20.03.2015

Participants of the 3rd "Svea expedition" were lucky to see total solar eclipse in the short break between experiments. On the photo to the left, they are ready for this unique and marvelous event. See the pictures from the total eclipse in UNIS website here.

See the movies in different media: Svalbardposten (local perspective), Stargate Media (360 Panorama), Vimeo (snowboard)

10.03.2015

The 3rd "Svea expedition" has departed today from Longyearbyen to Svea to spend 2 weeks for field investigation of fast ice properties. They will extend the work started in 2013 and continued last year: testing of the new rig, in-sito idententional tests, beam test, compression-strength test; CTD, ADCP profiling, tide measurements.

Among the participants this year: 4 from University College London, 2 from Lomonosov Moscow State University, 2 from Krylov State Research Centre, St.Petersburg, 1 from University of Alaska Fairbansk, 1 from VNIIG, 1 from Shirshov Institute of Oceanology. With strong UNIS leading and logistic support. 3 researchers from University of Oslo and AT-211 students will join the team 17 March.

To imagine what they will do, See time-lapse VIDEO, made by dr. Evgeny Karulin in 1 day of 2nd Svea Expedition.

04.03.2015

SMIDA participants (project leader professor Aleksey Marchenko and project coordinator Nataly Marchenko) together with UNIS director Ole Arve Misund have been invited and participated in the international conference "Warming of the North. Challenges and Opportunities for Arctic Transtortion" in Ottawa (Canada) 2-3 March 2015.

The conference was organized by the Transport Institute at the University of Manitoba.
On the photo: professor Aleksey Marchenko, conference organizers Ron McLachlin and Paul Earl (University of Manitoba), research associate Nataly Marchenko and UNIS director Ole Arve Misund (on the right side).

24.02.2015

The new collaboration project has been supported by Norwegian Centre for International cooperation in Education (SIU) via High North Programme for 2015-2018. The list of all supported projects can be found here. The project is "Safety of Industrial Development and Transportation Routes in the Arctic".

UNIS and Memorial University of Newfoundland (Canada) are the main partners and prof. Aleksey Marchenko is the project leader.

MIPT, NTNU (both SMIDA partners), University of Alaska Fairbanks (USA) and US-Dartmouth College (USA) are in the team.

This SMIDA-sister project will expand collaboration in the field of Arctic Technology overseas.

CONGRATULATIONS AND GOOD LUCK!

13.02.2015

Russian students at UNIS for spring semester 2015

They are seven now. 3 students are from Moscow Institute of Physics and Technology (MIPT), 4 students are from Saint - Petersburg State Polytechnical University (SPBSPU).

On the photo from the left: they are standing -Andrii Murdza, Maria Parfenova (MIPT), Daria Ksenofontova (SPBSPU) and Dmitry Murashkin (MIPT), 2nd row (sitting) - Anton Agafonov, Fedor Aleskeev, Iliya Teslyaruk (SPBSPU). The new UNIS students (Maria Parfenova, Fedor Aleskeev, Iliya Teslyaruk) will take recommended combination of courses- AT-205, AT-211.

Andrii Murdza and Dmitry Murashkin will take AT-211 course and work on their Master Thesis. They all will stay at UNIS 2 months.

Daria Ksenofontova and Anton Agafonov will make participate in fieldwork and make their master projects during short 2.5 month stay.
01.12.2014

The autumn semester is approaching to the end. Today the SMIDA students write the last exam. Today exam is for AT-327 course. Students were very active during semester and visited many nice places around Longyearbyen (see the map on the left side) and find here video/slide show about the trips and study.

28.11.2014

CONGRATULATION Dr.KULYAKHTIN

Anton Kulyakhtin has successfully defended his PhD Thesis at NTNU. Anton took UNIS Arctic Technology master courses in Autumn 2007, came back for Master project in spring 2009. Anton had support from SafeLOT project for his study at UNIS. During his PhD study at NTNU 2009-2014, Anton was external UNIS PhD and did a lot of field/experimental work in Adventdalen near Longyearbyen for his PhD project «Numerical Modelling and Experiments on Sea Spray Icing».

On the photo: Happy dr. Kulyakhtin with supervisor and committee: Prof. Sveinung Løset (NTNU, Norway, main supervisor), Dr. Lasse Makkonene (VTT, Finland), Prof. Emeritus Edward Lozowski (University of Alberta, Canada), Dr. Anton Kulyakhtin, Associated Prof. Raed Lubbad. (NTNU, Norway).

Professor Aleksey Marchenko, UNIS, and Dr. Olga Shipilova, DNV were co-supervisers of Anton’s PhD.
26.11.2014

Dmitrii Murashkin (master student at Moscow Institute of Physics and Technology, SMIDA external master student at UNIS)
The first time on Svalbard Dmitrii was in autumn 2013, when he took AT-301, AT-327, AT-332.

Now he came at UNIS as external master student to work on his project "Influence of brine migration on thermal expansion of sea ice".

During autumn 2014 he conducted experiments in Cold Laboratory with the help of his supervisor - Aleksey Marchenko, developed mathematical model for thermal expansion of sea ice and made numerical computations of the model.

Read about Dmitrii’s project here.

Dmitrii is a hardworking student and also brillant basketball player.

6-7.11.2014


Prof. Aleksey Marchenko made presentation “Monitoring of icebergs and drifting ice in northwestern Barents Sea and Svalbard’s fjords”. Dr. Nataly Marchenko showed “Geoinformation system for arctic technologies on Svalbard”. PhD student Anna Abramova told about her field work on Svalbard in presentation “Studies on contamination of the snow cover around the towns of Longyearbyen and Barentsburg (Svalbard) in 2013”

3 articles had been published in the conference proceedings.
This was the first time UNIS researchers participated in this annual conference.
31.10.2014

UNIS/SMIDA delegation visited Russian research center in Barentsburg

Find here presentation about the center, placed on RCN web-site

The main purpose of the trip on helicopter to neighbor settlement was to discuss possibility of collaboration and application for POLARPROG promote research cooperation between Norwegian and Russian researchers in Svalbard.

Russian colleagues showed new chemical lab and other facilities and told about the plan to develop center, according to the new concept, approved by the Russian Government.

UNIS Director Ole Arve Misund made presentation about UNIS. Then UNIS/SMIDA delegation had a warm reception in the Consulate General of Russian Federation in Barentsburg.

In photo: Ole Arve Misund (UNIS, Director), Alexander Sakharov (MSU, Prof.), V.G.Kuleshov (Research Station of Russian Academy of Science, Director), Petr Chistyakov (MSU, Prof.), Aleksey Marchenko (UNIS, Prof) in front of Research Station "Barentsburg".

19.10.2014

This week students of AT-332/832 course have lab and fieldwork as a part of study.

As at previous years students worked in 4 groups performing indentation test in the lab and in-situ; beam test in-situ, fracture toughness test in-situ, uniaxial compression test in the lab, analysis of thin sections of ice in the lab; computer modelling of beam test in Comsol Multiphysics.

In this year professors Evgeny Karulin (SMTU), Petr Chistyakov and Alexander Sakharov (MSU) help prof. Aleksey Marchenko (UNIS) in tests and teaching.

In photo: preparation to the tests on the lake ice.

19.09.2014

Now it is time for fieldwork on AT-211 course. Students work with Total Station, measure tidal variation (on the right photo - they take out CTD sensor), sea currents, investigate pipeline features
Russian students at UNIS for autumn semester 2014

They are eight now (Anna Abramova did the field work on August and has already left to make Chemical analysis in Moscow State University. She is absent on this photo) will come for project work late) from four universities.

2 students are from Moscow Institute of Physics and Technology (MIPT), 4 students are from Saint - Petersburg State Polytechnical University (SPBSPU) and 1 student is from Moscow State Academy of Water Transport (MSAWT).

2 of them (Andrii Murdza and Darina Krotova) are new; the others participated UNIS course before.

On the photo from the left they are standing in 1st row - Kseniiia Gorbunova, Mark Kreiniuk (SPBSPU), Dmitry Murashkin (MIPT), 2nd row - Darina Krotova (MSAWT), Daria Ksenofontova (SPBSPU) and Andrii Murdza (MIPT).

Anton Agafonov (SPBSPU) is sitting on the stair.

6 students will take recommended combination of courses AT-301, AT-332/832; AT-327.

Dmitry Murashkin will work on his master project.

22.08.2014

Autumn Semester 2014 has started with the Arctic Survival and Safety Course.

330 students from 42 countries will be taking courses at UNIS this semester. Among them are 7 SMIDA students.
22nd IAHR International Symposium on Ice is sponsored by the International Association of Hydro-Environment Engineering and Research (IAHR). The long running successful event had been held previously in international cities around the world. In 2014, it was held in Singapore, a top international convention city ideally located midway between the Arctic and Antarctic. There are interests related to ice research and its link to the long term sea level rise, potential development of new shipping routes due to the melting Arctic, design of offshore structures in cold regions, and the impact of climate change on all water resource issues.
SMIDA team on IARH (Dr. M. Karulina, Prof. A. Marchenko, Dr. N. Marchenko, Prof. K. Høyland, MSc Å. Ervik, Prof. S. Løset, Dr. A. Shestov).

Find here the articles, presented by SMIDA participants:

**Three Dimensional Fracture Effects in Tests with Cantilever and Fixed Ends Beams** (A. Marchenko, E. Karulin, P. Chistyakov, D. Sodhi, M. Karulina, A. Sakharov);

**Field Indentation Tests of Vertical Semi-Cylinder on First-Year Ice** (E. Karulin, A. Marchenko, M. Karulina, P. Chistyakov, A. Sakharov, A. Ervik, D. Sodhi);

**In-situ Experimental Investigation of the Vertical Stress Distribution in Sea Ice Covers; A Comparison of Tensile and Flexural Strength** (A. Ervik, K. Høyland, A. Marchenko, M. Karulina, E. Karulin);

**Floating Ice Induced Ship Casualties** (N. Marchenko);

**Properties of Ice Ridge Keels and Sea Currents in their Vicinity in the Barents Sea** (A. Shestov, A. Marchenko)

10.06.2014

SMIDA researchers took part in OMAE-2014 conference.

**33rd International Conference on Ocean, Offshore and Arctic Engineering (OMAE2014)** in San Francisco, California, June 8-13, 2014. OMAE 2014 is the ideal forum for researchers, engineers, managers, technicians and students from the scientific and industrial communities from around the world to:

- meet and present advances in technology and its scientific support;
- exchange ideas and experiences whilst promoting technological progress and its application in industry;
- to promote international cooperation in ocean, offshore and arctic engineering.

In line with the tradition of excellence of previous OMAE conferences, more than 900 technical
papers had been presented.
FIND HERE the articles by Aleksey Marchenko and Nataly Marchenko

03.06.2014
SMIDA workshop in Moscow. FIND THE PROGRAMME HERE

The 3rd SMIDA Workshop has been held in Moscow 2-3 June 2014. MIPT hosted workshop on the 2nd of June and MSU – on the 3rd. There were scientific presentations and discussions on current SMIDA research activity; presentations of Master projects by students worked at UNIS in spring 2014 and making plans for future. Participants were very glad to see facilities of the MIPT and MSU; visit laboratories of MIPT and Museum of Earth Science in MSU.

In the photo: participants of SMIDA workshop in MIPT.

The spring semester at UNIS are close to the end. SMIDA students have passed the exam for AT-205 course and preparing to AT-211 exam.
4 students from Saint - Petersburg State Polytechnical University (SPBPU) have been learning hard and investigating Arctic environment with great enthusiasm.
In the photo: Daria Ksenofontova is jumping into the ice water. "Such swimming" is longtime and great tradition of RV Lance "Arctic technology cruise" following sea ice testing and experiments.

Please see HERE the overview of their experiences during semester.

and SLIDE-SHOW with the best photos
Nina Ganicheva (State Marine Technical University of St. Petersburg), Master student

Nina was first time on Svalbard in Autumn 2013, studying AT-332, AT-327, AT-301 and then she had 2 courses in Spring 2014 (AT-205 and AT-211 courses), at the same time in Spring 2014 she was writing her master thesis "Engineering structures for development transition section of the Arctic coastal zone under construction oil and gas pipelines in conditions of the process of coastal erosion, evidence from Vestpynten, Svalbard". The most interesting experience in Nina’s life was being a polar bear guard on the RV Lance helideck in the Barents Sea with a rifle, protecting her group of wild animals.

Anna Abramova (Lomonosov Moscow State University) external PhD student for SMIDA project.

This is Anna’s third visit to Svalbard. First she arrived in Longyearbyen in May 2013 for doing field work. Second time Anna came at UNIS for studying in AT-801 (Arctic infrastructures in a changing climate) and AT-827 (Arctic Offshore Engineering) courses in autumn semester 2013. Her third and current visit to Longyeatbyen is scheduled from the middle of March, 2014 till the middle of July, 2014. During this visit, she continued her field campaigns including sampling, soil diagnostics and landscape investigation along with laboratory assignment and taking the course AG-830 learning more about permafrost and the periglacial environment.

The main purpose of her PhD Project is to study the level of environmental damage in Arctic settlements, to analyze human impact in Longyearbyen and Barentsburg areas. In April, the snow-sampling expedition to Barentsburg was organized wherein Anna worked together with the Research and Production Association – Typhoon. In May snow sampling continues around Longyearbyen.

UNIS students and supervisors on AT-211 course are in the study cruise the Research vessel Lance (22-29 April). They are working on fast ice in Storfjorden, investigating sea ice properties.

It is the 8th cruise for cruise leader Prof. Aleksey Marchenko and 4th for UNIS PhD student Renat Yulmetov (former SafeLOT student). Other Russian participants are new.

Here on the photo is the Russian team (from the left):
Anton Agafonov, Renat Yulmetov, Mark Kreinuk, Daria Ksenofontova, Kseniia Gorbunova and professors Petr Chistyakov and Aleksey Marchenko.
Research teams from University College and London and Centre for Cold Oceans Resource Engineering (C-CORE) (Newfoundland, Canada) are also participate in this RV Lance expedition.

25.04.2014

MIPT MSc student Maksim Matveev participate in AT-307F course -Arctic Offshore Engineering – Fieldwork (3 ECTS)

He took AT-301, AT-332, AT-327 in autumn 2013 and now came for more field experience with testing of sea ice properties on fast ice in Svea, driving snowscooter and serving as polar bear guard.

Find his impression on AT-307F course here.

20.04.2014

Ekaterina Ignatyeva (Master student at Saint-Petersburg State Polytechnical University, SMIDA guest Master student at UNIS)

She spent almost 1.5 years in Svalbard. She took courses AT-205 and AT-211 in spring 2013 and AT-301, AT-332, AT-327 in autumn 2013. During March-April 2014 she joined Svea Expedition and did a research for her master thesis: “Formation of ice jams on the shipping routes and the turning circle in Sabbetta”.

Ekaterina also studied AT-307F course in April 2014 for getting more experience in field investigations.

You can see her VIDEO from SVEA HERE.
15.04.2014

Igor Konstantinov is Master student at Saint - Petersburg State Polytechnical University and external Master at UNIS for SMIDA project in Spring 2014.

Igor studied at UNIS in autumn 2012 semester. He also took part in “Oden Arctic Technology Research cruise” in August 2013. Prof. Aleksey Marchenko is his UNIS supervisor. He studied geotechnics problems. Prof. Karl Shkhinek advises him at SPBSPU. He provided experiments in Cold Laboratory at UNIS. Fiber-optic sensors AOS GmbH (Germany) with Bragg-grating were used to measure thermal strain of different types of soils. Great experience of work with high-tech measurement devices was purchased.

Topic of his master thesis: “Frost heave action of soil, which freezes in limited space, on adjoined constructions”.

10.04.2014

Marina Verbitckaya (State Marine Technical University of St.Petersburg), master student at Department of structural mechanics of ship.

She was first time on Svalbard in spring 2013, studying AT-211, AT-205 and then she had 2 courses in autumn 2013 (AT-301 and AT-332 courses), after the courses she did research for her master thesis "The model of interaction of ice and vertical cylindrical rod: experimental research and numerical modeling" as external SMIDA master student.

During her studies at UNIS she took first scientific experience in field investigations. Marina participated in scientific cruise on the board of R/V "LANCE" and she twice took part in "Svea expedition".

04.04.2014

One day of Svea Expedition.

See time-lapse VIDEO, made by dr. Evgeny Karulin
24.03.2014

**The 2nd "Svea expedition"** has departed today from Longyearbyen to Svea. Students and professors from UNIS, Moscow and St.Petersburg will spend two weeks for field investigation of properties of fast ice. They will continue the work started last year: testing of the new rig, in-situ identational tests, beam test, compression-strength test; CTD, ADCP profiling, tide measurements. On the photo from the left: Ms students Luca Argini (UNIS) and Marina Verbitskaya (SMTU), prof. Petr Chistyakov (MSU), postdoc Aleksey Shestov (UNIS), leading researcher Marina Karulina (Krylov Shipbuilding Institute), Ms student Ekaterina Ignatyeva (SPBSPU), prof. Evgeny Karulin (SMTU), prof. Aleksey Marchenko (UNIS), prof. Alexander Sakharov (MSU).

See short video about expedition departure here

13.02.2014

**Russian students at UNIS for spring semester 2014**

They are seven now (2 will come for project work late) from two Universities.

- 2 students are from State Marine Technical University of St.Petersburg (SMTU)
- 5 students are from Saint-Petersburg State Polytechnical University (SPBSPU)
- 3 of them (Marina Verbitskaya; Nina Ganicheva and Igor Konstantinov) at UNIS
- 4 students are new.

On the photo from the left they are standing in 1st row - Kseniia Gorbunova (SPBSPU) and Marina Verbitskaya (SMTU); 2nd row - Igor Konstantinov (SPBSPU), Nina Ganicheva (SMTU), Mark Kreiniuk and Anton Agafonov (both SPBSPU); and 3rd row - Daria Ksenofontova (SPBSPU).

24.01.2014

SMIDA team took part in the annual conference "**Arctic Frontiers**" (19-24 January 2014, Tromsø, Norway). In 2014 conference had title "**Humans in the Arctic**" and was focused on the economical activities, including industry and transportation and enviromental response and dangers. Politicians, scientists, local administrations and companies of Arctic States were widely presented on the conference.

Anna Abramova (SMIDA PhD student) presented the results of field work in spring-summer 2013 in the form of Poster "**Comparative analysis of the human impact on the environment in Arctic settlements Longyearbyen and Barentsburg (Spitsbergen)**" and short poster presentation
Nataly Marchenko made oral presentation "Arctic shipping challenges" on the section "Shipping and Offshore in the Arctic". Nataly Marchenko was also the member of scientific committee for section "Arctic Offshore Search and Rescue"

12.12.2013

SMIDA project had been presented on the leading conference on Higher Education "Experiencing higher education: Global Trends and Transformations" held by the Society for Research into Higher Education (SRHE) in New Port (Great Britain). The SRHE is a UK-based international learned society concerned to advance understanding of higher education, especially through the insights, perspectives and knowledge offered by systematic research and scholarship. On the conference, Nataliya Marchenko made presentation "International Collaboration for education of future Arctic experts"

15.11.2013

13–15 November 2013, Trondheim (Norway)
SMIDA workshop summarized the development of the project in 2013 and discussed plans for 2014
Workshop participants and guests are on the lane near NTNU Building Technology (Department of Civil and Transport Engineering). From the left: Sveinung Løset (NTNU), Devinder Singh Sodhi (former CRREL, USA), Knut Høyland (NTNU), Petr Bogorodsky (AARI), Kari Kolari (VTT, Finland), Erland M. Schulson (Dartmouth College, USA), Karl Shkhinek (SPBSPU), Elena Pavlova (SMTU), Marina Karulina (Krylov SBI), Mikhail Vasilyev (MIPT), Torodd Nord (NTNU), Aleksandr Sakharov (MSU), Nataliya Marchenko (UNIS), Aleksey Marchenko (UNIS), Yuriy Fomin (MIPT-UNIS), Kirill Rozhdestvenskii (SMTU), Anna Abramova (MSU-UNIS), Osip Kokin (MSU), Aino Kirillova (MSU).

13.11.2013
CONGRATULATION Dr. SUKHORUKOV
Sergiy Sukhorukov has successfully defended his PhD Thesis at NTNU.
Sergiy was among the first 3 MIPT students who came at UNIS in 2006 for Master Courses. Sergiy - MIPT graduated, UNIS course student 2006-2008, NTNU PhD candidate 2009-2013, external UNIS PhD.

Happy PhD with supervisors and committee: prof. D.S. Sodhi (USA), prof. K.N. Shkhinek (SPBSTU), S. Løset (NTNU), Dr. S.B. Sukhorukov (NTNU), prof. A.V. Marchenko (UNIS), prof. K.V. Høyland (NTNU), M. Maatanen (Finland)

07.11.2013
Torodd Skjerve Nord,
PhD candidate from Norwegian University of Science and Technology in the SAMCoT project.
He has spent 19 days at UNIS this fall, teaching/helping students in the AT332/832 course during the lab week in addition to performing own research.
It is the third time Torodd is visiting UNIS with teaching on his agenda, and his major contribution has been uniaxial compression tests. This year it was extended to involve small scale indentation tests, performed inside the UNIS
cold lab together with the students.
Their primary task this year has been to identify the ductile to brittle transition on ice-cores collected in the Barents Sea. In addition, the students were given a task to find out if the Young’s modulus is significantly different when using two different compression machines, one for in-situ field measurements and one for laboratory testing.

01.11.2013

3 professors are ready to teach. Lab-week for course AT-332/832.
Evgeny Karulin (SMTU), Aleksey Marchenko (UNIS) and Petr Chistyakov (MSU) before the in-situ tests on the lake ice.

From 28 October til 1 November students worked in 4 groupes performing indentation test in the lab and in-situ; beam test in-situ, fracture toughness test in-situ, uniaxial compression test in the lab, analisis of thin sections of ice in the lab; computer modelling of beam test in Comsol Multiphysics.

15.10.2013

Anna Abramova
PhD candidate from from Lomonosov Moscow State University and external SMIDA PhD student.
She spent at UNIS almost two months from 12 of May 2013 to 27 of June 2013 for field work and takes UNIS courses now.
Her research is devoted to comparative analysis of human impact on the environment in Arctic settlements. She worked in Longyearbyen and Barentsburg areas. Her field works included an investigation of disturbance of landscapes in both towns. She collected the snow, soil, and surface water samples, researched the processes of accumulation and migration of contaminants in landscapes, made several soil-geochemical catenas, worked in the Lab, prepared samples for chemical analyses.

03.10.2013
CONGRATULATION Dr. SHESTOV
Aleksey Shestov has successfully defended his PhD Thesis at UNIS. Aleksey was among the first 3 MIPT students who came at UNIS in 2006 for Master Courses. He had support from SafeLOT project for his PhD studies in 2008-2012.
Happy PhD with supervisors and committee: prof. S. Løset (NTNU), prof. L. Grande (NTNU), Dr. A. Shestov (UNIS), prof. M. Leppärinta (University of Helsinki), prof. R. Frederking (National Research Council Canada), prof. A. Marchenko (UNIS), prof. K. Høyland (NTNU)

01.10.2013
FIELD WORK in full speed on the AT-332, AT-832 course

20.09.2013
The new record. Even larger than last autumn group of Russian Students takes courses at UNIS now. They are 11, from 4 Universities. 5 - from Moscow Institute of Physics and Technology (MIPT), 4 - from State Marine Technical University of St. Petersburg, 1 - from Saint - Petersburg State Polytechnical University (SPBSPU) and 1 - from Moscow
State University.
2 students (Marina Verbitskaya and Ekaterina Ignat’eva) continue the study they started in spring and 9 students are new.

Standing from the left are Maria Plaksina (MIPT), Liliya Saparova, Marina Verbitskaya (SMTU), Anna Abramova (MSU), Maksim Matveev, Anastasia Ignatova, Dar’ya Bolbot (MIPT), Nina Ganicheva (SMTU). Sitting from the left are Dmitry Murashkin (MIPT), Azhar Abdrakhmanova (SMTU), Ekaterina Ignat’eva (SPBSPU)

13.09.2013
SMIDA team has participated in RAO/CIS Offshore 2013
11th International Conference and Exhibition for Oil and Gas Resources Development of the Russian Arctic and CIS Continental Shelf
This year the event has brought together 630 delegates and 280 companies and enterprises from 21 countries. The working sessions and official events RAO/CIS Offshore 2013 were attended by senior managers of federal executive bodies, specialised ministries and institutions,

Find the SMIDA article in the Proceedings of the conference
Find RAO/CIS Offshore 2013 Press-release

13.06.2013
SMIDA team has participated in POAC 2013

POAC, The International Conferences on Port and Ocean Engineering under Arctic Conditions began in 1971 and since then, it has been held every two years at different international venues. Over the years, POAC has been the mainstay of Arctic engineering conferences and typically attracts over 150 participants to each conference.

30.05.2013
Very last days of Spring Semester at UNIS.

We remind the most exiting moments:
Polar bear visited research RV Lance, video by prof. Aleksey Marchenko;

Field work along the course AT-211
Ice Mechanics, Loads on Structures and Instrumentation
Research vessel Lance departed from Longyearbyen for Barents Sea on the 24 of April. There are AT-211 students and research team on the board. During 8 days they will reach sea ice near Hopen Island and make several tests. It is the 7th cruise for cruise leader Prof. Aleksey Marchenko. UNIS PhD student Renat Yulmetov (former SafeLOT student) participates in the 3th time. Dr. Evgeny Karulin (Krylov Shipbuilding institute, SMTU) Ekaterina Ignat’eva (SPBSPU), Marina Verbitskaya (SMTU), Ivan Luchkov (MSAWT) will take their first experience with RV Lance.

See the short video from last year cruise.

Tatjana Zmushko (Moscow Institute for Physics and Technology) studied at UNIS in Autumn 2012 semester, also she took part in “Svea expedition” from 01 March till 25 March 2013 and course AT-307F as external SMIDA Master student.

She took the first real scientific experience in field investigation of sea ice properties, took part in-situ indentation test, beam and Sodi tests with acoustic emission’s sensors. It was the first attempt to bring laboratory seismic technologies into strong ice conditions in the Arctic. Read about her project “Seismicity induced by mine operations in Arctic conditions”.

Aleksei Vakulenko (Saint Petersburg State Polytechnical University) was at UNIS from 04 till 18 March 2013 as external SMIDA PhD student to take part in “Svea expedition”. Aleksei passed UNIS Safety Course in March with expedition team, takes the first experience in field investigation of sea ice properties, took part in testing of the new rig, in-situ identational tests, beam test, compression-strength test. He got very valuable
experience of real work in the Arctic under supervising of skilled professors.

17.03.2013

Workshop, summarizing the field experience
After arrival to UNIS the "Svea expedition" team showed and discussed the preliminary results of the field work with focus on new equipment and techniques.

16.03.2013

Not only study and science
During their staying at UNIS SMIDA students take part in cultural and sport activities, making valuable input into social life of small Svalbard community. Ekaterina Ignatjeva is student from SPBSPU for AT courses at UNIS and a very skillful badminton player as the same time. She makes Longyearbyen Badminton team much stronger. On the photo to the left, Ekaterina after numerous victories in sports competitions in Barentsburg. Read about competition in local newspaper.

12.03.2013

Students of UNIS AT-211 course came to learn to basic techniques of field investigation of sea ice. They spent 3 days in the field work doing measurements, driving scooters to the place and looking around and understanding the sense of Arctic
08.03.2013

They are working hard.

“Svea expedition” has already performed several successful tests with new equipment. Despite of extremely cold weather expedition follows plan and schedule.

06.03.2013

Join expedition (supported by SMIDA and SAMCoT projects) has departed today from Longyearbyen to Svea. The tasks of expedition are field Investigation of sea ice properties, testing of the new rig, in-sito indentational tests, beam test, compression-strength test; CTD, ADCP profiling, tide measurements. SMIDA PhD and Ms student will get very valuable experience of real work in the Arctic under supervising of skilled professors. The only upset is extremely cold and windy weather. The temperature reaches -25-30°C and forecast is not better. See short video about departure here.

14.02.2013

Yury Fomin (Moscow Institute for Physics and Technology) works at UNIS from 13 January til 22 March 2013 as external SMIDA PhD student. Yury passed UNIS Safety Course in January and now he performs experiment in the cold lab, in Advent fjord, participates in field investigation of sea ice, takes the first experience of teaching the bachelor student of AT-211 course.
Spring Semester at UNIS has started 14 January 2013 with 1 week Safety course. Read about the start of Semester on UNIS web-site. There are 4 SMIDA Master Students: Ekaterina Ignat’eva (SPBSPU), Ivan Luchkov (MSAWT), Marina Verbitskaya and Nadezhda Viryacheva (SMTU). All of them are new at UNIS. Marina and Nadezhda are the first students from St.-Petersburg Marine Technical University (SMTU). The students will participate UNIS courses AT-205 and AT-211.

6-7.12.2012
SIU seminar in Stavanger (Norway). Seminar about cooperation in higher education between Norway and Russia/Eurasia had been organized by the Ministry of Education and Research, SIU and the University of Stavanger.
Prof. A.Marchenko, dr. N.Marchenko and prof. V.Zhmur (on the photo, near poster) had presented SMIDA project there.
Presentation by prof. A.Marchenko is here.

27.10.2012
The new rig for in-situ Identalational tests on sea ice came to UNIS. Instrumental development was supported by SAMCoT and SMIDA project in close cooperation of UNIS with State Marine Technical University of St. Petersburg (SMTU) and “Maskin Klund” Storm Martens (MKLSM) company, Oslo. The whole construction weighs ca.1000 kg and consists of metal frame, 2 double acting hydraulic cylinders, 2 load cells, 2 oil pressure sensors, hydraulic station with regulated flow, computer for registration. It is planned to performed tests in March to provide new knowledge of sea ice properties important for definition of ice load on constructions in the Arctic.

The representatives of all SMIDA partners gathered at UNIS to discuss the concrete plans for research and education in 2013 and future. There were prof. Sveinung
The sea currents and tidal investigations and CTD (conductivity, temperature, density) profiling have been performed by UNIS AT-332 students under supervising of prof. A. Marchenko (UNIS) and guest lecturers prof. V. Gorbatsky (Krylov Shipbuilding Research Institute, St. Petersburg, Russia) and prof. Z. Kowalik (IARC, University of Alaska, Fairbanks, USA) 1-5 October 2012 in Adventfjord. The boat equipped with ADCP (Acoustical Doppler Current Profiler) RDI Sentinel 1200kHz made several transections across the fjord during 3 days. Speed and directions of sea currents have been measured in the water layer from 0 till 20 m depth. These investigations are important for estimation on ice and water actions on port constructions and other infrastructure. So they are interesting not only for scientist and students, but for local community and industry. The report and preliminary results will come soon.


The biggest (10) in UNIS history group of Russian Students came to Arctic Technology Department in Autumn Semester 2012. 6 students represent Saint-Petersburg State Polytechnical University (SPBSPU), 2 - Moscow Institute of Physics and Technology (MIPT) and 2 - Moscow State Academy of Water Transport (MSAWT). They take 3 courses: AT-301, AT-332/832; AT-327. Almost all of them are new at UNIS. Except Ivan Rodionov and Vasil Minnikaev, who attended spring courses AT-205 and AT-208, that derivates to AT-211.

30.08.2012

Rockbursts studies

In field of cooperation with MIPT the 6th year student of Aerophysics and Space Research department Zmushko Tatjana studies at UNIS Arctic Technology department and continues her master research here. The topic of her research is “Mine seismicity relation with operations at
Vorkuta coal mines”. The base of that research is the change of seismic activity due to operations and occurrence of strong seismic events like rockbursts. As part of this work Tatjana visited the Vorkuta coal mine for seismic data collection and cooperation with mine administration. The result of this research is the development of forecast method based on predictions of natural earthquakes. To proof this method Tatjana was in Barentsburg coal mines, which have the similar features as Vorkuta coal mines. There she familiarized with seismic monitoring system and deposit development plan and received the advice of expert from VNIMI dr. M.V.Shvankin, which installed seismic monitoring system at Vorkuta coal mines. This research can be continued with cooperation work in field of seismic analysis and rock mechanics.

30.08.2012

**Summer expedition in North-West Russia. July 2012**
Two students: Ivan Rodionov (SPBSPU) and Leonty Udalov (Lomonosov Moscow State University), supported by SMIDA project, took part in the expedition for investigation of coastal erosion. Expedition has been organized by State Oceanographic Institute (Moscow, Russia). On the photo (see on the left), taken by expedition participants, they are making tachymeterical survey. The collected data will help estimate erosion rate and realize dangerous processes in coastal zone.

30.05.2012

**Kick-off meeting**
St. Petersburg, Moscow
May 2012
At the end of May 2012 Professors Aleksey Marchenko and Sveinung Løset have visited SMIDA Russian partners in their institutions and discussed the future collaboration in the frame of the project.

30.04.2012

**The survey on research vessel Lance, April 2012.**
UNIS Students, following AT-208 course and SAMCoT team spent 10 days in Barents Sea. They studied thermo-mechanical properties of sea ice, ice ridge morphology and sea currents; made CTD, ADCP, ADV, TDS measurements, uniaxial compression tests, beam tests; installed buoys.

[See the short video about the survey.](#)