

Sękocin Stary, July 14, 2017

Subject Areas of Student Internships at IBL

I. Department of Forest Ecology

(Head: dr hab. Zbigniew Borowski prof. IBL, Phone: +48 22 7150 563, E-mail: z.borowski@ibles.waw.pl)

1. Natural regeneration of oak in pine stands.
2. Impact of large predators' presence on behavior, use of environment, and feeding of potential preys, by the case of wolf, deer, and roe deer.
3. Population rate, species composition, and behavioral profile of minor rodents inhabiting forest sites upon fire.
4. Seasonal variation in the use of environment by cervids, and pressure exerted by those mammals on forest ecosystem.
5. Impact of cervids on forest ecosystem in macro and micro scale.
6. Importance of decayed wood for biodiversity of insects, birds, and mammals, by the case of Białowieża Forest.
7. Size of home range, use of environment, and population structure in tree hibernating rodents, by the case of fat dormouse.
8. Field and laboratory works in forest soils biochemistry.
9. Analysis of spatial, age, and species structure of forest stands.
10. Studying the ecology of vertebrates: bird and cervids.
11. Ectomycorrhizae structure of selected species of forest trees (oak, beech, hornbeam, linden).
12. Efficiency of mycorrhization with the spores of fungus *Tuber aestivum* Vittad in the greenhouse conditions and upon seedling cultivation.
13. Bats in zoocenosis of the Białowieża Forest.
14. Study on biology of forest bats.

II. Department of Silviculture and Genetics of Forest Trees

(Head: dr inż. Jan Matras, Phone: +48 22 7150 470, E-mail: j.matras@ibles.waw.pl)

1. Provenance variability of Scots pine in IBL's experiments. (on-site measurements, participation in the development of research results).
2. Evaluation of adaptation capacity of Polish provenience Scots pine (data analyses and participation in the development of research results).
3. In vitro reproduction of selected clones of black locust (*Robinia pseudoacacia*). (work in the laboratory, the development of research results).
4. Genetic diversity of Polish populations of black locust (*Robinia pseudoacacia*) (work in the laboratory, participation in the development of research results).

5. X-ray and inductometric evaluation methods of forest tree seeds (work in the laboratory, participation in the development of research results).
6. Variability of Norway spruce's response to stressful growth conditions (collection and analysis of dendrochronological material - WinDENDRO, analysis of microscope slides – WinCELL Pro).

III. Department of Natural Forests, Białowieża

(Head: dr hab. Rafał Paluch prof. IBL, Phone: +48 85 681 23 96, E-mail: r.paluch@ibles.waw.pl)

1. Intoxication of forest environment and its impact on tree stands of the Białowieża Forest.
2. History and regeneration dynamics of natural Scots pine stands mixed with other tree species in the Białowieża Forest.
3. Reconstruction of forest history, including disturbances, through dendrochronological methods.
4. Saproxylic insects and species protected by the EU Natura 2000 programme in the north-east Poland.
5. Dynamics of entomocoenoses in managed and natural forest ecosystems.
6. Long-term changes of tree species composition in the Białowieża Forest and in other areas in north-eastern Poland as recorded on IBL permanent study plots.

IV. Laboratory of Natural Environment Chemistry

(Head: dr inż. Józef Wójcik, Phone: +48 22 7150 511, E-mail: j.wojcik@ibles.waw.pl)

1. Chemical studies in the monitoring of Poland's forests (support of intensive monitoring plots, studies on elements' circulation in forest ecosystem) – two interns.
2. Diagnostics on forest nurseries' soils.

V. Laboratory of Forest Fire Protection

(Head: dr hab. Ryszard Szczygieł prof. IBL, Phone: +48 22 7150 430, E-mail: r.szczygiel@ibles.waw.pl)

1. Investigation of fire load in selected stands depending on habitat type, age, and species composition.

VI. Laboratory of Molecular Biology

(Head: dr hab. Justyna Nowakowska prof. IBL, Phone: +48 22 7150 467, E-mail: j.nowakowska@ibles.waw.pl)

1. Application of DNA molecular markers in forestry.
2. Analysis of DNA polymorphism in forest trees' populations, genotyping, statistical analyses of molecular data.
3. Search for DNA sequences in databases. Recording new sequences in GenBank.
4. Basics of molecular biology: DNA isolation, horizontal electrophoresis, polymerase chain reaction (PCR).

VII. Department of Forest Protection

(Head: dr hab. Iwona Skrzecz prof. IBL, Phone: +48 22 7150 541, E-mail: i.skrzecz@ibles.waw.pl)

1. Laboratory rearing of pernicious forest insects, in the aspect of investigating their biology and ecology.
2. Study of pernicious forest insects' growth rate.
3. Impact of microorganisms and parasitoids on the number of pernicious forest insects.
4. Biotechnical methods of forest protection using traps and pheromones to catch insects.
5. Biological methods of forest protection using insect-killing organisms.
6. Development of databases on the occurrence of pernicious insects and forest trees' pathogens.
7. Interactions between damage to minor roots caused by *Phytophthora* species and the defoliation of birch trees by inchworms.
8. Contribution of invasive alien *Phytophthora* species to the dieback of ash roots in the interactions with shoots' infections by a new discovered fungi *Hymenoscyphis fraxineus*.
9. Assessing the impact of phosphite fertilizers on the health condition of oak and ash stands.

VIII. Department of Forest Resources Management

(Head: dr inż. Marek Jabłoński, Phone: +48 22 7150 662, E-mail: m.jablonski@ibles.waw.pl)

1. Use of GIS and remote sensing in forestry and nature protection – interpretation of imaging, basic classification of imaging content and spatial analyses.
2. SILP data analysis – development of statistical components, map layouts, and carrying out spatial analyses.
3. Optimization of stands' use and abundance from the point of wood production profitability function.
4. Large-area forest inventoring – measurement quality control.
5. Economic efficiency of the State Forests' business activity.
6. Good practices as regards planning projects co-financed from the EU funds.
7. Introduction to project management methodologies (Prince2, Agile, PMP, PCM).

IX. Department of Mountain Forests, Cracow

(Head: dr hab. Wojciech Grodzki prof. IBL, Phone: +48 12 2528 212, E-mail: w.grodzki@ibles.waw.pl)

1. Assessment of biodiversity condition in forests – inventoring selected nature elements.
2. Dieback of larch-trees on lands after ecological disasters in the Jizera Mountains.
3. Entomological collections of Department of Mountain Forests – inventoring and digitalization.
4. Growth of pine renewals in mountain habitats in the Carpathians.

X. PEFC Poland Office (IBL)

(dr inż. Krzysztof Jodłowski – Chairman of PEFC Poland's Council , Mobile: +48 602 19 68 33, Office dr inż. Michał Kalinowski, Phone: +48 22 7150 344, E-mail: k.jodlowski@ibles.waw.pl, m.kalinowski@ibles.waw.pl)

1. Acquiring the knowledge of PEFC system's operation on the national and international level (technical documentation, standards related to forest management and supply chain).
2. Elements of PEFC domestic system's administration (in particular, updates of the national database and PEFC International)
3. Updating PEFC Poland's www site and PEFC Poland's Facebook account (updating information, browsing Internet for information regarding forest certification and adding such information in the form of short articles to www site and fb account)
4. Participation in the presentation of PEFC Poland during the industry specific trade fairs.