Institute of Natural Science and Technology
Major Competences:
Education
Research
Practice

Professor Vladimir Grokhovskiy, Head of Food Production Technology Department Institute of Natural Science and Technology Murmansk State Technical University



Sustainable Energy in Food Production



September 30<sup>th</sup> 2016 Murmansk

## INSTITUTE OF NATURAL SCIENCE AND TECHNOLOGY

DOCTOR LUDMILA PETROVA, Head of INSTITUTE OF NATURAL SCIENCE AND TECHNOLOGY



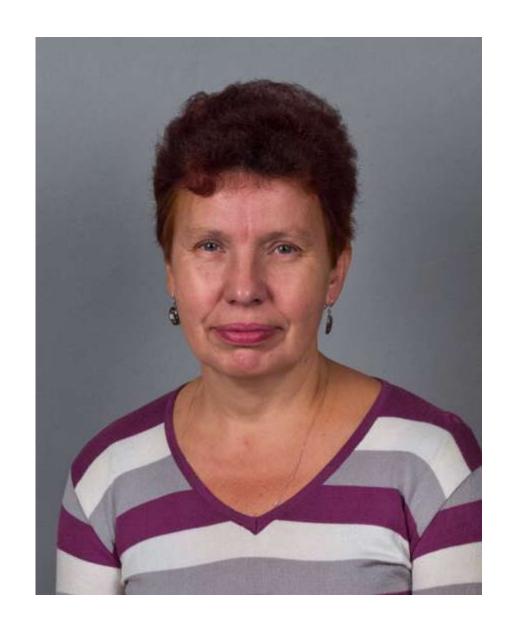
## Institute of Science and Technology structure:

- Department of Biology
- Department of Microbiology and Biochemistry
- Department of Food Production Technology
- Department of Processing and Refrigerating Equipment
- Department of Chemistry

INSTITUTE OF NATURAL SCIENCE AND TECHNOLOGY

DEPARTMENT OF BIOLOGY

PROFESSOR ELENA SHOSHINA, HEAD OF DEPARTMENT OF BIOLOGY



## Biology department



<b>Bachelor</b>	's degree
Master's	degree
PhD degree	

in

- Marine Biology
- Hydrobiology
- Ichthyology
- Oceanology
- Biological

Resources

### **Research interests:**

- Biological and environmental research of hydrobionts
- Biological monitoring of Murmansk region environment
- Fish Farming etc.

# INSTITUTE OF NATURAL SCIENCE AND TECHNOLOGY

DEPARTMENT OF MICROBIOLOGY AND BIOCHEMISTRY

DOCTOR ELENA
MAKAREVICH
Head of Department of
Microbiology and
Biochemistry



## **Department of Microbiology and Biochemistry**



Bachelor degree in Microbiology Biochemistry

Master degree in
Microbiology
Virology
Biochemistry Hydrobiology

### **Research interests:**

- Biochemical research of water ecosystems of Kola peninsula affected by anthropogenic activities;
- Characteristics of functioning of microbal communities in freshwater and brackish water ecosystems of Kola Peninsula;
- Functioning of autotrofic and heterotrofic procraryote and bacteriophage in the ecosystem of Kola bay,
- Complex research into aquaculture objects in the conditions of Kola peninsula

Institute of Natural Science and Technology

Department of Processing and Refrigerating Equipment

Doctor Vyacheslav
Pokholchenko
Head of Department of
Processing and
Refrigerating Equipment



# Department of Processing and Refrigerating Equipment



Bachelor's and
Master's degree in
- Technological
Machines and
Equipment,
Refrigerating,
Cryogenic Facilities
and Life Support
Systems

The department research interests:

- Heat and massexchange processes,
- Development of new types of Salting, Smoking, Drying Equipment etc.

Institute of Natural Science and Technology

Department of Chemistry

Professor Svetlana
Derkach
Head of Department of
Chemistry



### Department of Chemistry



Bachelor's
Master's
PhD in
Colloid Chemistry,
Physical Chemistry
Inorganic Chemistry



More than 30 chemical disciplines

#### Research focus:

- Fundamental research of disperse systems containing compounds of biopolymers (proteins and polysacharides) and surfactants
- Applied research is connected with the usage of these systems in food technologies, biotechnologies and oil and gas technological processes

# Institute of Natural Science and Technology

Department of Food Production Technology



## Department of Food Production Technology

Bachelor's degree in:
Products of Animal
Origin (Meat and
Dairy Products)
High Efficiency
Processing
Technologies of Water
Bio-resources

Master's degree in:

- Food Product
   Technologies from
   Water Bioresources
- Production
   technology and
   organisation of food
   services

#### PhD in:

- Technology of meat, dairy and fish products and refrigerating production
- Technology and merchandising of food products for functional and specific usage and food services

### Department of Food Production Technology

After graduation our students are employed in:

- fish-processing
- fish catching
- food producing
- catering companies
   in Murmansk region
   and beyond



## Department of Food Production Technology



5 traininglaboratories4 researchlaboratories





## Department of Food Production Technology Centre of Raw Materials Research and Production

#### 3 laboratories:

- -Organoleptic
- -Physical and chemical
- -Microbiological











# Department of Food Production Technology Major fields of our research interests

- Development of new energy efficient food production technologies in canning and other types of processing for low-value, non-traditional and underused water bioresources
- Development of new types of preserves, minced, formed foods from hydrobionts, hydrolysates and isolates with functional characteristics and improved organoleptic properties
- Development of environmentally friendly smoking mediums and their usage in development of delicatessen foods
- Development of innovative energy efficient experimental industrial machinery to process fish products

## **Processing Arctic Cod**











## Thank you for your attention!

