



**Academy of Sciences of Moldova
World Federation of Scientists**



Scholarship Programme of the World Federation of Scientists in the Republic of Moldova

**ACAD. PROF. GHEORGHE DUCA
PRESIDENT OF THE ACADEMY
OF SCIENCES OF MOLDOVA**

1. Planetary direction - Soil

“STUDYING THE PARTICULARITIES OF THE SOIL FOR THE ELABORATION OF SOIL PROTECTION MEASURES”

A scholarship was awarded:

3rd year PhD Student **Olesea COJOCARU**

Institute of Pedology, Agrochemistry and Soil Protection „N. Dimo”

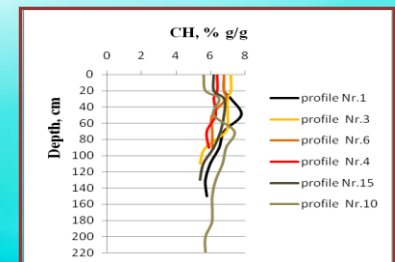
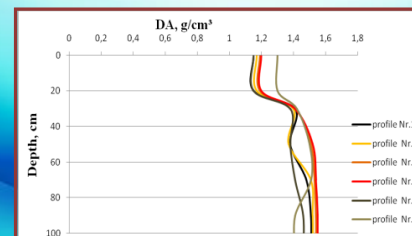
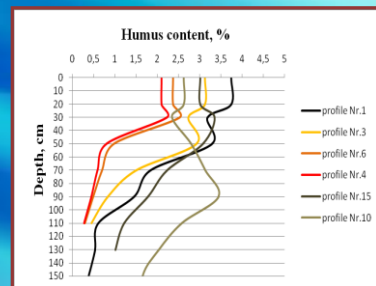
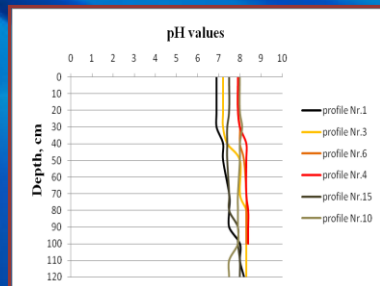
Scientific advisor, dr. hab. Prof. **Valerian CERBARI**

Objective:

- Prevention of soil erosion
- The determination and establishment in the laboratory of soil analysis

Results:

Results of the project were presented and published in more than 3 proceedings



2. Planetary direction - Food

“IMPACT OF LACTIC ACID BACTERIA ON THE TEXTURAL PROPERTIES OF LOW FAT YOGURT”

A scholarship was awarded:

3rd year PhD student **Anatoli CARTAŞEV**

Institute of Microbiology and Biotechnology
Scientific advisor, Academician **Valeriu RUDIC**



The samples of yogurt

Objective:

Production of samples of lyophilized yogurt.

Results:

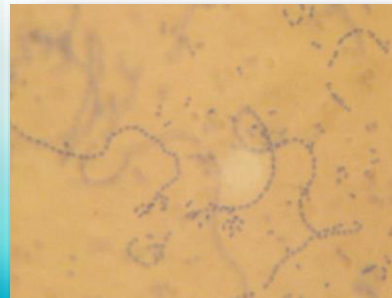
- Results were presented at 2 international conferences
- **This invention is patented - the method for producing a powder fermented dairy product. MD 865 Y 2015.01.31.**



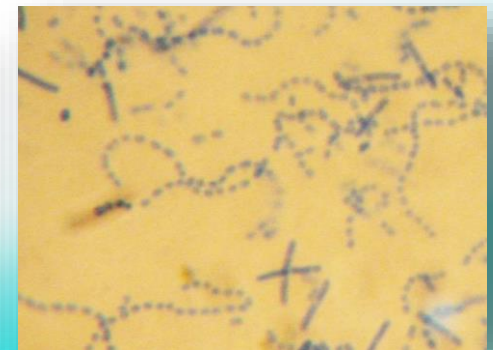
Freeze-dried yogurt



Freeze-dried bacteria concentrate
yogurt starter Sy1 and Sy2



EPS-producing strain of
Streptococcus thermophilus



The symbiotic EPS-producing
cultures for yoghurt

3. Planetary direction – Energy

“SYNTHESIS AND STUDY OF 8TH GROUP COMPLEX COMPOUNDS WITH C, N, O DONOR CONTAINING LIGANDS”

A scholarship was awarded:

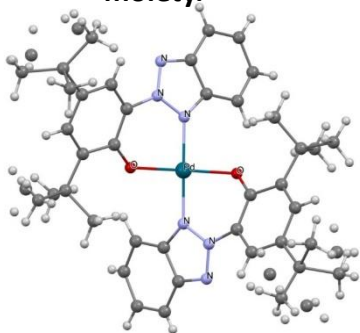
3rd year PhD Student **Olesea Cuzan**

Institute of Chemistry

Scientific supervisor, Dr.hab., Prof., Academician **Constantin Turta**

X-ray structure of Bis[2-(2H-benzotriazol-2-yl)-4,6-ditert-pentylphenolato] palladium(II)

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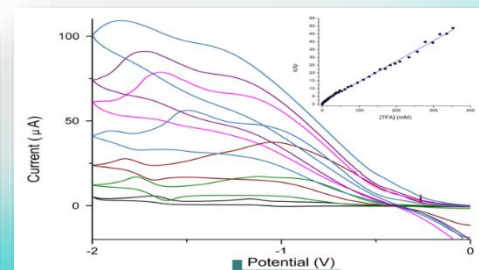
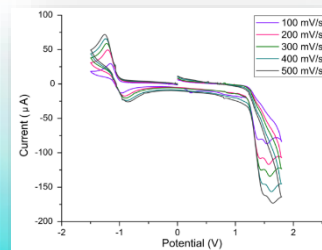
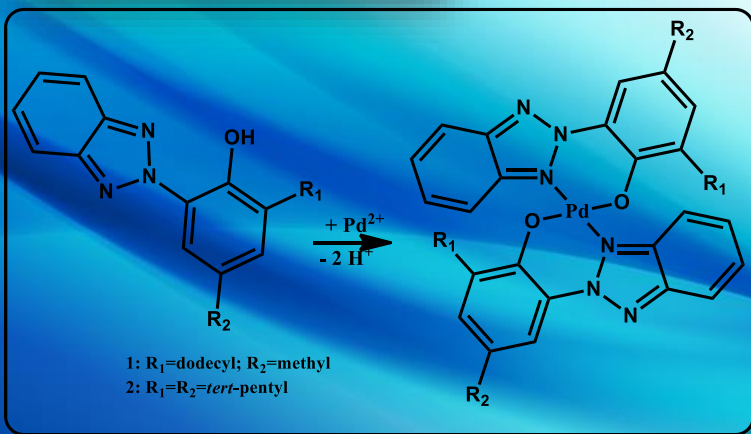


Objectives:

- ways to obtain species that efficiently convert sunlight into the necessary electrochemical potential, and
- producing catalysts in order to facilitate H—H and O—O bond formation.

Results:

- Two new coordinative Pd containing compounds were synthesized as a potential catalyst for H₂ production/oxidation.
- Published in 3 journals



Reaction pathway of Bis[2-(2H-benzotriazol-2-yl)-6-dodecyl-4-methylphenolato]palladium(II) and Bis[2-(2H-benzotriazol-2-yl)-4,6-ditert-pentylphenolato] palladium(II) synthesis.

4. Planetary direction – Global Monitoring of the Planet

“DETERMINATION OF THERMO-TOLERANCE Of Tree OAK

(*QUERCUS ROBUR* L.) DESCENDENTS FROM DIFFERENT ECOLOGICAL ZONES”

A scholarship was awarded:

3rd year PhD student **Ion AGAPI**

Institute of Ecology and Geography

Scientific advisor, Assoc. Prof. PhD. Hab. **Petru CUZA**

Objective:

Study the comparative plant state depending on the genetic characteristics of the pedunculate oak (*Quercus robur* L) descendents at the same age, different ecological origin, and growing in the Scientific Reservation "Plaiul Fagului

Results:

Several publications and presented at 3 conferences



Pedunculate oak (*Quercus robur* L) comparative cultures, Scientific Reservation "Plaiul Fagului"



5. Planetary direction – Science and Technology for Developing Countries

“OBTAINING AND CHARACTERIZATION OF ULTRATHIN GAN MEMBRANES FOR SENSOR APPLICATIONS”

A scholarship was awarded:

2nd year PhD student **Fiodor BRANIȘTE**

Technical University of Moldova

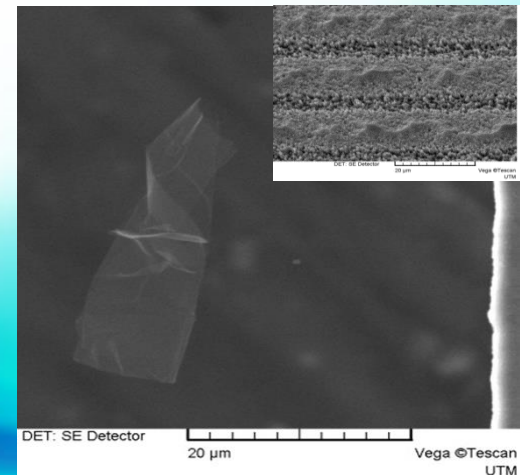
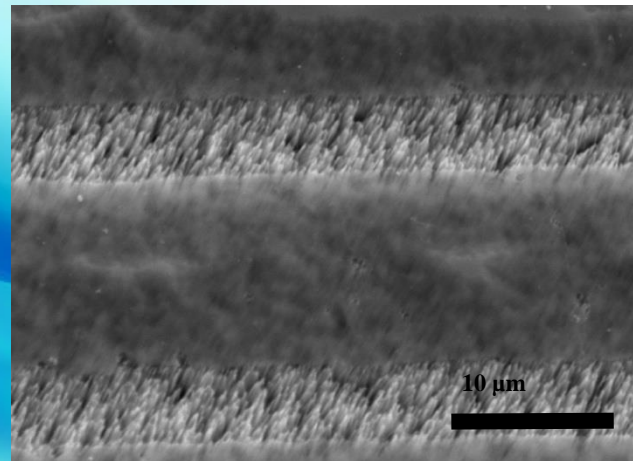
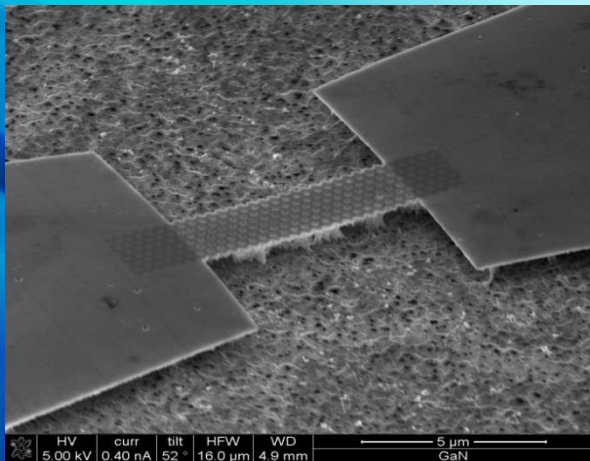
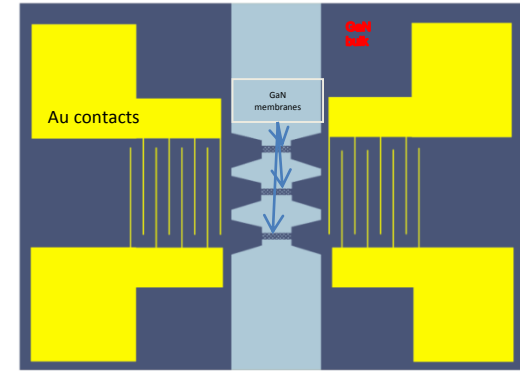
Scientific advisor, Academician **Ion TIGHINEANU**

Objectives:

- Obtaining of ultrathin GaN membranes;
- Membranes characterization;
- Integrate ultrathin membranes in a device for UV and gas sensing applications.

Results:

- Continuous and nanoporated GaN ultrathin membranes were obtained and visualized
- Published in one publication



“SCIENTIFIC RESEARCH OF LANGUAGE PARADIGMS IN PHILOSOPHICAL WORK”

A scholarship was awarded:

3rd year PhD student **Liliana RUSU**

Institute of History

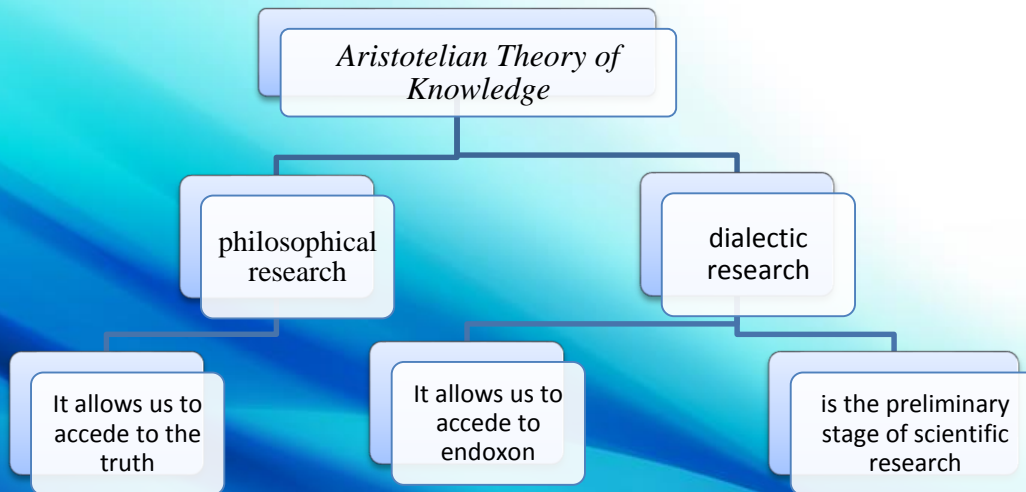
Scientific advisor dr. hab. **Gheorghe BOBÎNĂ**

Objective:

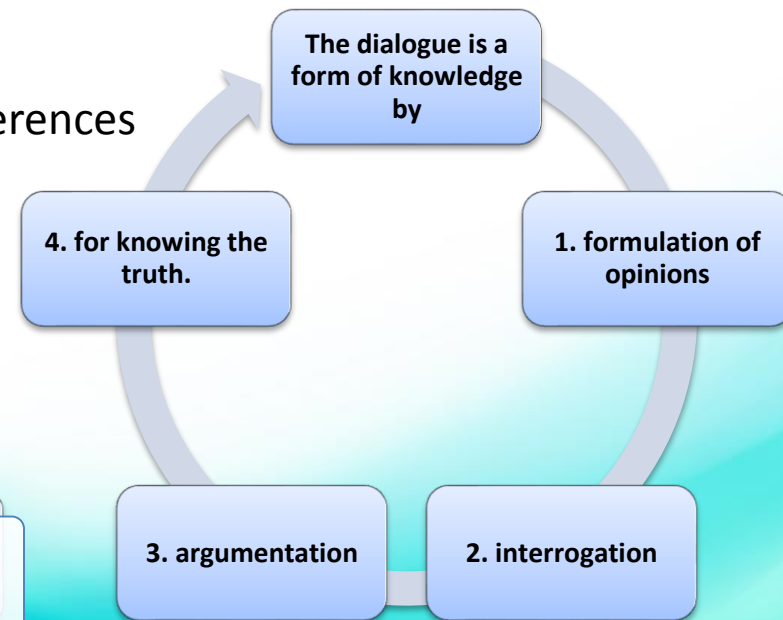
Conceptual analysis, based on the idea of rational reconstruction of philosophical work.

Results:

Published 2 research articles and presented at 3 conferences



Schematic representation of Aristotelian Theory of Knowledge



Schematic representation of the Dialectics of Reason

“THE MANAGERIAL-ECONOMIC INSTRUMENTS OF EFFICIENT ENERGY USE IN THE MOLDOVAN ENTERPRISES OF FOOD INDUSTRY”

A scholarship was awarded:

3rd year PhD student **Corina GRIBINCEA**

National Institute for Economic Research

Scientific advisor, Prof. PhD **Alexandru STRATAN**

Objective:

Study the managerial-economic instruments of efficient energy use in the enterprises of Moldovan food industry

Results:

- A new scheme was proposed **new management system of energy cost** in the production process that could be considered as an effective benchmark.
- Published in several scientific journals



Figure 1,2,3. Before and after the implementation of efficient management of costs, by changing equipment for sustainable use of energy in Moldovan food industry

6. Planetary direction – Biotechnology and medicine

“THE IMPACT OF NEOADJUVANT CHEMOTHERAPY ON THE BREAST CANCER”

A scholarship was awarded:

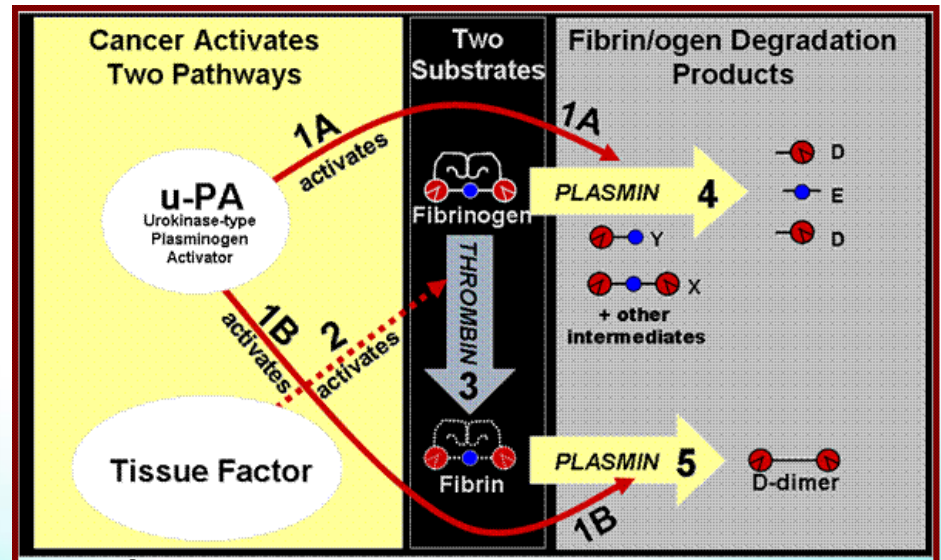
3rd year PhD student **Ludmila CHISTRUGA**

Institute of Oncology

Objectives:

Scientific advisor Assoc. Prof., dr.hab. **Vasile JOVMIR**

- The use of haemostasis indices for the foundation of thromboembolic complications risk group of patients with breast cancer
- Decrease of the rate of thromboembolic complications at patients who are expected to have surgical treatment after neo-adjuvant chemotherapy.



Results:

One published, one submitted and two articles are under preparation; two abstracts presented at international conferences.

7. Planetary direction – Conversion of Military Resources

“THE RESEARCH OF EXHAUSTIVE POLLING MODELS WITH SEMI-MARKOV VACATIONS AND PRIORITIES”

A scholarship was awarded:

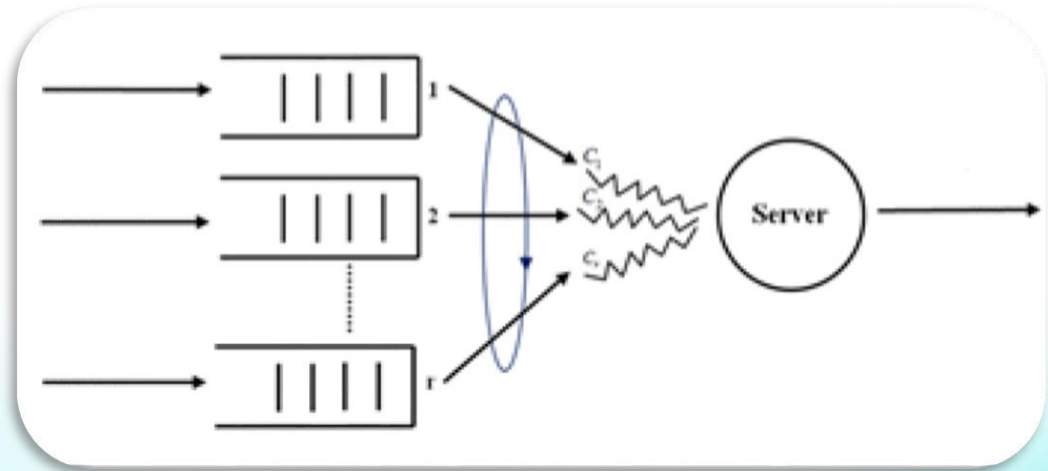
3rd year PhD Student **Lilia MITEV**

Institute of Mathematics and Computer Science

Scientific advisor, Acad., Dr. hab., Prof. **Gheorghe MISHKOY**

Objectives:

- Research of a new class of mathematical models from Queueing Theory: models with semi-Markov switching of states, called generalized models, especially a particular case of these models – the exhaustive polling models with semi-Markov "vacations"



Queueing model of polling type with semi-Markov vacations

Results:

Published in 3 journals and presented at an international conferences.