

Minutes

of the Annual MIGRATE Meeting

at the Naval Academy “Nikola Vaptsarov”

73 Vasil Drumev Str.

Varna 9026, Bulgaria

From 18th to 19th September 2017

September, 18th

09:40 **Welcome by the host Prof. Ivo Yonkov and the speaker Klaus Wallmann**

Ivo Yonkov welcomes all participants, Klaus Wallmann explains the program of the day and of the coming two days. As the two invited speakers of Morocco, Nadia Mhammdi and Ayoub Filali Zegzouti got impeded in a traffic jam, they missed the plane. Instead of them, Günay Cifci and Mahmut Parlaktuna will give a presentation. WG1 and WG3 had already sent an agenda for their break-out sessions and WG2's main topic will be the ETN/ITN proposal (its realization takes about one year).

10:00 **Presentation on new gas hydrate projects in France: Livio Ruffine**

Livio Ruffine explains the set-up of the new gas hydrate consortium in France. It consists of three research groups: geoscience, astrophysics and process/engineering. The individual projects that are forming the basis of the consortium are funded by different national agencies via a variety of different funding lines.

10:45 Coffee break

11:20 **Presentation on seismicity and collection of gas hydrate in Turkey by the Turkish representative Günay Cifci (in collaboration with Mahmut Parlaktuna)**

The speakers present new seismic data from the Turkish sector of the Black Sea. The data give clear indication for the presence of gas hydrates. The Turkish gas hydrate program aims to drill into these deposits to explore their economic potential.

11:45 **Presentation and discussion of the geological systems in the Black Sea and the upcoming cruise with MeBo200 (Matthias Haeckel and Atanas Vasilev)**

The speakers present our current knowledge on the distribution of gas hydrates in the Black Sea and the plans for the upcoming drilling cruise with RV Meteor and MeBo 200 in Nov. 2017. Matthias Haeckel explains that a special volume about the Black Sea Hydrate System will be published after the cruise and that everybody is invited to send their contributions (papers) until the end of 2018.

13:00 Lunch

14:00 **Presentation and discussion on environmental monitoring strategies (Peer Fietzek)**

Peer Fietzek (Kongsberg) presents technologies and strategies that can be used for the environmental monitoring of gas production from offshore hydrate deposits.

15:20 **Presentation on MIGRATE's ETN/ITN plans and discussion of this new initiative (Judith Schicks)**

Before Judith Schicks starts with her presentation she asks the participants who already applied for an ETN/ITN. Umberta Tinivella, Matthias Haeckel and Peer Fietzek confirm to have applied for an ETN/ITN already. Judith Schicks explains that the main idea of an ETN/ITN is to develop an individual program for the education of each early state researcher. She would like to know who would like to go for an ETN/ITN. Many participants indicate their interest. Possible topics that are discussed include: thermodynamics of the gas hydrate system (Baptiste Bouillot, France), environmental monitoring (Jasmina Obhodas, Croatia), coupled models of sediment mechanics and reactive fluid flow (Maria de la Fuente Ruiz, UK), molecular modeling of the gas hydrate system (Niall English, Ireland), geochemical modeling with lab experiments (Livio Ruffine, France), slope stability (Aleksander Dominiczak, Poland). Klaus Wallmann suggests that all WGs shall discuss the ETN/ITN within their working group members.

16:00 Coffee break

16:30 **Parallel meetings of WG1-WG3**
WG1: SC Hall 11, WG2: SC Hall 12, WG3: SC Hall NATO

WG1 discusses new data on the gas hydrate distribution around the European continental margin. WG2 participants intend to focus the ETB proposal on gas hydrate technologies including new energy applications. WG3 members agree on the common ETN topic "environmental impacts and monitoring".

20:00 Conference Dinner at the restaurant "Horizont Veranda", Varna

September, 19th

09:30 **Parallel meetings of WG1-WG3**

WG1, WG2 and WG3 continue with presentations and discussions on the gas hydrate distribution, on gas hydrate technologies, and environmental impacts.

10:30 Coffee Break

11:15 **Parallel meeting of WG1-WG3 (same halls)**

WG1, WG2 and WG3 continue with presentations and discussions on the gas hydrate distribution, on gas hydrate technologies, and environmental impacts.

13:00 Lunch

14:00 **Presentation on gas hydrate research in Morocco held by Klaus Wallmann replacing Nadia Mhammdi and Ayoub Filali Zegzouti**

14:15 **Plenum Meeting (report of WG meetings, discussion and decision on next steps/priorities): SC Hall 11**

WG1:

Srikumar Roy gives a summary on WG1: WG1 will produce a paper on gas hydrate occurrences around Europe. Tim Minshull will be the lead author. WG1 will also produce a final version of the gas hydrate map for the MIGRATE webpage.

WG2:

Judith Schicks summarizes the discussions about the ETN/ITN. WG2 would like to focus the proposal on the potential use of gas hydrates over a wide range of different applications including desalinization, cooling, and flue gas purification. She points out that a decision should be taken if MIGRATE should go for one or for two ETN/ITN proposals.

WG3:

Umberta Tinivella presents the summary of WG3. WG3 members want to focus the ETN/ITN proposal on the monitoring of environmental emissions of the offshore industries.

Klaus Wallmann explains that it may be favorable to go for two ETN/ITN proposals as MIGRATE is a broad community. Both WG2 (Judith Schicks) and WG3 (Umberta Tinivella) agree. It would be better to have two chances, without competition with each other. Klaus Wallmann proposes to discuss the ETN/ITN first separately at the WG2 and the WG3 meetings and then gather all the ideas at the occasion of a joint WG2/WG3 meeting. This meeting will be planned in Potsdam for mid-March 2018. Judith Schicks and Umberta Tinivella agree to serve as lead proponents of the two ETN/ITN proposals.

15:15 **End of Annual Meeting**

Coffee break

15:30 **MC Meeting**

Finances: Klaus Wallmann declares that MIGRATE received additional funding amounting to about € 14,000. The additional budget should be spent on people coming from ITCs (Inclusiveness Target Countries).

STSM: Judith Schicks explains that there have been six STSM proposals and all have been funded, though there is still money left. She proposes to avoid setting a deadline for future proposals. She would like to publish an STSM call for proposals on the MIGRATE webpage without any deadline in order to facilitate the procedures. The MC agrees unanimously on this new procedure. Klaus Wallmann adds if more people would like to apply for an STSM then they could also be considered for the next grant period.

Next annual meeting: Günay Cifcy proposes Ismir (Turkey) as meeting place while Judith Schicks declares that GFZ Potsdam could serve as venue for the next meeting. Klaus Wallmann points out that at that moment no vote can be made as there are less than 2/3 of the countries present at the MC meeting. Thus, the vote will be made via e-mail. The two proposing LOS' shall prepare a one slide application in order to present their suggested meeting places.

Stakeholder workshop: Valentin Georgiev announces that mass media and authorities of Varna will attend tomorrow's Stakeholder Workshop. Presentations will be given by Klaus Wallmann, Atanas Vasilev, Valentin Georgiev and Matthias Haeckel. The presentations of Klaus Wallmann and Matthias Haeckel will directly be interpreted. After the Stakeholder Workshop there will be the opportunity for discussions.

16:15 **End of the Annual Assembly**

September, 20th Stakeholder Workshop

MIGRATE presents its latest findings on gas hydrate occurrences in the Bulgarian sector of the Black Sea and the potential of gas hydrates as indigenous resource of natural gas for Europe. Officials from the Bulgarian parliament and ministries, Bulgarian members of the European Parliament, as well as Bulgarian media and leading energy experts had been invited to this Stakeholder Workshop.

14:20 **Presentation of Klaus Wallmann on “Nature, spatial distribution and energy potential of the marine gas hydrates and main targets, tasks and obtained results of the EU Action COST MIGRATE”**

14:55: **Presentation of Atanas Vasilev on “Marine gas hydrates – a chance for energy independence and economic prosperity of Bulgaria”**

15:15 **Presentation of Valentin Georgiev on Environmental challenges and methods of environmental monitoring during marine gas hydrate exploration and production”**

15:35 **Presentation of Matthias Haeckel on “Work program for drilling in the discovered potential deposits of marine gas hydrates in the EEZ of Bulgaria and Romania during the November-December 2017 cruise of the German research vessel “Meteor”**

15:50 **Discussion**

Klaus Wallmann and Atanas Vasilev explain that large amounts of gas hydrates can be found in the Bulgarian sector of the Black Sea. The inventory may be high enough to satisfy the Bulgarian gas demand for about 100 years. Bulgaria should approach the EC to support the development of these indigenous resources. Bulgarian policy makers and scientists in the audience engage in a lively debate on these topics.

16:00 **End of the meeting/Reception**