



Bergen Energy Lab NEWSLETTER SPRING 2019

Our program this spring has been diverse, covering a broad range of topics and disciplines. Here in this newsletter you will find a short summary of a couple of our meetings and seminars, in addition to the thoughts of one of our most recent master's students and an outlook on the semester to come.

Bergen Energy Lab has hosted 17 lunch meetings and two half day seminars. Most of them have been in our usual Helland-Hansen meeting room at the GFI, but we have also explored a few new and interesting venues in the hope that this might encourage an interdisciplinary audience.



As of now, the group planning the lunch meetings are Kristin Guldbrandsen Frøysa, Siddharth Sareen, Ignacio Herrera Anchustegui, Endre Bjørndal, Andreas Grimen, Richard J. Grant and Jørund Vedøy.

Also, in February Anja Lindgaard Molnes started a new job in Stavanger, and for the rest of the semester Vår Dundas has tried her best to continue the work she did with organization connected to the Bergen Energy Lab.



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Bergen Energy Lab

@BergenEnergyLab

A forum for exchange of information on #research and activities related to #renewableenergy #energytransition, hosted by @geofysen energylab@uib.no #EnergyLab

📍 Bergen, Norway

🌐 uib.no/en/energy

📅 Registrerte seg august 2016

Bergen Energy Lab on social media



In order to extend the distribution of information about our lunch meetings and seminars, we are trying to improve our use of social media! If you want to help us reach a broader audience, you can follow us on Twitter



and Facebook for updates on activities, research and energy related news, and use our hashtag

#BergenEnergyLab if you would like to tweet about our lunch meetings and seminars.

On our traditional website, the event archive is up to date, and all the presentations from this semester (and previous ones) can be found at the bottom of their respective events.



Overview of the lunch meetings this spring

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| January 8 th | The role of hydrogen for energy transition - Outlook from UiB |
| January 15 th | Energy Markets: A multidisciplinary perspective |
| January 15 th | Synthetic liquid fuels for sustainable transportation |
| January 22 th | Energy masters student presentation, vol. I |
| January 29 th | Geothermal Energy - Digging Deeper |
| February 5 th | The fundamentals of blockchain in the energy sector |
| February 12 th | Energy master student presentations, vol. II |
| February 13 rd | Half-day seminar: Smart Cities |
| February 19 th | Arbaheat - conversion of a coal-fired power plant to bioenergy and biorefining |
| March 5 th | Robotization and machine learning in the energy sector |
| March 12 th | Participatory energy monitoring |



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| March 19 th | Introduction to energy storage during phase change |
| April 2 nd | Representation of short-term solar and wind variability in long-term energy models - a European case study |
| April 25 th | Half-day seminar: Sustainable Marine Transport |
| April 30 th | The boat network |
| May 7 th | The rooftop energy lab at UiB |
| May 14 th | Guided tour: “Potential exceeds the demand” - Art exhibition |
| May 21 st | Wake meandering effects for floating wind turbines |
| June 11 th | Energy transitions, ownership and the City: conflicts about remunicipalisation in Germany |



Renewable Energy Alumni

Even Storheim**Tell us a bit about your background?**

I have a bachelor's degree in chemical engineering from HVL, and now a master's degree from UiB in renewable energy with specialization in carbon capturing.

Why did you choose to study the master in energy at UiB and how did you choose your specialization?

Ever since I was a small boy, I've had a great interest in science and technology, so it was a natural choice for me, really, to become an engineer. My generation has a great responsibility to take on, by making the green transition happen and fight global warming. To start a master's degree in renewable energy here at UiB, therefore seemed like a good way to acquire the knowledge and skills I would need to make an impact toward a green society.

What was your master thesis about?

In my master thesis I have investigated the gas sorption properties in a new series of micro-porous materials (a MOF series called CPO-54-M). My aim was to discover whether or not they could be applicable for a more energy and cost-efficient way of capturing CO₂ gas.

I have conducted a large number of gas sorption experiments, looked at the material separation properties towards CO₂ over number of other gases, and I've obtained some very promising results.

What advice would you give to the current master students at UiB?

Choose a topic for your master thesis that really interests you and take full advantage of all the resources available to you at UiB. Attend energy conferences and seminars whenever you can and start to build your network outside academia. And, of course, go to all the Energy Lab lunch meetings. It's a great way of getting insight into new research and projects in the energy sector.

How do you think your master studies can be used in your future career?

I think it is a great foundation for my further career, no doubt. I have acquired a solid base of knowledge and become a much more accomplished critical thinker.

Could you tell us a bit about your current job?

In my new job at Hordaland County Council I will work together with the business sector, clusters and different research communities to find new and greener solutions for Hordaland, further electrify the transportation sector and mobilize businesses to impose a circular economy.



Half-day seminar, February 13th

Smart Cities



Photo: Anja Molnes

This semester's first half day seminar was held on the 13th of February and the subject of "Smart Cities" was investigated.

"Smart Cities" is quite a broad term, and a total of five speakers were invited to talk about various issues connected to what defines a Smart City and what changes do we need to make in order to achieve this goal.

Siddharth Sareen introduced the seminar and was followed by short talks by Tor Krog, Nordic Director of Business and Development at Siemens, Fredrik Seliussen, Development Director at Lyseparken in Os kommune and Monika Inde Zsak, Head of Innovation and BKK Grønn Invest at BKK. Camilla Moster moderated an interesting panel discussion, challenging these three developers to discuss how their businesses, and businesses in general, can and should contribute to a transition towards low-carbon energy consumption in cities.

Following a break filled with coffee and interesting discussions Corina Guder moderated the second panel discussion, this time between Torkell Pettersen, Smart City Coordinator for Bergen kommune and Håvard Haarstad, Director at the Center for Climate and Energy Transformation. While the previous discussion looked into possibilities and contributions from businesses, this section addressed how it is possible to



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set all the ambitions and plans into real life solutions. The whole session was streamed, and the video along with the complete slide deck can be found in the archive section of the event.

Lunch meeting, March 12th

Participatory energy monitoring

The 12th of March we headed over to the faculty of social sciences to listen to Scott Bremer and Patrik Oskarsson talk about citizen science and the non-scientific community's role and possible engagement in scientific research.

Scott Bremer looks into citizen science and its potential for inducing trust between scientific and non-scientific communities, contribute to obtaining high resolution climate data and increase the understanding and knowledge among the general public of climatic changes. The idea is that when people get the opportunity to engage in data collection and investigate the results themselves, the more they trust scientific methods and conclusions. The "Measure your City" initiative in the Netherlands was presented as a good example of how this might work, and how this initiative started up in Bergen as well in 2018, inviting people to workshops where they can make their own weather sensors and place them in the area they themselves want to learn more about.

Patrik Oskarsson hopes to improve issues of air pollution, and has based the study of an ongoing research project based in Mumbai, Raipur and Korba. Simple pollution monitors have been placed in homes and workspaces that can help figuring out what the main sources of the pollution is, and how people are affected. As with Scott Bremer's case above, the hope here is that when people themselves measure the

pollution in the areas they live and work it might lead to more engagement and pressure from the public towards local and national governments asking for an improvement of the issues. The problem often needs to be made directly relevant to individuals in order to impose the reactions needed for actual change.



The fall program 2019

The program for the fall 2019 is being planned as we speak, and we can already tell that a number of different topics will be addressed. Hopefully our first half day seminar will be organized before the local elections the 9th of September, and address issues related to offshore wind. What, if any, regulations do we have in Norway to date, what are the facts and uncertainties related to the economics of offshore wind, what does the population base their arguments and opinions on and more. We will also try to look into issues connected to energy in relation to equity and poverty, solar energy markets and economic drivers of the energy market. A complete program will be announced at the beginning of the semester, so stay tuned for news on the website and our social media channels.



Photo: Pexels

