

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 30th 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



**Bachelor'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 microbial communities in freshwater and brackish water ecosystems of Kola Peninsula;**
- **Functioning of autotrophic and heterotrophic 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 mass-exchange 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 polysaccharides) 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 Bio-
resources
- 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 training
laboratories
4 research
laboratories



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!

