

FACULTY
OF ANIMAL BREEDING
AND BIOLOGY

POZNAŃ
UNIVERSITY
OF LIFE SCIENCES

POZNAŃ 2014

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UNIWERSYTET PRZYROD

KOLEGIUM RUNGEGO





ONICZY

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Faculty of Animal Breeding and Biology

Institute of Veterinary Medicine

Institute of Zoology

Division of Animal Anatomy

Division of Animal Histology and Embryology

Division of Apidology

Division of Inland Fisheries and Aquaculture

Division of Zoology

Laboratory of Neurobiology

Department of Animal Physiology and Biochemistry

Department of Genetics and Animal Breeding

Division of Horse Breeding

Department of Cattle Breeding and Milk Production

Department of Pig Breeding and Production

Department of Small Mammals Breeding and Animal Origin Materials

Department of Rural Tourism

Division of Poultry Science

Department of Animal Nutrition and Feed Management

Faculty Computer Room



KOLEGIUM
IM. KAZIMIERZA GAWECKIEGO



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History

The Faculty of Animal Sciences (present name Faculty of Animal Breedings and Biology) was created on November 17, 1951 as a part of Agricultural College of Poznań. This was made possible due to the decree of the Council of Ministers, that enabled a creation of new departments and allowed to shift others from the Department of Agriculture and Forestry of the University of Poznań. In 1998 the Faculty changed its name to the Faculty of Animal Breedings and Biology, in order to emphasise the expand of its research activity onto the fields related to animal biology and genetics. The Department was granted the right to award doctoral degrees in 1958 and to award habilitation degree in 1961.

In 2013 the Faculty was conferred the right to promote scientists to the title of doctor of biological sciences. The latest parametric evaluation of the scientific units carried out by the Ministry of Science and Higher Education rewarded the Faculty with high A category.

Mission

The most important aims of the Faculty are:

- educating highly skilled specialists for food industry
- popularizing knowledge, supporting technological and biological advancement in agriculture with a special focus placed on the Wielkopolska region. These aims are achieved by ongoing improvement of teaching curricula and active contribution to scientific research, financed by the University, government agencies and international programmes.

Academic and Research Staff

There are 150 employees of the Faculty, including 43 professors and habilitated doctors, 57 doctors, 5 assistants and lecturers with masters degree, as well as 45 technical assistants and administration employees.

Scientific activity

The research activity is focused on:

- modern techniques and technologies of animal breeding and raising
- improvement of production and functional genetic features of animals
- population genetics
- functional genomics and epigenomics
- molecular and cellular endocrinology and neuroendocrinology
- impact of exogenous and endogenous factors on animal organisms metabolism

- animal anatomy and histology
- technology of feed production and preservation
- animal alimentary canal microbiology
- qualitative analysis of animal origin products
- biology, breeding and reintroduction of endangered and extinction approaching animal species
- ecology, aetiology, evolution and conservation biology
- biology and biotechnology of animal reproduction
- socio-economic determinants of agri and rural tourism development.

Study opportunities

Undergraduate full-time studies

ANIMAL SCIENCES

Specialisations:

animal sciences and breeding

breeding of free-range animals and pets

ecological husbandry of animals

- 3.5-year B.Sc. course
 - 1.5-year M.Sc. studies for the B.Sc. course graduates
- animal production management
- 1.5-year M.Sc. studies for the B.Sc. course graduates

BIOLOGY

Specialisation:

applied biology

- 3-years B.Sc. course
- 2-years M.Sc. studies for the B.Sc. course graduates

TOURISM AND TOURISM MANAGEMENT

Specialisations:

agritourism

- 3-years B.Sc. course

NATURE TOURISM

- 2-years M.Sc. course

VETERINARY MEDICINE

- 5.5-year M.Sc. studies

EUROPEAN MASTER OF COMPARATIVE MORPHOLOGY

- 2-years M.Sc. studies

Undergraduate part-time studies

ANIMAL SCIENCES

- 4-year B.Sc. course
- 1.5-year M.Sc. studies for the B.Sc. course graduates

TOURISM AND TOURISM MANAGEMENT

Specialisations:

agritourism

- 3.5-years B.Sc. course

NATURE TOURISM

- 2-years M.Sc. course

Graduate studies – Doctoral studies

- 4-years full-time or part-time studies

Post-graduate studies

- Washington Convention CITES studies
- Management of Tourism

Animal sciences studies

Animal Sciences course provide students with a broad knowledge in the fields of animal sciences (breeding and production), plant sciences and crop production. Additionally all courses provide essential training in management, socio-economical aspects of animal and plant production as well as nature conservation and environmentalism. The graduates are prepared to undertake jobs in agricultural enterprises as well as in scientific and advisory institutions.

Biology studies

Biology course offers a broad scientific curriculum, including both fundamental and applied aspects of animal and plant biology. The students are offered three specialisations: animal biology, experimental biology or plant biology. The graduates are educated to specialise in various aspects of biological sciences and are prepared to work in scientific research institutions, nature reserves, national parks, and zoos. They are also given an opportunity to study pedagogy and methodology of teaching, authorising to teach at primary and secondary school levels.

Tourism and tourism management studies

The course offers a broad range of subjects linking various aspects of tourism, cultural studies, biological sciences, social sciences and economics. The students are educated to manage and administrate tourism, understood as a broad range of touristic and recreational enterprises. The graduates may also find employment in institutions related to the tourism industry. A special focus is placed on teaching foreign languages, communication and interpersonal skills.

Veterinary medicine studies

The students undertake pre-clinical and clinical courses preparing them to become veterinary doctors. These subjects include animal anatomy, physiology and various aspects of biological sciences essential for medical treatment of animals. The graduates obtain a licence to practice veterinary medicine and are qualified to evaluate animal's health (physical condition), diagnose and treat animals, perform surgical procedures as well as obtain the right to conduct veterinary inspections. The students are prepared to apply their knowledge of medical, surgical, public health, diagnostics and therapeutic principles to animals, including wildlife and domestic species such as: livestock, working animals and companion animals. Additionally the graduates are capable of undertaking jobs in laboratory diagnostics as well as in scientific and advisory institutions.

European master of comparative morphology

The programme of the studies gives a possibility of broadening specialistic knowledge and skills in the area of animal comparative morphology. An opportunity of participation in practical activities, as well as Erasmus studies abroad is offered.

Abbreviations

B	– Biology
Bt	– Biotechnology
D	– Dietetics
HiBZ	– The Faculty of Animal Breeding and Biology
L	– The Faculty of Forestry
Oś	– Environmentalism
R	– The Faculty of Agronomy and Bioengineering
TiR	– Tourism and tourism management studies
W	– Veterinary medicine
Z	– Animal Sciences

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Research

Assessment of the effect of organizational, environmental and individual factors on efficiency of embryo transfer in cattle [1]. Optimization of recipient and donor preparation conditions, new intravital methods of quality appraisal for oocytes collected post slaughter and intra vitam as well as embryos using microfluidic chips and neuron net-

works [1, 4, 8]. Embryo transfer in pigs and their *in vitro* culture [4]. Evaluation of *in vitro* development of dog embryos taking into consideration quality of applied media and individual factors [8]. Analysis of the effect of selected factors on efficiency of oocyte maturation in pigs and cattle [1, 4, 8]. Ultrasound detection of early pregnancy in cattle including twin pregnancies, application of ultrasound technology in gynecological practice – evaluation of effectiveness of this method in infertility control in cattle, evaluation of intensity of parturition and postpartum disorders as well as fertility disorders based on databases of leading cattle herds [1]. Determination of the relationship between the intensity and duration of lameness and limb posture [7]. The type of phalange diseases and production and reproduction parameters [1, 7]. Low-invasive methods of surgical treatment of heart valve defects [4, 8]. Evaluation of effectiveness of mastitis control, milking procedures and types of milking machines on the health status of mammary glands, studies on hygienic quality and technological defects of raw milk [9]. Analysis of the effect of selected factors on the expression of genes responsible for oocyte fertilization in pigs and cattle, molecular analysis of developmental competence of bovine oocytes and embryos, evaluation of semen quality in dogs, boars and bulls based on computer analysis (CASA) [1, 4]. Biomechanics of horse movement [1].

Teaching

The Department staff gives lectures and classes in: Zoo-hygiene and veterinary prophylaxis (Z), Reproduction biotechniques (Z) and Fertility disorders (Z). Considerable interest has been observed on the part of students in classes in Animal ethology (Z) as well as Hygiene, prophylaxis and animal welfare (Z), Turnover and processing of animal origin materials (Z), Kynology (Z), as well as optional courses in Veterinary nursing (Z), Epidemiology (B), Introduction to veterinary medicine (B, L) and First aid in emergency cases (Z), History of veterinary medicine (W), Animal hygiene (W), Pharmacy (W), Veterinary pharmacology (W), Parasitology (W), Pathomorphology (W), Diagnostic imaging (W), Clinical diagnostic (W), General surgery and anaesthesiology (W), Toxicology (W), Animal diseases (W), Milk and meat hygiene (W), Microbiology (W), Hygiene of dietary components (W), Natural medicine (W).

Service activity

A clinic for small animals operates at the Institute. The Institute offers licensed courses in cattle and pig artificial insemination as well as veterinary courses for hunters. Services are offered in evaluation of semen quality of breeding stock.



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Research

Investigations concern a comparative angiology of blood vessels of animals. The object of the study are domestic and wild animals, both native and exotic ones. Subjects of research in this area focus arteries on the basis of the brain and a comparative analysis of coronary arteries and heart veins [1, 4]. The next branch of the study is analysis of exterior of animals in view of skeletal conformation and osteological changes in case of domestic mammals. Osteological investigations are completed by craniological studies



which concern domestic and wild species of mammals as well as contemporary and prehistoric animals [2, 5]. Apart of studying big anatomical structures of animals body microscopic anatomy and histology are taken up [3].

Teaching

The Department provides courses in the following subjects: Animals anatomy (Z, W), Comparative anatomy of vertebrate with elements of human anatomy (B), Animal anatomy as a part in Animal anatomy and physiology (Bt) and Animal physiology (R), Principles of human anatomy (TiR), Topographic anatomy (W), Pathomorphology (W).

Service activity

Identification of animal bone material.



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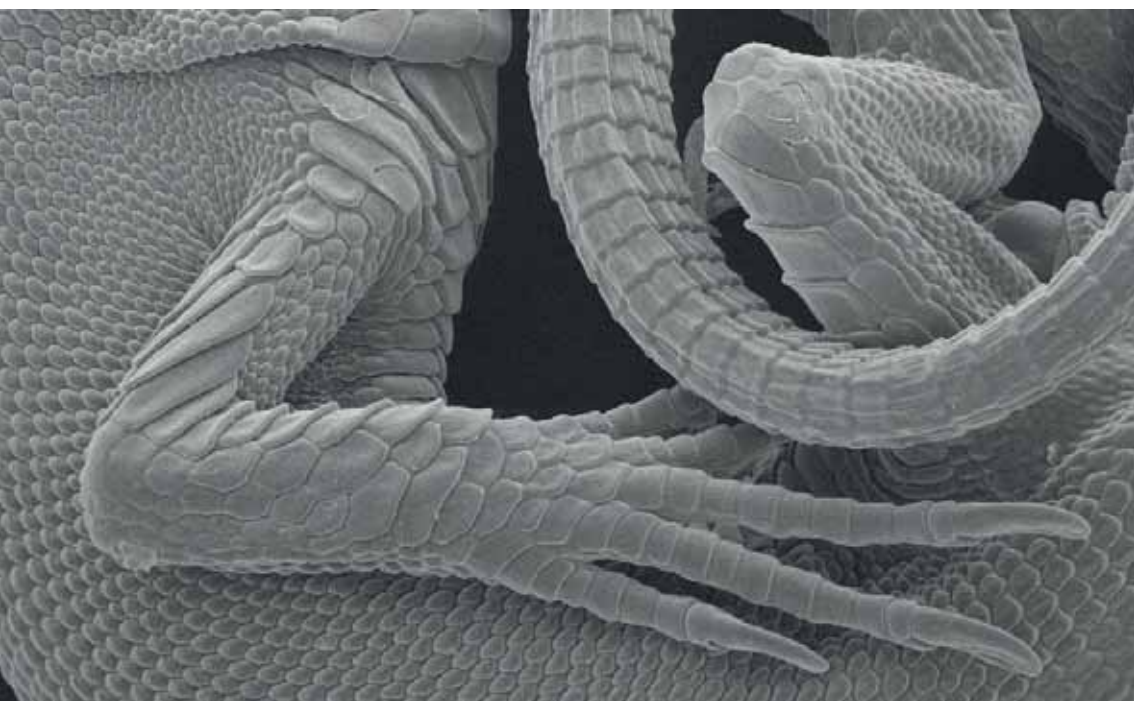
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Research

Anatomy and histology of the digestive system in vertebrates in comparative, functional and environmental aspects [1, 4]. The pre-and postnatal development of the digestive system urogenital system in the vertebrates [1, 4]. Functional angioarchitecture of the organs of digestive system urogenital system [1, 2, 4]. Application of the methods of SEM in the structural research of biological and non-biological samples [1, 2].

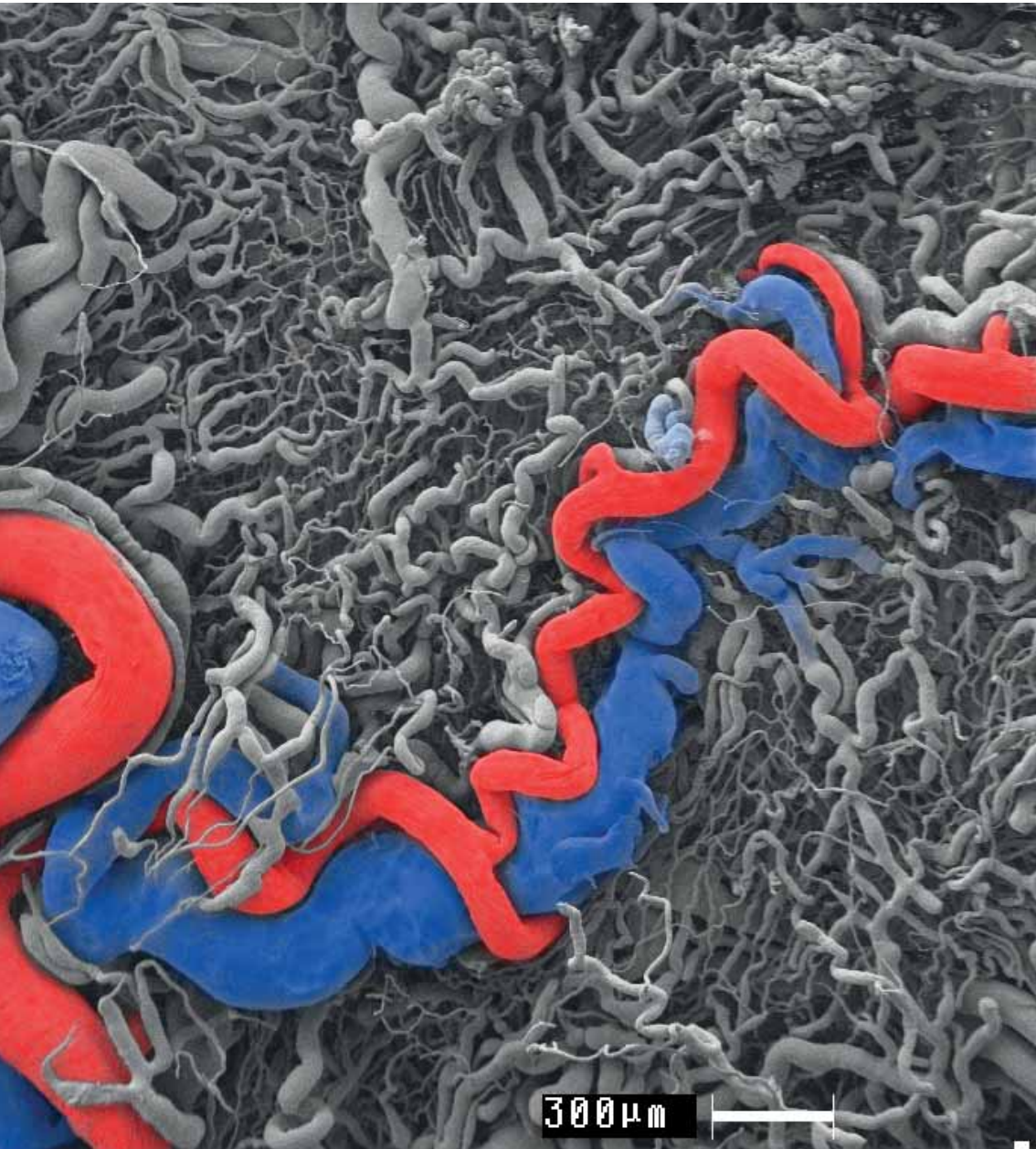


Teaching

The Department provides courses in following subjects: Histology of animals (B), Embryology (B, Bt, Z), Anatomy and histology of digestive system in animals (Z), Microscopical techniques (B), Histology and embryology (W).

Service activity

Examination of the biological and non-biological samples in the scanning electron microscopy (SEM). Preparation of the histological slides for microscopical research.



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