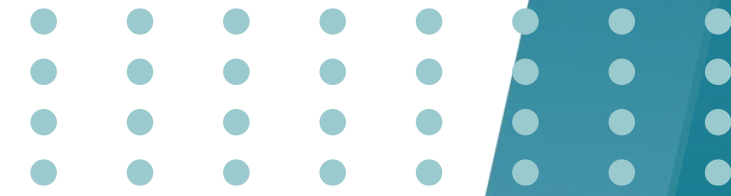




BURGAS STATE UNIVERSITY  
"PROF. Dr ASSEN ZLATAROV"



**CROSS-BORDER REGIONS COLLABORATE  
FOR BLUE GROWTH  
BLUE GROWTH COLLABS  
CB005.3.12.001**

***Antoniya Ilieva***

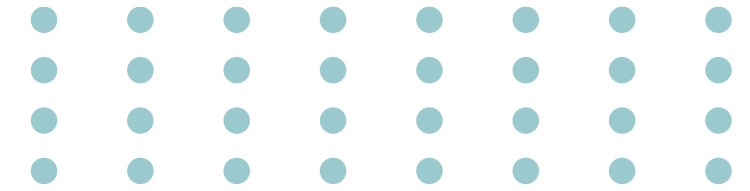
Aquaculture and Biotechnology Lab  
BLUEGROWTH COLLABs center

**20.10.2025, BURGAS**



# BLUEGROWTH COLLABS CENTER

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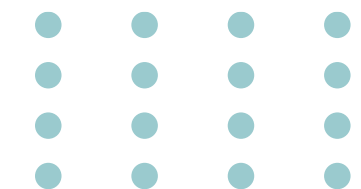


✓ I-ST STRATEGIC PROJECT FINANCED UNDER PRIORITY AXIS 1: ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

✓ PROJECT BUDGET: €3.3 MILLION

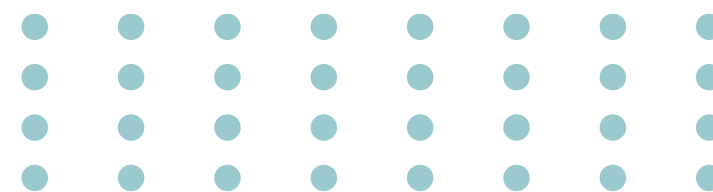
✓ DURATION: 36 MONTHS (2020—2023)

THE MAIN OBJECTIVE OF THE PROJECT IS TO CREATE RESEARCH CENTRES FOR BLUE GROWTH IN BURGAS, BULGARIA AND EDIRNE, TURKEY, HAVING MODERN AND SOPHISTICATED INFRASTRUCTURE FOR "APPLIED" SCIENTIFIC STUDIES AND FULFILLING COLLABORATIVE COORDINATED ACTIVITIES IN THE FIELD OF MARINE AND ENVIRONMENTAL PROTECTION IN CROSS - BORDER AREA.



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## *PARTNERSHIP NETWORK*



BURGAS STATE UNIVERSITY "PROF. D-R ASEN ZLATAROV" - THE BENEFICIARY OF THE PROJECT



TRAKIQA UNIVERSITY – EDIRNE – MAIN PARTNER

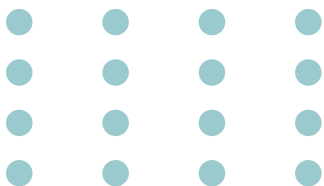
## *EDUCATIONAL PARTNERS:*



PROFESIONAL HIGH SCHOOL AT CHEMICAL TECHNOLOGIES  
"ACAD. ZELINSKI" BURGAS

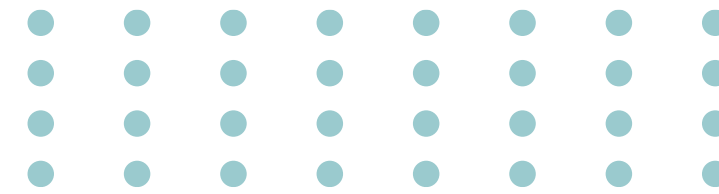


EDIRNE HIGH SCHOOL



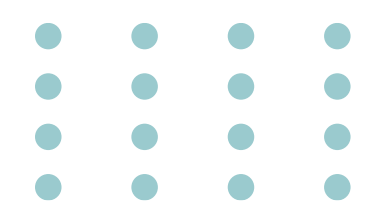
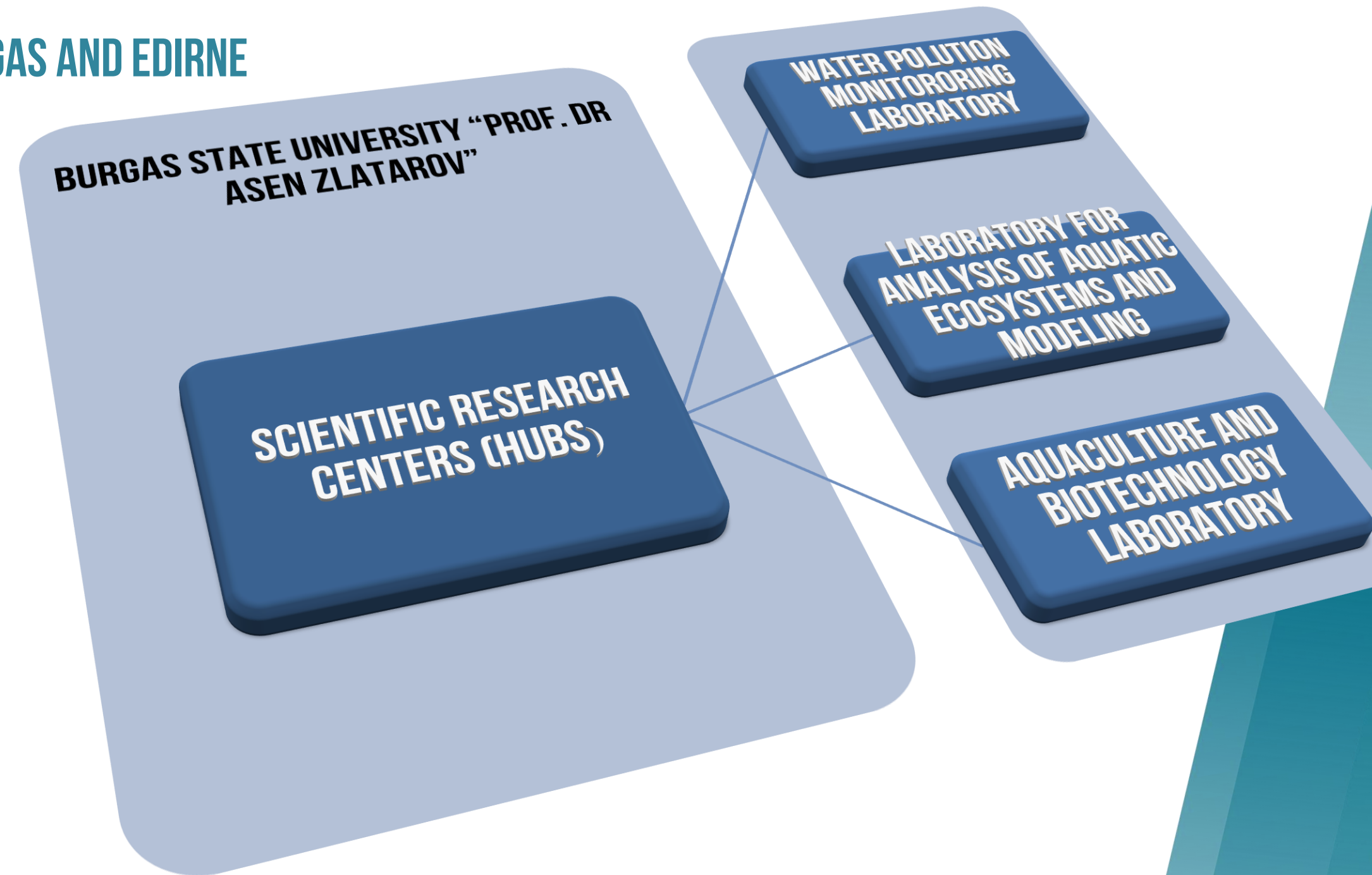
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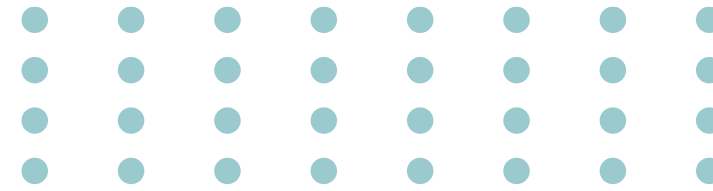
## SPECIFIC OBJECTIVES

- ESTABLISH BLUE GROWTH RESEARCH CENTERS IN BURGAS AND EDIRNE
- DEVELOP JOINT METHODOLOGIES FOR AQUATIC ECOSYSTEM MONITORING
- PROMOTE SCIENTIFIC COOPERATION AND INNOVATION
- BUILD REGIONAL PARTNERSHIPS FOR ENVIRONMENTAL PROTECTION

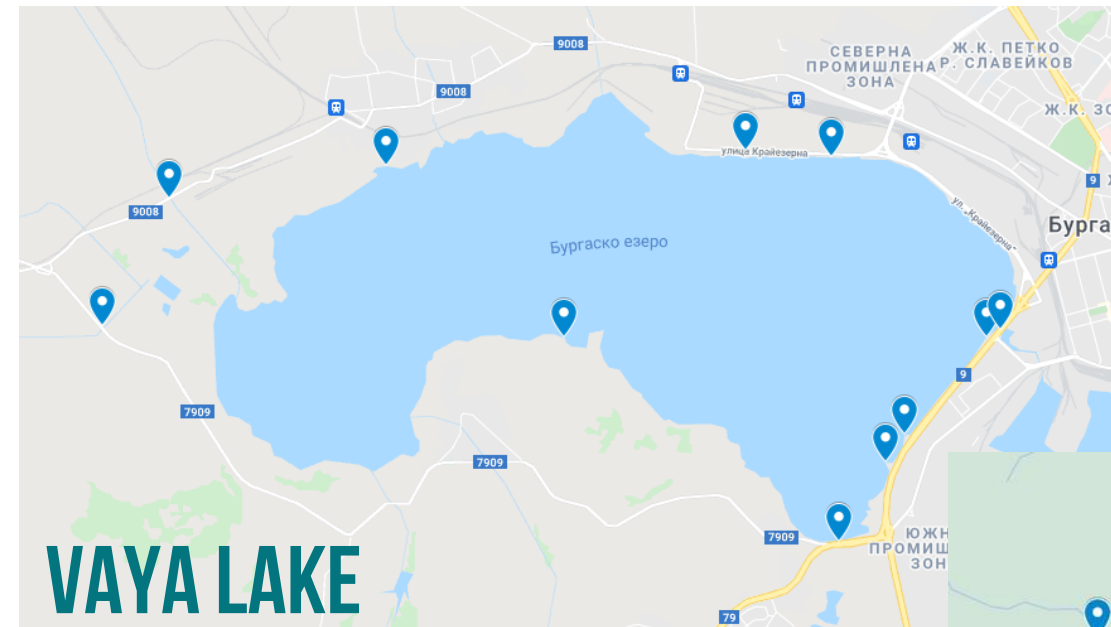


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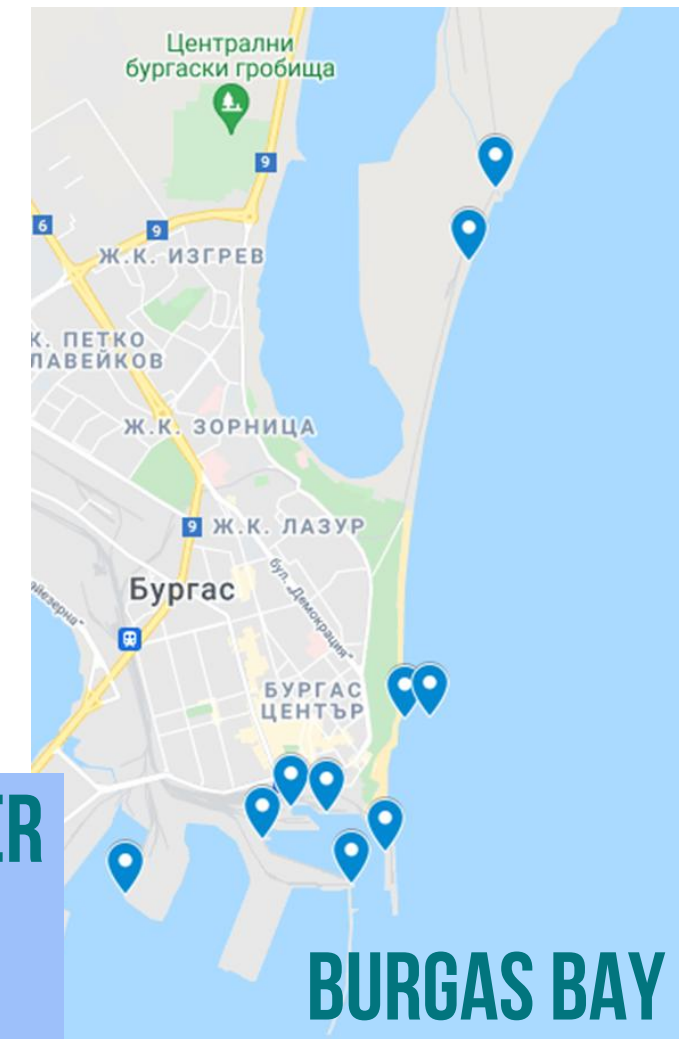
## STUDIED AQUATIC ECOSYSTEMS



VAYA LAKE



KARAAGACH RIVER



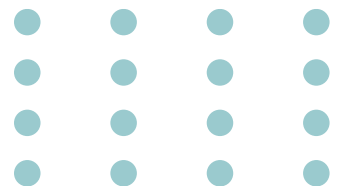
BURGAS BAY

Methodology for Monitoring Marine-Type Aquatic Ecosystems

Methodology for Monitoring Lake-Type Aquatic Ecosystems and Wetland Areas

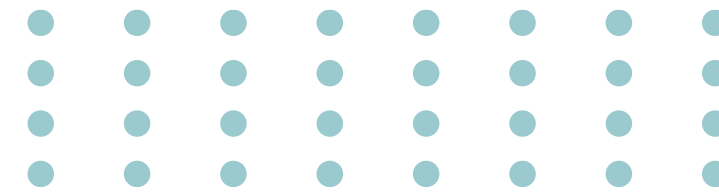
Methodology for Monitoring River-Type Aquatic Ecosystems and River Systems

Methodology for Monitoring Diffuse Source Pollution in Aquatic Ecosystems within the Bulgaria–Turkey Transboundary Region

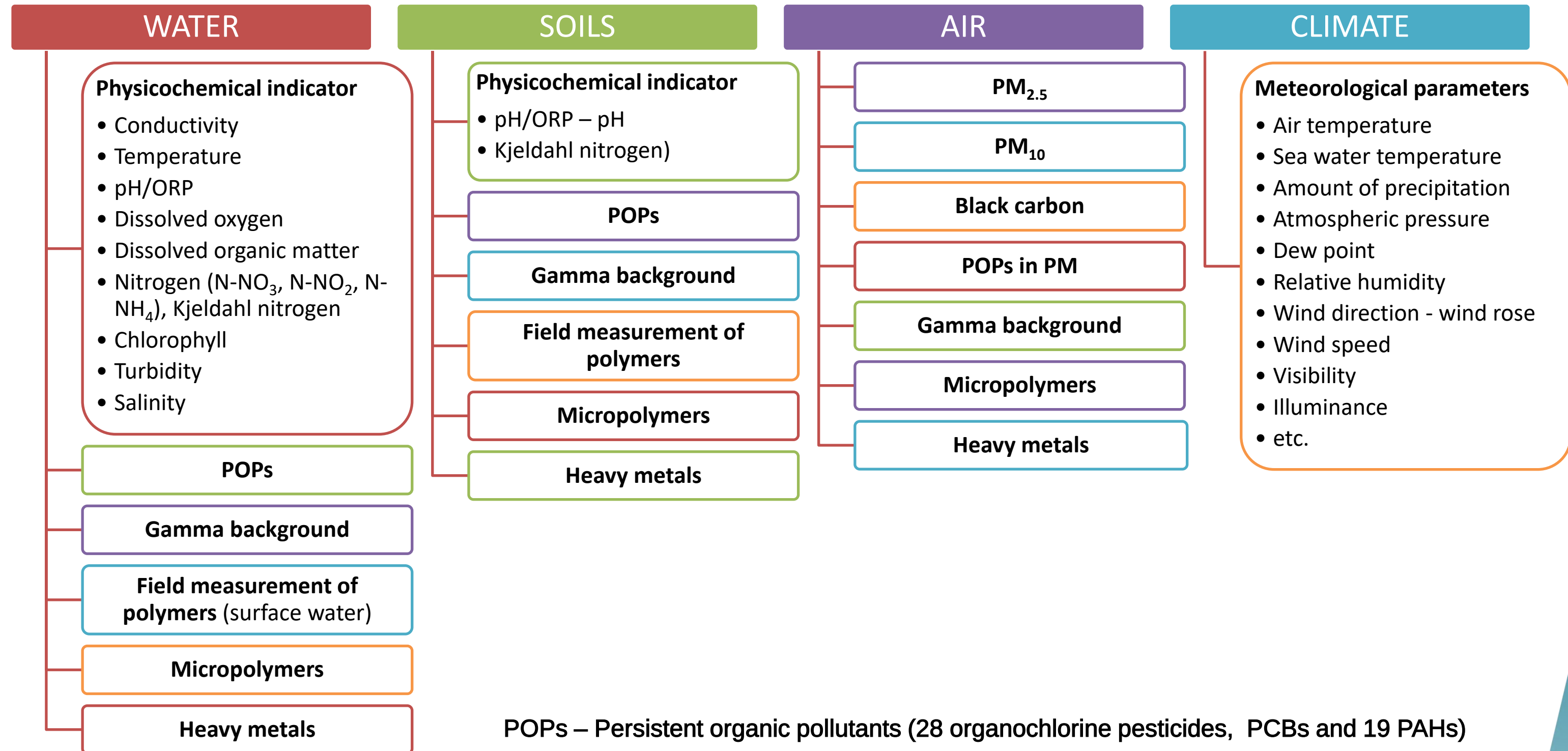


# BLUEGROWTH COLLABS CENTER

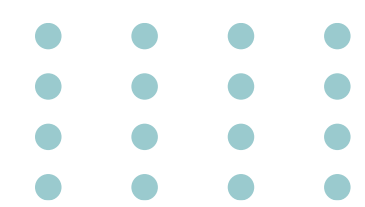
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## MONITORING INDICATORS

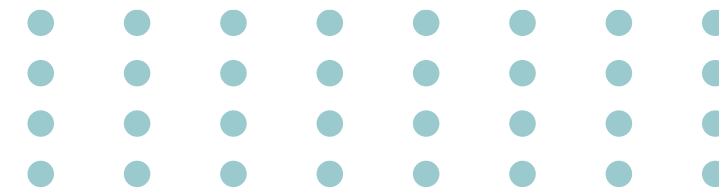


POPs – Persistent organic pollutants (28 organochlorine pesticides, PCBs and 19 PAHs)

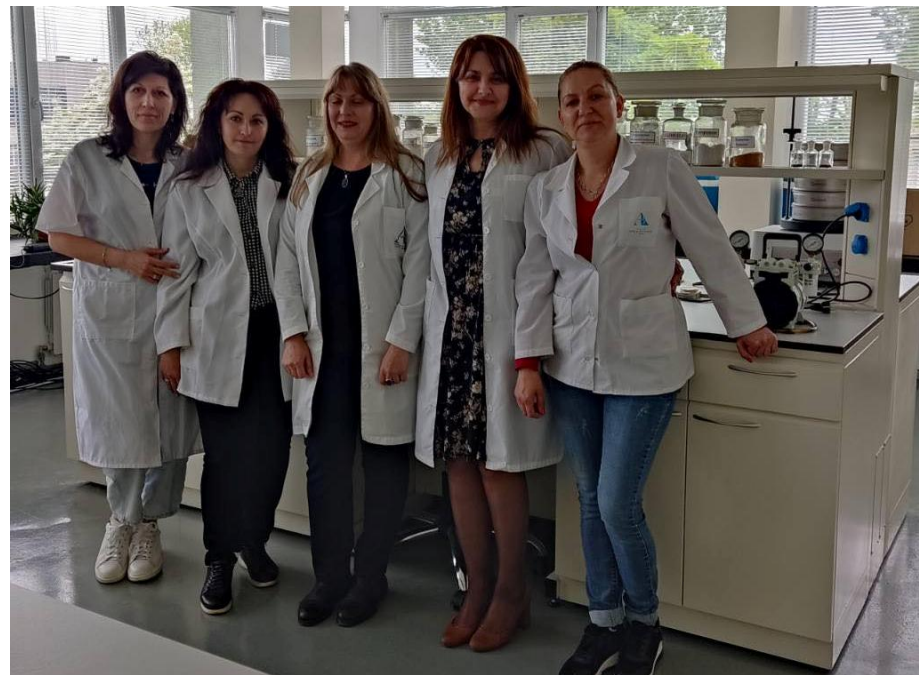


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## WATER POLLUTION MONITORING LAB



HEAD: Prof. Sevdalina Turmanova, PhD

### EXPERTS:

Assoc. Prof. Blagovesta Midjurova, PhD

Assoc. Prof. Velyana Georgieva, PhD

Asst. Prof. Emilia Ivanova, PhD

Asst. Prof. Plamena Atanasova, PhD

### Physicochemical indicators

- Conductivity, Temperature, pH, Dissolved oxygen, Dissolved organic matter, Phosphates, Total carbon, Chlorophyll, Dissolved solids, Turbidity, Salinity.

### Nitrogen

- N-NO<sub>3</sub>, N-NO<sub>2</sub>, N-NH<sub>4</sub>, Kjeldahl nitrogen in water.

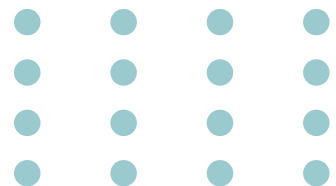
### Field measurement of macropolymers

### Monitoring of micropolymers

### Monitoring of heavy metals

Expertise in polymer science, valorization of biomass, heavy metals monitoring and wastewater treatments.

*Special focus on plastic, i.e. micro- and nanoplastics*, and its impact on aquatic ecosystems. The sources and transport routes, as well as their impact on the body, are also considered.



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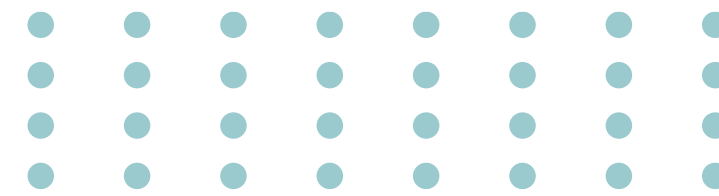
## AQUATIC ECOSYSTEMS ANALYSIS AND MODELLING LAB



HEAD: Prof. Al. Dimitrov, PhD

### EXPERTS:

Assoc. Prof. Nikola Todorov, PhD  
Asst. Prof. Stela Naydenova, PhD  
Asst. Prof. Sabina Nedkova, PhD  
PhD Anife Veli



### Air quality

Particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>). Black carbon

### POPs analysis in water and soil

28 organochlorine pesticides and PCBs

### Kjeldahl nitrogen in soils

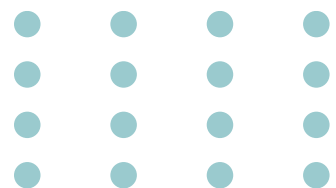
### Analysis of macropolymers

### Noise pollution

### Gamma background over soil, freshwater coast and seashore

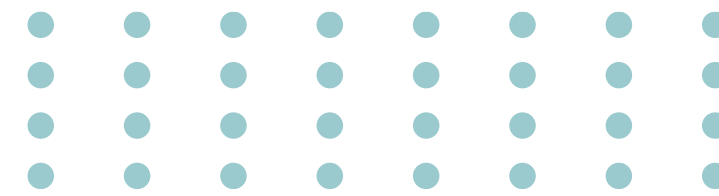
### Meteorological parameters

Expertise on: Persistent organic pollutants (POPs) analysis; air quality; stressors of various origin; mathematical and statistical modelling for evaluation of stressors impacts on water ecosystems; establishment of methodologies for improvements of the ecological state of water bodies.



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## AQUACULTURE AND BIOTECHNOLOGY LAB



HEAD: Assoc. Prof. Y. Hristov, PhD

### EXPERTS:

Assoc. Prof. Lenia Gonsalvesh, PhD

Assoc. Prof. Ivaylo Tankov, PhD

Asst. Prof. Ganka Kolchakova, PhD

Asst. Prof. Antonia Ilieva, PhD

Qualitative and quantitative composition of residual material (shells) of biocenoses organisms

Structure, phase composition and thermal properties of the residual material

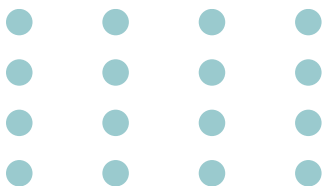
Utilization of wastes into value-added products

i.e. bioceramics and ceramic nanopowders, nanoporous carbons, catalyst supports, food additives, etc.

Characterization of produced materials

$S_{BET}$  determination, UV-VIS, FT-IR, XRD, XPS

Expertise on: Storage and transport of  $H_2$  and  $CO_2$ ; Bioceramics and ceramic nanopowders; Pyrolysis and production of chars/activated carbons; Adsorption for wastewater purification; Biodegradable films; Tissue engineering; Carbon nanomaterials and carbon nanoparticles





**THANK YOU**