



**LoCrA
Newsletter**

June 2017

LOWER CRETACEOUS BASINS IN THE ARCTIC

Introduction

The University of Stavanger (UiS) and the University Centre in Svalbard (UNIS) lead the collaboration of the *Lower Cretaceous basin studies in the Arctic* (LoCrA). The University of Texas at Austin (UT) in the United States, the University of Oslo (UiO), the University of Tromsø (UiT), and the University of Bergen (UiB) in Norway, the University of Copenhagen (KU) in Denmark, Lomonosov Moscow State University (MSU) in Russia and the geological survey of Denmark and Greenland are collaborators in the research project. Each collaborator is lending expertise from leading scientists as well as current research supported by the efforts of BSc, MSc, and PhD students and post-doctoral researchers.

Learn more at <http://locra.ux.uis.no>.

Contact Information

Email

You can email us with your questions to: locra@ux.uis.no

Company Representatives

If your company representative should change at any time, please email so that we can update our records. It is especially important given the current environment where there are many internal changes within and mergers of companies.

Mailing Lists

We use MailChimp to send our updates and communications. This allows you flexibility to choose text or HTML formats.

Save the date!

Sponsor meeting

LoCrA will hold a meeting to present results to the sponsoring companies. We are in the process of working out the dates for the meeting. It will be held at the Norwegian Petroleum Directorate in Stavanger, Norway. Detailed information to follow to sponsor company representatives.

JuLoCrA

Aker BP, Centrica, DEA, Lukoil, and Lundin Norway are sponsoring JuLoCrA, the "downward" continuation of the LoCrA consortium with the addition of the Jurassic interval in order to gain a better understanding of the geologic setting. Research activities include investigating changes in drainage (source to sink) patterns, basin development, and paleogeographic facies, and obtaining improved constraints of the key sequence stratigraphic surfaces. The proposal is available on our website at: http://locra.ux.uis.no/JuLoCrA_proposal.pdf.

Best Poster Award

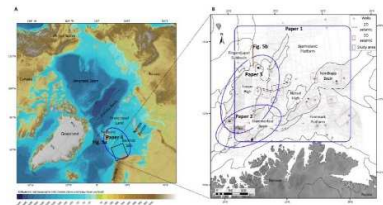
Mads Jelby, University of Copenhagen, won best poster at the Geological



Society of Denmark Annual Meeting for: Basin scale of spectacular storm deposits in the high Arctic. Co-authors were Sten-Andreas Grundvåg, William Helland, Hansen, Snorre Olausen, and Lars Stemmerik.

Graduating Students

Dora Luz Marin will defend her PhD on August 14 at the University of Stavanger. Her PhD thesis title is *Tectonostratigraphic evolution of the southwestern Barents Sea during the Early Cretaceous*. The defense will be open to the public and the exact timing will be available in the coming weeks on our website.



Two students graduated from UiS in June 2016 working under the supervision of Professor Alejandro Escalona. Sanja L. Lazarević graduated as a BSc student with her thesis titled *Lower Cretaceous wedges in the Swaen Graben, the Barents Sea, Norway*. Angelica Årlebrand, co-supervised by Carita Augustsson, also graduated this June and her MSc thesis is titled *Depositional setting and diagenesis as keys to reservoir quality: Lower Cretaceous in the southwest Barents Sea*. Available online soon!

NGS Grant

Ivar Midtkandal, Sten-Andreas Grundvåg, and Mads Jelby are co-recipients of an NGS grant for fieldwork in Svalbard for the summer of 2017. The project is entitled "Of fire and ice: evidence from the high Arctic for a dynamic Early Cretaceous climate", in which they try to assess the degrees of glaciation in the Early Cretaceous by collecting and studying glendonites and

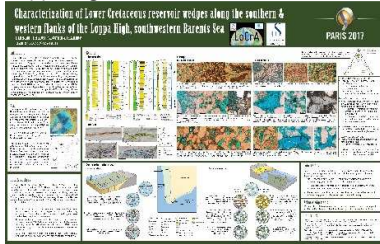
dropstones in the Lower Cretaceous succession of Kvalvågen, east coast of Spitsbergen. The grant is administered by Madeleine Vickers from Plymouth University. Follow project progress here: <http://www.researchinsvalbard.no/project/8341>

Past Meetings

EAGE Annual Conference

In June, Bereke Kairanov, Angelica Årlebrand, and Sanja Lazarević presented at the EAGE Annual Conference in Vienna. Presentations are available on the LoCrA website.

Angelica Årlebrand, Alejandro Escalona, Carita Augustsson, and Bereke Kairanov, Characterization of Lower Cretaceous reservoir wedges along the southern and western flanks of the Loppa High, southwestern Barents Sea.



Bereke Kairanov, Alejandro Escalona, Ian Norton, Lawrence Lawver, and Peter Abrahamson, The Early Cretaceous Structural Evolution of the Tromsø Basin, SW Barents Sea.

Sanja Lazaravić, Alejandro Escalona, and Dora Marín, Lower Cretaceous Clastic Wedges in the Swaen Graben, the Barents Sea, Norway.

Force Workshop: Frontier Exploration

On June 7, Sten-Andreas Grundvåg presented at the Frontier Exploration Workshop in Stavanger. The talk was entitled "The Lower Cretaceous of Svalbard and its relevance for exploration in the northern Barents Sea" and co-authored by Mads Engholm Jelby, Ivar Midtkandal, Kasia Śliwińska, Henrik Nøhr-Hansen, Dora Marín, Bereke Kairanov, Alejandro Escalona, and Snorre Olaussen.

Upcoming Meetings

IAS Conference

Mads Jelby submitted an abstract for the International Meeting of

Sedimentology in Toulouse France from 10-12 October. The presentation title is "Reconsidering the formation of hummocky cross-stratification" and is co-authored with Sten-Andreas Grundvåg, William Helland-Hansen, Lars Stemmerik, and Snorre Olaussen. For the same meeting, Anna van Yperen with Ivar Midtkandal and John Holbrook submitted an abstract titled "Facies architecture and stratigraphic development of a thin, low-gradient delta along a sandy coast – the Cretaceous Mesa Rica Sandstone in New Mexico (USA)". A third abstract was submitted by Angelica Årlebrand, Carita Augustsson, and Alejandro Escalona entitled "Depositional setting and diagenesis as keys to reservoir quality: Lower Cretaceous in the southwest Barents Sea".

New and Upcoming Publications

Several papers are in preparation or in the submitted phase for publication. Published papers can be found in the sponsor portion of the website.

Peer-reviewed and published papers:

Sten-Andreas Grundvåg and Snorre Olaussen, 2017, Sedimentology of the Lower Cretaceous at Kikutodden and Keilhaufjellet, Southern Spitsbergen: implications for an onshore-offshore link. *Polar Research*. DOI: 10.1080/17518369.2017.1302124.

Sten-Andreas Grundvåg, Dora Marín, Bereke Kairanov, Henrik Nøhr-Hansen, Kasia Śliwińska, Alejandro Escalona, and Snorre Olaussen, The Lower Cretaceous succession of the western Barents Shelf: onshore and offshore correlations. *Marine and Petroleum Geology*. DOI: 10.1016/j.marpetgeo.2017.06.036

Dora Marín, Alejandro Escalona, Kasia K. Śliwińska, Henrik Nøhr-Hansen, Alina Mordasova, in press. Sequence stratigraphy and lateral variability of Lower Cretaceous clinoforms in the southwestern Barents Sea. *American Association of Petroleum Geologists Bulletin*. DOI: 10.1306/10241616010.

Ivar Midtkandal, Henrik Svensen, Sverre Planke, Fernando Corfu, Stephane Polteau, Trond Torsvik, Jan Inge Faleide, Sten-Andreas Grundvåg, Håvard Selnes, Wolfram Kürschner, and Snorre Olaussen, 2016, The Aptian oceanic

anoxic event (OAE1a) in Svalbard and the age of the Barremian-Aptian boundary. *Palaeogeography, Palaeoclimatology, Palaeoecology*. DOI: 10.1016/j.palaeo.2016.09.023

Peer-reviewed submitted and accepted for publication (under revision):

Naomi Thompson, Udo Zimmermann, Thomas Lapen, Lena Støle, Caroline Ruud, and Dora Marín, Zircon geochronology of Mesozoic sedimentary rocks in the Hammerfest Basin (Barents Sea, Northern Norway): insights into basin evolution and sediment provenance, *GSA Bulletin*.

Sten-Andreas Grundvåg, Snorre Olaussen, Ivar Midtkandal, and Kasia Kamila Śliwińska, Storm-bed variability in a mid-Albian shelf succession, Svalbard, *Sedimentology*.

Christopher Sæbø Serck, Jan Inge Faleide, Alvar Braathen, Bent Kjølhamar, and Alejandro Escalona, Jurassic to Early Cretaceous basin configuration(s) in the Fingerdjupet Subbasin, SW Barents Sea, *Marine and Petroleum Geology*.

Dora Marín, Alejandro Escalona, Sten-Andreas Grundvåg, Snorre Olaussen, Sara Sandvik, Kasia Śliwińska, The tectono-sedimentary evolution of the Lower Cretaceous succession in the Hammerfest Basin, southwestern Barents Sea, *Basin Research*.

Dora Marín, Alejandro Escalona, Bereke Kairanov, Henrik Nøhr-Hansen, Controls on deposition of Lower Cretaceous diachronous clastic wedges around the Loppa High, southwestern Barents Sea, *Marine and Petroleum Geology*.

Bereke Kairanov, Alejandro Escalona, Alina Kayukova, Lower Cretaceous tectonostratigraphic evolution of the northcentral Barents Sea.

Upcoming Data Release and Activity

Over the summer, graduate students Thomas Ohlsen and Ivan Gutierrez are working at UiS and helping to finalize data for release and the final report for LoCrA. All collaborators of LoCrA have submitted results so far collected to be included in the report.