75	45
Functioning	605	225	380
Sub-total	6 505	3 966	2 539
Management costs	495	291	204
Total	7 000	4 257	2 742

- The MedECC must be an open and independent international scientific expert network aiming to work towards a mechanism of on-going support for policy makers and the general public on the basis of available scientific information and on-going research.
- Climatic Change, impacts, mitigation, adaptation
- Based on the IPCC approach, IPBES, World Bank report “Turn Down the Heat” 2014
- Labelled by Union for the Mediterranean
- Several meetings planned for 2016: MedCLIVAR, MEDCOP22, COP22
- [details tomorrow]



- Objectives:
 - Establish collaborations between existing centres working on climatic change and natural risk
 - Share interdisciplinary experiences in research and training
 - Share methodological approaches
 - Coordinate activities on Mediterranean Basin (e.g. MedECC)
- Possible activities
 - Organisation of summer schools
 - Exchange of students and researchers
 - Construction of multilateral research projects
- First meeting: 30 Nov – 1 Dec 2015: Cyprus Inst. EEWRC, Columbia Earth Inst., IIASA, Inst. New Economic Thinking (Oxford), Graham Inst., Euro-Med Centre Climatic Change Venice, PIK Potsdam, Labex OT-Med
- To prepare a Mediterranean Earth Institute in relation with AMIDEX

- How to integrate socio-economical modelling to physical modelling for understanding, prediction, and assessment of climate variability and change?
- New cross-cutting approaches in sustainable development studies, complex system analysis...
- Retrospective observations: the past as a laboratory for the future
- Risk analysis, vulnerability, resilience ...
- The bridge towards decision makers: how to dialog with them without oversimplifying the message, the uncertainties?

SWOT

Strengths

- Quality of the research and excellent recruitments
- 53 peer-reviewed papers
- 60% PhD and post-docs from abroad
- Strong leverage effect
- Important participation of the scientists (~100 in annual meetings)
- Strong position on the domain of climatic change in Mediterranean
- Leading role in several programs of MISTRALS and Future Earth (ecoSERVICES)
- Relationships with southern countries being much improved

Weaknesses

- Interactions between social and natural sciences still needs to be improved
- Disequilibrium of publications between topics and labs
- Insufficient interactions with social-economic environment
- Risk of dispersion of topics (in progress)

Opportunities

- International negotiations on climatic change (COP21/22)
- Future Earth
- AMIDEX: collaborations between labex, co-funding
- Union for the Mediterranean (MedECC), MISTRALS

Threats

- Budget decrease (-4%) and costs increase (salaries +12%)
- Uncertainties about the future of AMIDEX

SWOT ANALYSIS



3rd



Progress meeting

6th – 8th January 2016, Aix-en-Provence (La Baume-les-Aix)

13.30-14.00 *Welcome coffee*

Afternoon session

14.00-15.00 *Mid-term report of OT-Med*, Joël Guiot (OT-Med, CEREGE)

15.00-16.00 **WP1: Understanding and evaluating Mediterranean climatic changes and natural hazards**

- Introduction by Olivier Bellier (CEREGE) and France Van Wambeke (MIO)
- **Multiproxy assessment of Holocene relative sea-level changes in the Mediterranean: improvements in the definition of the isostatic signal and new insights on the postindustrial acceleration of Mediterranean sea level rise**, Matteo Vacchi (CEREGE)
- **Role of atmospheric input on the stoichiometry and degradability of dissolved organic matter in the Mediterranean Sea**, Kahina Djaoudi (MIO)
- **Remineralization of Organic particles in presence of Ballast mINerals (ROBIN)**, Virgnie Riou (MIO)

Natural hazards: clarify the niche of OT-Med

16.00-16.30 *Coffee break*

16.30-17.40 **WP2: Impact of climate and anthropogenic changes on Mediterranean ecosystems and services**

- Introduction by Wolfgang Cramer (IMBE) and Alexander Ereskovsky (IMBE)
- **Benefits of conservation tillage for rainfed Mediterranean agriculture**, Simon Decock (IMBE)
- **Understanding ecological functioning of coralligenous habitats, and building new indicators based on genetic tools to assess their GES (good environmental status)**, Aurelien de Jode (IMBE)
- **The year 2003 as a precursor for a new type of large fires in Mediterranean France**, Julien Ruffault (IRSTEA, CEREGE)
- **Integrating farm-level socio-economic indicators and ecosystem services into the LPJmL model**, Stefano Targetti (OT-Med, IMÉRA)

Reinforce studies on ecosystem services

17.40-18.00 **OT-MedNet : collaboration between OT-Med and the Mediterranean network of environmental training sites supporting OSU Institut Pytheas MASTERS' degrees**, Franck Torre (IMBE)

Training

19.00-20.00 *Welcome drink*

20.00-21.00 *Dinner*

21.00 *Bar*

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Morning session

Interdisciplinary questions must be co-constructed

9.00-10.00 **WP3: Human-environmental interaction: perception, adaptation and mitigation**

- Introduction by Olivier Chanel (GREQAM) and Sylvie Thoron (UPEC)
- **Modeling past vulnerability to Mediterranean climate change: The AMENOPHYS project for dynamically coupling behavioral, erosion, and agroecosystem models under variable climatic conditions**, Daniel Contreras (IMBE, GREQAM)
- **An exploratory study on climate change distress and subjective well being in Indian and French coastal cities**, postdoctoral project of Ruchi Mudaliar, Alexandra Lindenmann (ESPACE)
- **Assessment of susceptibility to seismic risk in Turkey**, Samuel Robert (ESPACE)

10.00-10.45 **TWP2: Toward an integrated modeling of the Mediterranean systems**

- Integrated modelling by Alberte Bondeau (IMBE) and Melika Baklouti (MIO)

Modelling : how and for which questions

10.45-11.15 **Coffee break**

11.15-12.00 **TWP1: The observation systems and databases**

- Introduction by Thomas Curt (IRSTEA), Hubert Mazurek (LPED)
- **Group of Regional Experts on Climate of the PACA region, France (GREC-PACA)**, Joël Guiot (OT-Med, CEREGE)
- **MC3: A Mediterranean Network for Urbanism and Environment**, Hubert Mazurek (LPED)
- **OT-Med data catalog**, Romain Suarez (OT-Med)

Databases: for who?

12.00-13.00 **Outreach and transfer of knowledge**

- **Communication to secondary schools**, Sophie Pekar (OT-Med)
- **Communication of science to general public**, Katarzyna Marini (OT-Med)
- **MedECC: Towards an improved scientific assessment of climate change and its impacts in the Mediterranean Basin**, Wolfgang Cramer (IMBE) and Joël Guiot (OT-Med, CEREGE)

Improve link with circum-Med authorities

13.00-14.15 **Lunch**



3rd



Progress meeting

Afternoon session

14.15-15.15 **Invited talk « Warming and acidification of the Mediterranean Sea »**,
Jean-Pierre Gattuso (Observatoire Océanologique de Villefranche sur Mer)

15.15-18.15 **Future directions – discussion about projects retained by the WPs :**

16.00-16.15 **Coffee break**

- **Aix-Marseille Metropolis Observatory for CO2**, Dominique Lefèvre (MIO)
- **Natural risks in the Mediterranean: hazard, vulnerability, perception and management (RISK MED)**, Samuel Robert, Alexandra Schleyer-Lindenmann & Rachel Bertoldo (ESPACE); Lucilla Benedetti, Laurence Vidal & Olivier Bellier (CEREGE); Laurent Peyras & Stéphane Bonelli (IRSTEA); Hubert Mazurek (LPED) ; WP3, WP1
- **Response of Mediterranean mineralising plankton community structures and ballasting effect to climate change (MedinClim)**, Christian Tamburini (MIO); Luc Beaufort (CEREGE), Involved researchers : Karine Leblond, Jacques Jacquet, Elvira Pulido-Villena, Christos Panagiotopoulos (MIO); Kazuyo Tachikawa, Thibault De Gooijer (CEREGE) ; WP1, WP2
- **Do we live on polluted coasts ?** Olivier Radakovitch (CEREGE) ; WP1, WP2
- **French Mediterranean FOREst functioning in changing environments: how will Climate Change Affect the suSTainable provision of biomass and other ecosystem services? (FORECCAST)**, Philip Roche (IRSTEA) + CEREGE, GREDEG, IMBE, INRA ; WP2
- **Soil changes driven by climate change at the global and Mediterranean scale**, Sophie Cornu (GSE, CEREGE), Joël Guiot (CEREGE), Alberte Bondeau (IMBE) ; WP2
- **Building an urban biodiversity index to follow global biodiversity change in urbanized area: a support for management and long term surveys**, Magali Deschamps-Cottin (LPED) and Bruno VILA (IMBE) ; WP2
- **Spatial and temporal adaptations of a traditional Mediterranean fishery facing Regional Change: combining history and ecology to study past, present and future of sponge harvesting**, Thierry Pérez (IMBE), Daniel Faget (TELEMME) ; WP2 and WP3
- **Towards an integrated prediction of Land & Sea Responses to global change in the Mediterranean Basin**, Alberte Bondeau (IMBE), Melika Baklouti (MIO) ; TWP2
- **General discussion**

Clarify roadmaps for the WP (top-down)

Interdisciplinary questions must be co-constructed

20.00 **Dinner**
21.00 **Bar**



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Morning session

9.00-10.00 **Invited talk « La doxa des négociations sur le climat en perspective : une remise en cause du cosmopolitisme »**, Philippe le Prestre (Univ. Laval, Quebec)

10.00-10.15 **Coffee break**

10.15-12.00 **Three parallel sessions:**

- Meeting of international scientific council (ISC) (*“Matisse” room*)
- Meeting of the PhD students, postdoctoral fellows and OT-Med engineers (*“Mistral” room*)
- Presentation of new OT-Med candidate member Forêt Méditerranéenne de l'INRA-Avignon (URFM); Discussion on the future Mediterranean Earth Institute (open to all the participants) (*Plenary room*)

12.00-13.00 **Final discussion, report by the ISC president**

13.00-14.00 **Lunch**

14.00 **End of the meeting**

Improve link with circum-Med authorities

Improve connection to East-Med

Improve interaction between young scientists

