



The Doctoral School “Chemistry and Life and Earth Sciences”

Short presentation

Background

The “Chemistry and Life and Earth Sciences” Doctoral School of the Alexandru Ioan Cuza University of Iasi, is a multidisciplinary research system, in which professors and scientists, having the legal capability to supervise PhD theses, and belonging to three different faculties and five research areas work together with PhD students. While, some research topics are of limited area for example inorganic chemistry of coordinative complexes, or the biology of a bird species, most other topics are quite interdisciplinary, the groups from Biology, working together with chemists or other specialists. In any case, the young scientists have full access to the existing infrastructure and database in the three faculties, namely Geography-Geology, Biology, and Chemistry. Besides, there are a large cooperation between the Doctoral School and the Faculty of Physics, that of Mathematics, etc., or with Botanical Garden, Research Stations of the university, Petru Poni Institute of Macromolecular Chemistry of Iasi, etc. By Erasmus or bilateral project funding, or by POSDRU funding, the PhD students may work together with their colleagues and professors in Germany, France, Spain, Italy (Uni-Konstanz; Lille and Paris, Bologna etc). The doctoral school has access to ISI web of knowledge, Scopus and other databases, and the infrastructure was much improved lately.

1. Leadership of the Doctoral School “Chemistry and Life and Earth Sciences”

Members of the Doctoral School Council (DSC)

Doctoral School	DSC	Contact
Chemistry and Life and Earth Sciences (Biology, Chemistry, Geography and Geology)	PhD Prof. <i>Gabi DROCHIOIU</i> Director of the Doctoral School „Alexandru Ioan Cuza" University of Iași	0040-232-201279; 0040-722-280328; gabi1954@yahoo.com
	PhD Prof. <i>Ionel MANGALAGIU</i> Dean of the Faculty of Chemistry „Alexandru Ioan Cuza" University of Iași	0040-232-201343; ionelm@uaic.ro
	Researcher, PhD <i>Ioan SEGHEDI</i> „S.S. Ștefănescu" Institute for Geodynamics of Romanian Academy, Bucharest	0040-740-234916; seghedi@geodin.ro
	<i>Florin BĂRHĂLESCU</i> , PhD Director of Icar Tours Company of Iași	0040-232-216319; icar@icar.ro
	PhD Student <i>Stefan-Adrian STRUNGARU</i> , Faculty of Biology, „Alexandru Ioan Cuza" University of Iași	E-mail: strungaru_stefan@yahoo.com ; http://www.linkedin.com/pub/stefan-adrian-strungaru/67/4b4/428

2. PhD Research Areas

- 2.1. Biology
- 2.2. Chemistry
- 2.3. Geography
- 2.4. Geology
- 2.5. Environmental Sciences

3. PhD Supervisors & Their Research Topic

3.1. Biology

3.1.1. Prof. Dr. *Maria Magdalena Zamfirache*, PhD - Biology

Address:

Faculty of Biology, 20A Carol I Bd., 700505 – IAȘI

Tel: ++ 40 232 201 513

Fax: ++ 40 232 201 472

E-mail: magda@uaic.ro; Web sites:

http://www.bio.uaic.ro/organizare/departament/Prof_Zamfirache_Maria_CV_RO.pdf

http://www.bio.uaic.ro/organizare/departament/Prof_Zamfirache_Maria_CV_EN.pdf

Areas of competence

- vegetal physiology;
- microbial and vegetal biotechnology.

Research topics for PhDs:

- Effects of biotic and abiotic factors on fundamental physiological processes in plant species grown in experimental hydroponics systems.
- Interrelationships plant - associated micro biota: mechanisms and biotechnological applications for organic agriculture.
- Interrelationships biological clock - environmental to cultivated plant species in experimental conditions.
- Responses reaction on foliar levels induced of air pollutants in cultivated plant / spontaneous taxa.
- Studies regarding the phyllosphere complex on vegetal taxa with medicinal / aromatic valences.
- Physiological research concerning the behavior of some species of plants with possible role decontamination, in experimental conditions.

3.1.2. Prof. Dr. *Cătălin Tanase*, PhD – Biology-Botany

Address:

Faculty of Biology, 20A Carol I Bd., 700505 – IAȘI

Tel./Fax: ++ 40 232 201 385

E-mail: tanase@uaic.ro

Areas of competence

- Fungal and plant species taxonomy and preservation
- Cultivation of fungi and plant species with application in bioremediation
- Development of mycelium and plant tissue culture for species with pharmaceutical use

Research topics for PhDs:

- In vitro selection of mycelium and plant tissues
- Fungi as environmental indicators
- Fungal biodegradation and biodeterioration
- Screening of lignicolous basidiomycetes that synthesize volatile organic compounds
- Culture conditions optimization for growing fungi and medicinal and aromatic plant
- The development of a cell culture system in order to obtain biological active principles
- Structural, physiological and biochemical modifications produced by pathogenic fungi

3.1.3 Professor dr. *Dumitru COJOCARU* - Biology

Address:

Faculty of Biology, 20A Carol I Bd., 700505 – IAȘI

Phone: ++40 232 201 645

Fax: ++ 40 232 201 472

E-mail: cdumitru@uaic.ro

Areas of expertise: Biology, subdomain: Biochemistry

- Molecular Biology;
- Medical Biochemistry;
- Enzimology;
- Biotechnology.

Research topics for PhDs:

- Oxidative stress in various pathological affections (2 themes);
- The modifications of various biochemical and physiological parameters în various pathological affections (2 themes).

3.1.4. Professor dr. *Ioan MOGLAN* -Biology

Address:

Faculty of Biology, 20A Carol I Bd., 700505 – IAȘI

Phone: 0749462478;

Work phone: ++40 232 201 565

Fax: ++ 40 232 201 472

E-mail: imoglan@uaic.ro

Areas of competence:

- Entomology
- Zoology

Research topics for PhDs:

- Studies regarding the entomofauna in different ecosystems and they natural preserving balance; biodiversity, biology and use of entomophagous insects in biological control.

3.1.5. Empowerment PhD *Alin Stelian Ciobică* – Biology,

Faculty of Biology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone: ++ 40 232 201 666

Fax: ++ 40 232 201 472

E-mail: alin.ciobica@uaic.ro

Areas of competence:

- Animal and Human Physiology
- Neurophysiology
- Molecular Biology

Research topics for PhDs:**3.2. Chemistry****3.2.1. Professor dr. *Ionel Mangalagiu* – Chemistry, Organic Chemistry****Address:**

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI

Phone: 0723240075;

Work phone: ++40 232 201 343

Fax: ++ 40 232 201 313

E-mail: ionelm@uaic.ro; Web site: <http://teclu.chem.uaic.ro/mangalagiu/>

Areas of expertise: Chemistry, sub-domain: Organic Chemistry

Research topics for PhDs:

- Chemistry of heterocyclic compounds and medicinal chemistry;
- Macrocycles with nitrogen and oxygen, supramolecular chemistry;
- Eco-friendly side microwaves and ultrasound.

3.2.2. Professor dr. *Elena Bîcu* - Chemistry, Organic Chemistry**Address:**

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI

Phone: 0232-473662;
Work phone: ++40 232 232-201347
Fax: ++ 40 232 201 313
E-mail: elena@uaic.ro;

Areas of expertise: Chemistry, sub-domain: Organic Chemistry

Research topics for PhDs:

- Synthesis of New Heterocyclic Compounds with biological activity
- New Phenothiazine Derivatives with Biological Activity
- New Hybrid Compounds Including Different N-heterocycles

3.2.3. Professor dr. *Mircea Nicolae Palamaru* – Chemistry, Inorganic Chemistry

Address:

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI
Phone: 0232-230752; 0724305537
Work phone: ++40 0232-201341
Fax: ++ 40 232 201 313
E-mail: palamaru@uaic.ro;

Areas of expertise: Chemistry, sub-domain: Inorganic Chemistry

Research topics for PhDs:

- Synthesis and characterization of oxide compounds with spinel and perovskite structure;
- Thermal and non-isothermal kinetic analysis of inorganic materials.

3.2.4. Professor dr. *Aurel Pui* – Chemistry, Inorganic Chemistry

Address:

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI
Phone: 0745476226
Work phone: ++40 0232-201276
Fax: ++ 40 232 201 313
E-mail: aurel@uaic.ro; Web site: <http://teclu.chem.uaic.ro/aurelpui/personal/>

Areas of expertise: Chemistry, sub-domain: Inorganic Chemistry

Research topics for PhDs:

- Coordination compounds with biomedical applications.;
- Biomedical applications of magnetic nanoparticles.

3.2.5. Professor dr. *Eveline Popovici* – Chemistry, Technology

Address:

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI

Phone: 0740255462

Work phone: ++40 0232-201344

Fax: ++ 40 232 201 313

E-mail: eveline@uaic.ro;

Areas of expertise: Chemistry, sub-domain: Technology of silicate and oxide compounds

Research topics for PhDs:

- Nano-and biomaterials: synthesis, characterization, uses, environmental

3.2.6. Professor dr. *Gabi Drochioiu* – Chemistry, Biochemistry and Chemical Toxicology

Address:

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI

Phone: 0722280328;

Work phone: ++40 232 201 279

Fax: ++ 40 232 201 313

E-mail: gabidr@uaic.ro; Web site: <http://teclu.chem.uaic.ro/drochioiu/>

Areas of expertise: Chemistry, sub-domain: Biochemistry and Chemical Toxicology

Research topics for PhDs:

- Analytical toxicology of environmental pollutants;
- Analytical Biochemistry and the nutritional quality of cereals;
- Synthesis and characterization of the peptides and their complexes with metals by mass spectrometry and related techniques.

3.2.7. Empowerment PhD *Cecilia Arsene* – Chemistry, Analytical Chemistry

Address:

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI

Phone: 0232-432855;

Work phone: ++40 232 201 308

Fax: ++ 40 232 201 313

E-mail: carsene@uaic.ro; Web site:

Areas of expertise: Chemistry, sub-domain: Analytical Chemistry

Research topics for PhDs:

3.2.8. Empowerment PhD *Karin Popa* – Chemistry, Radiochemistry

Address:

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI

Phone: 0757205491;

Work phone: ++4 0757205491

E-mail: kpopa@uaic.ro; Web site:

Areas of expertise: Chemistry, sub-domain: Radiochemistry

Research topics for PhDs:

Radiochemistry related research

3.3. Geography

3.3.1. Professor dr. *Liviu Apostol* – Geography

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: apostolliv@yahoo.com; Web site: <http://uaic.academia.edu/LiviuApostol>

Areas of expertise: Geography, sub-domain: Geography

Research topics for PhDs:

- Studies of regional climatology and climate risks in North Eastern development region, in support of sustainable development

3.3.2. Professor dr. *Octavian Groza* – Geography, Human and Regional Geography

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: grozaoctavian@yahoo.fr; Web site: <http://www.geography.ro/cv/Groza-Octavian.pdf>

Areas of expertise: Geography, sub-domain: Human and Regional Geography

Research topics for PhDs:

- Optimization of the spatial structures for sustainable development of territories

3.3.3. Professor dr. *Corneliu Iatu* – Geography, Human Geography

Address:

Dean of the Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: ciatu@uaic.ro; Web site: <http://www.geography.ro/cv/Iatu-Corneliu.pdf>

Areas of expertise: Geography, sub-domain: Human Geography

Research topics for PhDs:

- Dynamics of tourism activities, and spatial structures in post-communist Romania geodemographic

3.3.4. Professor dr. *Ionel Muntele* – Geography, Human Geography

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: imuntele@yahoo.fr

Areas of expertise: Geography, sub-domain: Human Geography

Research topics for PhDs:

- Population and settlements Romania multiscale context

3.3.5. Professor dr. *Gheorghe Romanescu*– Geography, Physical Geography

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: romanescugheorghe@gmail.com; Web site:

<https://sites.google.com/site/geluromanescu/>

Areas of expertise: Physical Geography, sub-domain: Hydrology and Geomorphology

Research topics for PhDs:

- Interdisciplinarity and transdisciplinarity hydrological risks in Siret and Prut river

3.3.6. Professor dr. *Eugen Rusu* – Geography

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: ruseug552003@yahoo.fr; Web site:

Areas of expertise: Physical Geography, sub-domain: Hydrology and Geomorphology

Research topics for PhDs:

- Genesis, spatial distribution, quality and use of soil resources in a geographical unit

3.3.7. Professor dr. *Constantin Rusu* – Geography

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: cvrusu@uaic.ro; Web site:

Areas of expertise: Physical Geography, sub-domain: Hydrology and Geomorphology

Research topics for PhDs:

- Recovery of the soil resource and optimizing the use of land territorial perspective in order amenajării

3.3.7. Professor dr. *Ion Ioniță* – Geography

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: ion.ionita@uaic.ro; ion.ionita72@yahoo.com; Web site:

3.4. Geology

3.4.1. Professor dr. *Mihai Branzila*, Geology

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: mib@uaic.ro; Web sites:

Areas of expertise: Geology, sub-domain: Geology

Research topics for PhDs:

- Sedimentary study of the Carpathians Orogen and Foreland area

3.4.2. Professor dr. *Gheorghe Damian*, Geology

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: gheorghe.damian@ubm.ro; damgeo@ubm.ro; Web sites:

http://www.ad-astra.ro/whoswho/view_profile.php?user_id=1871&lang=ro

Areas of expertise: Geology, sub-domain: Geology

Research topics for PhDs:

- Mineralogy, geochemistry and genesis of ferrous ore deposits and their impact on the environment capitalization

3.4.3. Professor dr. *Ovidiu-Gabriel Iancu*, Geology – Geochemistry

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone:

Work phone:

Fax: +40 232 201474

E-mail: ogiancu@uaic.ro; Web sites: <https://mail.uaic.ro/~ogiancu/index.html>; &

http://www.researchgate.net/profile/Gabriel_Iancu

Areas of expertise: Geology, sub-domain: Geochemistry

Research topics for PhDs:

- Geochemistry of soil / alluvial sediments Geochemistry / Mineralogy and Geochemistry of heavy minerals in the crystalline-Mesozoic of the Eastern Carpathians

3.4.4. Professor dr. Mihai-Remus Saramet – Geography, Human Geography

Address:

Faculty of Geography and Geology, 20A Carol I Bd., 700505 – IAȘI

Phone: 0747 552823

Work phone: +40 232 201468

Fax: +40 232 201474

E-mail: saramet@uaic.ro; mihaisaramet101@gmail.com; Web site:

<http://geology.uaic.ro/mihai.saramet/>

Areas of expertise: Geology, sub-domain: Analysis sedimentary basins

Research topics for PhDs:

- ❖ Petroleum systems engineering;
- ❖ Analysis and modeling of sedimentary basins;
- ❖ Hydrogeology.

3.5. Environmental Sciences

3.5.1. Professor dr. Gheorghe Nemțoi, Faculty of Geography and Geology, Area Environmental Sciences, Sub-domain: Electrochemistry and Environmental Chemistry

Address:

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI

Phone: ++40 232 211450;

Work phone: ++40 232 201334

Fax: ++ 40 232 201 313

E-mail: nemtoi@uaic.ro;

Areas of expertise: Environmental Sciences, sub-domain: Electrochemistry and Environmental Chemistry

Research topics for PhDs:

- Electrochemical characterization of biological compounds
- Electrochemical methods used for analysis of heavy metals in polluted areas
- Research on reducing the negative impact of heavy metals on soil plant system in contaminated areas

3.5.3. **Professor dr. Raluca Iordan**, Faculty of Geography and Geology, Area Environmental Sciences, Sub-domain Inorganic chemistry and environmental remediation

Address:

Faculty of Chemistry, 11 Carol I Bd., 700506 – IAȘI

Phone: ++40 726 232916;

Work phone: ++40 232 201287

Fax: ++ 40 232 201 313

E-mail: alex@uaic.ro; alexandra.iordan@uaic.ro; Web site:

Areas of expertise: Environmental Sciences, sub-domain: Inorganic chemistry and environmental remediation

Research topics for PhDs:

- polymetallic oxides, catalysts for environmental remediation processes

3.5.4. **Professor dr. Ion Sandu**, Faculty of Geography and Geology, Area Environmental Sciences, Sub-domain Cultural heritage

Address:

Faculty of Teology, 20A Carol I Bd., 700505 – IAȘI

Phone: ++40 744431709;

Work phone: ++40 232-201662

Fax: ++ 40 0232258430; 0332816723

E-mail: ion.sandu@uaic.ro; sandu_i03@yahoo.com; Web site:

<http://www.ionsandu.afir.org.ro/>

Areas of expertise: Environmental Sciences, sub-domain: Cultural Heritage

Research topics for PhDs:

- New materials and technologies for water treatment for drinking water / Wastewater treatment processes new surface and groundwater for human consumption.
- Detoxification of industrial and domestic waste waters
- Collection, characterization and use of aerosols within saline halo-chambers
- Study of new archaeometric features of archaeological artifacts for museum capitalization and cultural integration (metal / bronze, ceramic / ceramic or glazed painted, stone / stones / glass, wood put in work, etc..)
- New materials and processes used in the preservation and restoration of art works
- Factors affecting the viability of plant genetic conservation
- Contributions to integrated scientific conservation of cultural heritage
- Scientific investigation of illicit goods of cultural heritage

- Conservation fingerprint form and material traces in forensic sciences
- Process for the preservation and recovery of trace in forensic sciences

4. PhD Admission 2014

4.1 Admission Timeline: September Session

- The registration of candidates: September 1 to 11, 2014
- The selection of candidates: September 15 to 17, 2014
- Results display: September 18, 2014
- Litigation: September 19, 2014

4.2 Admission File Content:

- a registration form which will indicate the the possible PhD supervisor with his/her consent;
- a curriculum vitae;
- a list of scientific works of the candidate (if any);
- a certified knowledge of a foreign language, issued by the Faculty of Letters of the University "Alexandru Ioan Cuza" of Iasi. It must be no longer than two years before exam for admission, except for those who have completed a single or dual specialization. Internationally recognized certificates like DALF test, TOEFEL or other are accepted;
- a certified copy of birth certificate;
- a certified copy of the marriage certificate / change of name, if applicable;
- a copy of the identity document;
- a certified copy of high school diploma or an equivalent;
- a certified copy of a diploma and transcript;
- a master's degree or an equivalent document and transcript of the original (for graduates of the Master of the current academic year, school graduation certificate and statement issued by the secretariats optional);
- a receipt for the registration fee (fee paid at BRD Bank).

4.3 Type of examination for candidates:

Each candidate should be evaluated by the admission committee by a 15 min interview (about 10 min slide presentation & 5 min discussions), and by written examination, where indicated.

Interview: presentation of a doctoral research project (10 min, 6-8 slides with Research Title; Short CV of the candidate; Project Objectives; Materials and Methods; Expected Results; Preliminary Results; Publications and Conferences-if any; References).

4.3.1 *Chemistry area*: the 15 min interview only.

4.3.2 *Biology, Geography, Geology, Environmental Sciences*

a) *Written examination* (3 hours) based on a given bibliography afforded by the supervisors in each four research areas. Candidates are requested to prepare and answer the questions from the recommended literature proposed by his/her PhD supervisor in the specific area (Biology, Geography, Geology, Environmental Science). The 3-hour theses will be evaluated by the respective supervisor and a specialist in the same topic. Marks + the mean mark for the interview will be divided by 2 to form the final mark for the candidate admission.

b) *Interview*: Candidates are requested to prepare and present orally a short research project on the chosen topic (see above). In principle, they will show what they want to investigate during the next three years of doctoral study. The responsibility of doing research belongs to the PhD student, the supervisor having the obligation to advise him/her and to offer access to the existing research infrastructure.

5. Research Infrastructure

Note 1. Candidates will have access to the existing infrastructure and facilities in the Doctoral School Chemistry and Life and Earth Sciences (Biology, Chemistry, Geography and Geology) as well the partner institutions

Specific research infrastructure to each research group:

5.1. Prof. Dr. Maria Magdalena Zamfirache, PhD - Biology

Ecotoxicological evaluation laboratory, biomonitoring and bioremediation of environmental factors (Faculty of Biology), part of INTEGRATED CENTRE FOR STUDIES IN ENVIRONMENTAL SCIENCE FOR DEVELOPMENT REGION NORTH EAST (CERNESIM) of the University "Alexandru Ioan Cuza":
Systems for liquid-phase photosynthesis measurements; Portable analyzer for photosynthesis and transpiration process; Fluorescence monitoring system FM2; Oven calcinations for laboratory; Kjeldahl system for determination of total nitrogen (protein); UV-VIS Shimadzu Spectrophotometer, Titramax 1000; Transmission electron microscope (TEM); Surface electron microscope (SEM); Snijders Scientific plant cultivation room; Lemna Tec phenotype analyzer; Plant growth hydroponic system etc.

5.2. Prof. Dr. Catalin Tanase – Biology

The *Research Laboratory for fungi with applications in ecological reconstruction* (RECOSOL) is equipped with: Upright autoclave Raypas 75 L, ABBE AR4 Refractometer, pH/mV/ION-metre with accesories Inolab WTW 740, Etuve ULM 400 Memmert, Incubator ICP 400 Memmert, Automated aeration incubator Microbiotest for ecotoxicological tests x 2, GPS Garmin, Magnetic Stirrer Arex Nahita, Research

Trinocular Microscope Nikon, Trinocular Microscope Optika, Stereomicroscope with optical zoom equipped with Photo camera Nikon, Stereomicroscope with phototube SZM2 Optik, Digital thermo hygrometer EBRO, Laboratory Homogenizer Heidolph, Climate chamber with illumination KBW 400, UV bactericidal system, Glass washing machine G7883CD with accesories Miele, UniEquip lyophilizator UNICRYO MIC 4 L model Planegg, Labconco lyophilizater, Centrifuge with cooling system Hettich Mikro 22 R, Laminar air flow chamber Faster KBN, Electronic portable balance Partener Corporation, No frost freezer Arctic, electronic hygrometer, water distiller, Shimadzu UV-VIS spectrophotometer, Laminar flow cabinet OR 1500 etc.

5.3. Professor dr. Dumitru COJOCARU - Biology

Two research labs with the coresponding equipments

The main equipments bought in recent years (research grants) :

Magnetic stirrer; Paper eletrophoresis apparatus; Devices for electroforesis in gel PAAG; Equipment for chromatography in gel; Technical scale; Laboratory scale with three digits; Hettich cooled centrifuge; Lab centrifuge; ; Table centrifuge Hettich Centrifuge; MINISPIN Centrifuge; ROTINA 420R Centrifuge; Tomos 1-4A Universal Centrifuge; Cromatographic colomn; Fridge Arctic FREEZER lab freezer; Elecrophoresis device; Herraeus incubator; pH-meter; Automatic pipets; Refractometer; Digital Refractometer; SHIMADZU Spectrophotometer ; Spectrophotometer ; Beckman Coulter DU 730 Spectrophotometer Mass atomic Spectrophotometer Avanta PM-GBC; DOUBLE BEAM TY Spectrophotometer ; eway y 6300 Spectrophotometer ; UV - BISWF Spectrophotometer ; UV-VIS 7300 Spectrophotometer VIS 6310 Spectrophotometer; UV-VIS Shimadzu Spectrophotometer

All the equipments have the corresponding reagents.

5.4. Professor dr. Ioan MOGLAN -Biology

Transmission microscope; Scanning microscope; DNA sequencing; Leica Optic microscopes; Leica binoculars, MBS, Zeiss; laboratory scales, different tipes; optical equipment for field observations by day and night; dissection kits; substance preparation and conservation of arthropods; etc.

5.5. Infrastructure of the Geology Department

LaLaboratory for Optical Microscopy, Laboratory for Raman Spectrometry (HE spectrograph, to be coupled to a fibre optic probe or microscope, optimised for a laser excitation at 532 nm), Laboratory for XRF Spectrometry (EPSILON 5 EDXRF spectrometer), Laboratory for Atomic Absorption Spectrometry (AAS Vario 6FL), Laboratory for Infrared Spectrometry (Brucker FT-IR spectrophotometer)

5.6 Infrastructure of Chemistry Faculty

The Faculty of Chemistry has a large infrastructure consisting of (i) instruments of general use such as X-ray diffraction spectrometer, 500 MHz NMR- spectrometer (see also <http://cernesim.uaic.ro/index.php/ro/echipamente>); (ii) instruments in each group of research (like spectrofluorimeter in Biochemistry Group); (iii) access to instruments of Physics Faculty, Biology Faculty, Petru Poni Institute, etc., due to collaborative work. All these instruments can be used to make doctoral research.

Some instruments currently used within the Chemistry Faculty are: ContrAA700 atomic absorption spectrophotometer (from Analytic Jena), Perkin Elmer atomic absorption spectrophotometer 3300; 500 MHz NMR spectrometer from Bruker, Germany, Trace Lab 50; Shimadzu GC-MS spectrometer GS 2010 MALDI-TOF mass spectrometer Finnigan MAT LASERMAT 2000GTI, Jasco spectrophotometer FT-IR-660, Scimitar Series spectrophotometer, UVIKON 933 - KONTRON double beam UV/VIS spectrophotometer; Multi N/C® 3100 series Analyzer (from Analytic Jena), VCD-FTIR Spectrometer (from Biotools), Proton Transfer Mass Spectrometer type PTR-MS-TOF (from Kore), Microscop Quanta 250 SEM Microscope with WetSTEM detector, SUPERNOVA250 X-ray Diffractometer for monocrystals with dual source, LC-DAD-FL LC-MS Liquid Chromatograph coupled with mass spectrometer (from Agilent Technologies), LC-ICP-MS Liquid Chromatograph coupled with mass spectrometer (from Agilent Technologies) with fluorescence detector, G3281A Liquid Chromatograph coupled with ICP-mass spectrometer (from Agilent Technologies), FLS-920s Spectrofluorimeter (from Edinburg Instruments), Capillary electrophoresis Beckman P/ACE System 5500 apparatus Consort E752 gel electrophoresis, BiotecFischer, UV/Vis Cintra 10e, 190-1200 nm, Agilent 1100 Series liquid chromatograph; SMF25 Spectrofluorimeter-KONTRON for measuring fluorescent-HiLoadTMPumpP-50 FPLC GradiFrac, HPLC-KONTRON INSTRUMENTS (2 HPLC pump 440, detector array 440), MICROTERM-1206, Tecnai G2 Spirit SEM Microscope, BioTWIN,. Portable Fluorimeter for chlorophyll, HPR60 MASS Spectrometer with EQP 1000 for charged or neutral particle analysis (from Hiden Analytical, UK), G3281A ICP-MS mass spectrometer, (from Agilent Technologies-product of 2012), Laser LSX 266 Ablation System (from CETAC Technologies – made in 2012). Upright autoclave Raypas 75 L, ABBE AR4 Refract meter, pH/mV/ION-metre with accessories Inolab WTW 740, Etuve ULM 400 Memmert, Incubator ICP 400 Memmert, Automated aeration incubator Microbiotest for ecotoxicological tests, GPS Garmin, Magnetic Stirrer Arex Nahita, Research Trinocular Microscope Nikon, Trinocular Microscope Optika, Stereomicroscope with optical zoom equiped with Photo camera Nikon, Stereomicroscope with phototube SZM2 Optik, Digital thermo hygrometer EBRO, Laboratory Homogenizer Heidolph, Climate chamber with illumination KBW 400, UV bactericidal system, Glass washing machine G7883CD with accesories Miele, UniEquip lyophilizator UNICRYO MIC 4 L model Planegg, Centrifuge with cooling system Hettich Mikro 22 R, Laminar air flow chamber Faster KBN, Electronic portable balance Partener Corporation, No frost freezer Arctic. Binocular microscope OPTECH, model

"ALEXANDRU IOAN CUZA" UNIVERSITY of IAȘI
DOCTORAL SCHOOL OF CHEMISTRY AND LIFE AND EARTH SCIENCES
FACULTIES: BIOLOGY, CHEMISTRY, GEOGRAPHY AND GEOLOGY
3rd CYCLE OF STUDIES - PhD

Areas: biology, chemistry, geography, geology, environmental science

DURATION: 3 years

FORM of EDUCATION: DAILY

SERIES: 2014-2017

Approved by the Rector

CURRICULUM

available from academic year 2014/2015

Nr. crt.	Name of the discipline	Discipline code	Conditionings code	Semester I		
				C	FA	CR
1	Experimental techniques, processing and presentation of results in the field of specialization			2	C	10
2	Current trends in basic and applied research			2	C	10
3	Additional training module				C	5
4	Elective Courses: 1. Biotic interactions (Biology) 2. Research and exploitation of results in chemistry and natural sciences (Chemistry & Geology) 3. Methods and models statistical and cartographic processing advanced geographic information (Geography) 4. Environmental factors and their impact on biotic and abiotic systems (Environmental Science)			2	C	5
	Hours/week; Total number of ECTS			6		30

Legend: C - courses, FA - the final assessment, Cr - number of loans/transferable credits.

Signed by the Deans of the three Faculties & Director of Doctoral School

The titles list of the **PhD theses defended**, which were awarded by “very good” mark or the Distinction *Magna cum Laude*:

Leadership: Prof. Dr. *Maria Magdalena Zamfirache*, PhD - Biology

- Claudia Pădurariu, 2011, Studies regarding the filosferic complex on *Ocimum* and *Perovskia* taxa, *Lamiaceae* family.
- Raluca Anca Andro, 2012, Comparative physiological and biochemical research on the taxa of the genus *Mentha* L.
- Magda Coisin, 2012, Comparative physiological and biochemical research on the taxa of the genus *Salvia* L.
- Georgiana Lumina GHIȚĂ, 2012, Research regarding the metabolome variability, taxonomic determined, on medicinal and aromatic plants.
- Andrei LOBIUC, 2013, Morpho-anatomical research, physiological and biochemical comparative on taxa of the genus *Angelica* L. (*Apiaceae* family).

Leadership: Professor dr. Cătălin TĂNASE -Biology

The titles list of the thesis finalized in 2013, and appreciated with the mark *Excellent* and the Distinction *Summa cum Laude*:

- Tiberius BALAEȘ, 2013. Isolation and selection of some macromycetes species with rol in the synthetic dyes biodegradation;
- Diana Mihaela PÎNDARU (ȘOVAN), 2013. Lichenized fungi with role in biomonitoring of air quality.

Leadership: Professor dr. Dumitru COJOCARU - Biology

The titles list of the thesis finalized between 2012 - 2013 and appreciated with the mark *Very good*, and the Distinction *Magna cum Laude*:

- Alina Moisii (MăntăluȚă), 2012, Harnessing biological agents granular properties in diversifying varieties of sparkling wines.
- Cristina Nisteriuc (Maxim) , 2012, The study of water pollution and its tributaries Siret River in Suceava County.
- Oana Elena Saucă, 2012, Genetic markers useful in tailor therapy for patients with type II diabetes to prevent complications of cardiovascular.
- Anca Florescu , 2012, Studies on gene expression prognostic value in breast cancer.
- Oana Dana RădăȘanu (Arcan), 2013, Research on the biochemical basis of the relationship between oxidative stress and stress nitrosativ.
- Mihai Bularda (Bularda Morozan), 2013, Research on the influence of chemotherapy on biochemical and hematological parameters in patients with multiple myeloma in the Municipal Emergency Hospital "Elena Beldiman" Bârlad.

The titles list of the thesis finalized in 2014, and appreciated with the mark *Excellent* and the Distinction *Summa cum Laude*:

- Radu Marian Lefter, 2014, Study of changes of biochemical parameters of oxidative stress in animal models of neuropsychiatric disease.

Leadership: Professor dr. Ioan MOGLAN -Biology

The titles list of the thesis finalized between 2011 - 2013 and appreciated with the mark *Very good*, and the Distinction *Magna cum Laude*:

- Răzvan Florian DEJU, 2011, Aurochs (*Bison bonasus* L., 1758) characterization and management in Romania.
- Dalia PARASCHIV, 2011, Biodiversity of small mammals ((Mammalia: Rodentia) from middle basin of Siret River.
- Teodora Ramona PINTILIEASA, 2012, Research regarding ichthyofauna of the upper and middle basin of Mures river.
- Emilian PRICOP, 2012, Mimaridelor (Hymenoptera, Chalcidoidea, Mymaridae) diversity from natural and anthropic ecosystems.
- Emanuel TÂRNOVEANU, 2012, Contributions to the study of biology, ecology and ethology crow crows (*Corvus frugilegus* L.) in the central area of Moldova;
- Ștefan Emanuel BALTAG, 2013, Ecology buzzard (Aves: Buteo) of the eastern part of Moldavia (Romania).
- Eugen Lucian BOLBOACĂ, 2013, Diversity of prey birds night (Aves: Strigiformes) in forest habitats of the rivers Prut and Siret.
- Vasilica-Monica GROZA, 2013, Paleoanthropology research regarding the human population of medieval Iasi, with special reference to the necropolis of XVII century, located in the eastern part of the Royal Court.
- Doina Simona MĂTIUȚ, 2013, Biology of parasite *Blastocystis hominis*, evaluating its potential pathogen and anatomo-pathological aspects studied in the clinical setting.

Geography and Geology:

1. SORIN-IONUȚ C. BALABAN, Supervisor Prof. dr. Ovidiu-Gabriel Iancu, Title Geochemical Mineralogy and Distribution of heavy metals in the dump associated with polymetallic sulphide ores in the Tulgheș Litho-group (Eastern Carpathians), Year 2012
2. ALINA C. DRACINSCHI married DUGHILĂ, Supervisor Prof. dr. Ovidiu-Gabriel Iancu, Title Hydrogeochemistry Characteristics of some reservoirs in the catchment Jijia, Year 2012
3. RAMONA E. HUZUM, Supervisor Prof. dr. Ovidiu-Gabriel Iancu, Title Trace Element Geochemistry in the sol-grape-vines coming from the area Husi (Romania), Year 2012
4. COSTEL N. ALEXE, Supervisor Prof. dr. Liviu APOSTOL, Title Climate and local climate Iasi and metropolitan area, Year 2012
5. ALUPULUI I. IONEL-CIPRIAN, Supervisor Prof. dr. Corneliu IAȚU, Title Territorial governance and local development. Case Studies in the North-East Region, Year 2012
6. IONUȚ P. ATUDOREI, Supervisor Prof. dr. Ionel MUNTELE, Title Catholic communities in Moldova - Study historical geography, Year 2012

7. BURLEA V. ANA-MARIA, Supervisor Prof. dr. Ionel MUNTELE, Title Geographic and socio-economic inequalities in health status of the population Neamt County, Year 2012
8. BUTELCĂ I. DORU, Supervisor Prof. dr. Constantin RUSU, Title Influence of geomorphology on soil conditions in the upper basin of Bârladului, upstream Bacesti, Year 2012
9. CHIRILOAIEI I. FRANCISCA-ANCA, Supervisor Prof. dr. Maria RĂDOANE, Title Quantitative analysis of changes in the river bed of Moldova Carpathian, Year 2012
10. FABIAN M. CLAUDIA, Supervisors Prof. dr. Octavian GROZA & Philippe BACHIMON, Title Integration of landscape into regional development policies in mountain tourism. Case Study: the Prahova Valley, Year 2012
11. IBĂNESCU C. BOGDAN-CONSTANTIN, Supervisor Prof. dr. Corneliu IAȚU, Title Conditions for tourist exploitation of a peripheral rural area of the European Union: Romania's Moldavia, Year 2012
12. NICULIȚĂ V. MIHAI, Supervisor Prof. dr. Constantin RUSU, Title Creating a framework for analysis represented geomorphometry relief numerical models of the terrain, Year 2012
13. TOPȘA G. GEORGE, Supervisor Prof. dr. Ion IONIȚĂ, Title Middle-Lower Vasluiet Basin: Geomorphological study, Year 2012
14. CIOMAGA C. ALEXANDRA, Supervisor Prof.dr. Gheorghe NEMȚOI, Title- Electrochemical studies of the corrosion of metals and alloys in different environments, Year 2013