

Internships

Higher Engineering School (studying area: Construction in a cold climate)



NORTHERN
(ARCTIC)
FEDERAL
UNIVERSITY

1. Process management of construction composite quality formation given the state of the dispersive materials' surface

Master's Degree

08.04.01 Construction Industrial and Civil Engineering in cold climate (special course «Building materials»)

Duration: 1 semester (min 1 month)

Languages: Russian / English

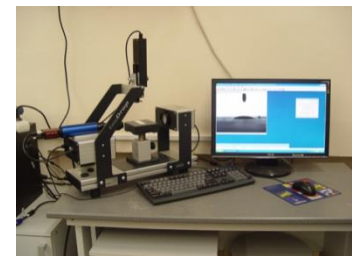
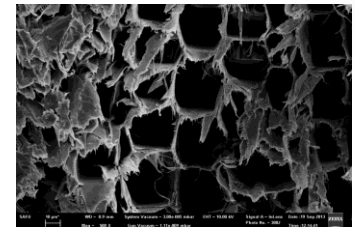
Scientific Coordinator: A.M. Aizenshtadt, Doctor of Sciences in Chemistry, Professor, Head of dept. Composite materials and Environmental Engineering

E-mail: a.isenshtadt@narfu.ru

Phone: +7(8182) 41 28 34 / +7(8182) 41 28 33

Students are required to have basic knowledge of:

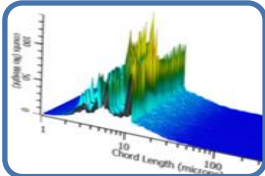
- Materials Science;
- Chemistry;
- Physics;
- Physical-mechanical and colloid-chemical properties of building materials' components;
- Methods and technologies of construction composites production.



Main topics:

- ❑ Methods of producing nano-sized materials;
- ❑ Principal properties of nanostructures;
- ❑ Methods of studying basic nanomaterial properties;
- ❑ Formation and production principles of nanocomposites for constructional purposes;
- ❑ Particularity of nanotechnology in production of building materials;
- ❑ Evaluation methods of fire-technical properties of building material and nanocomposites.

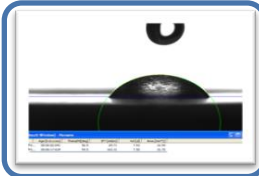
Department of Composite Materials and Environmental Engineering has **6 unique Laboratories:**



Lab of research and analysis on composite building materials



Laboratory of assessment and quality control of building materials;



Laboratory of environmental assessment of building materials;



Remote experimental laboratory;



Laboratory of fire and technical expertise of building and finishing materials;



Laboratory of mechanical activation of raw materials.



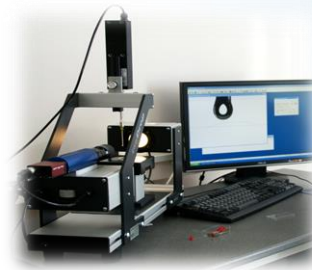
Main Equipment



Delsa Nano Series Zeta Potential and Submicron Particle Size Analyzers



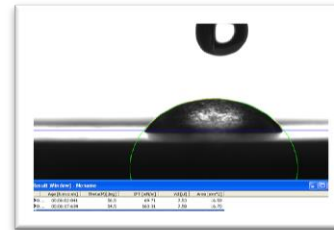
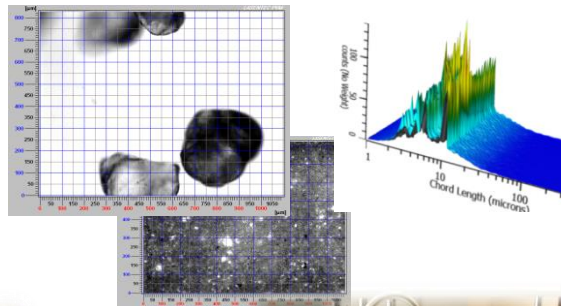
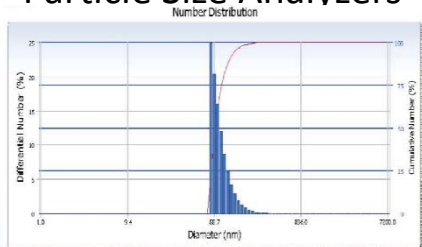
Real-Time Particle Size Analysis At Full Process Concentration



Contact Angle Measuring Instrument EasyDrop



Specific surface area and pore size automatic analyzer - Autosorb-iQ-MP



Planetary Ball Mill PM 100



Laboratory Modular Dispensing System



Vibrating Ball MB-20



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2. Determination of the soil properties and numerical simulation in geotechnics

Master's Degree

08.04.01 Construction Industrial and Civil Engineering in Cold Climate
(special course «Geotechnics»)

Duration: 1 semester (min 1 month)

Languages: Russian / English

Scientific Coordinator: A.L. Nevzorov, Doctor of Sciences in Geotechnics,
Professor, Head of dept.

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Phone: +7(8182) 41 28 99 / +7 911 554 68 28



Students are required to have basic knowledge of:

- Geology;
- Soil Mechanics;
- Physics;
- IT

Main topics:

- Methods of studying basic soil properties;
- Field investigation of building foundations;
- Frost heave of soils;
- Numerical simulation in geotechnics (PLAXIS, ANSYS, GeoStudio)