# Isolation, identification and characteristics of plant-associated fungi

Lectures and practical course at Institute of Plant Genetics, Polish Academy of Sciences (IPG PAS) and Faculty of Wood Technology at Poznań University of Life Sciences, Department of Chemistry, summer semester 2019

1. **Prof. dr hab. Jerzy Chelkowski** – "Micromycetes and their interaction with plant species important in agriculture and industry" – 1x45 min lecture
   **Lecture: 7 March (Thursday) 2019, at 9 am, lecture room IPG PAS.**

   **Dr hab. Lidia Blaszczyk** – "Development of diagnostics tools and techniques in the isolation and detection of plant-associated fungi (recent advances in molecular techniques for the identification of fungi)" – 2x45 min lecture
   **Lecture: 7 March (Thursday) 2019, at 9:45 am, lecture room IPG PAS.**

2. **Dr hab. Lidia Blaszczyk** – "Isolation and cultivation of filamentous fungi" – 2x45 min practical course:
   - samples collection and preparation
   - isolation and obtaining pure cultures of plant-associated fungi
   - preparation of fungal cultures in liquid and on solid medium

   **Laboratory Exercises: 21 March (Thursday) 2019, at 9 am, building A IPG PAS, Lab no. 103.**

3. **Dr Grzegorz Koczyk** –"Plant partners and pathogens - phylogenomics of eukaryotic microorganisms" – 2x45 min lecture
   **Lecture: 28 March (Thursday) 2019, at 9 am, lecture room IPG PAS.**

4. **Dr hab. Lidia Blaszczyk** – "Morphological and molecular identification of isolated fungi" – 3x45 min practical course:
   - initial identification of fungal isolates based on the culture growth (mycelium type, colony color and growth rate) and morphological characteristics (microscopic identification of the complex spore, hyphae arrangement and reproductive structures)
   - molecular identification based on the sequencing of selected phylogenetic markers: DNA isolation, PCR amplification, sequencing, sequence processing and identification

   **Laboratory Exercises: 4 April (Thursday) 2019, at 9 am, building "A" IPG PAS, Lab no. 103.**

5. **Prof. dr hab. Piotr Kachlicki** – "Secondary metabolites in the plant-fungus interaction" – 2x45 min lecture
   **Lecture: 25 April (Thursday) 2019, at 9 am, lecture room IPG PAS.**

   **Dr Grzegorz Koczyk** –"Plant partners and pathogens - phylogenomics of eukaryotic microorganisms" – 1x45 min lecture
   **Lecture: 25 April (Thursday) 2019, at 10:30 am, lecture room IPG PAS.**

6. **Dr hab. Łukasz Stepień, prof. IPG PAS/ dr Justyna Lalak-Kańczugowska** – "Changes in primary and secondary metabolism of plant-pathogenic fungi under abiotic and biotic stress conditions" – 2x45 min practical course:
   - designing, performing and analysing the experiments evaluating the influence of various abiotic and biotic factors on the metabolism of fungi in laboratory conditions (a variety of in vitro models, solid and liquid media and plant artificial infection assays will be discussed)

   **Laboratory Exercises: 9 May (Thursday) 2019, at 9 am, building A IPG PAS, Lab no. 022.**

7. **Dr hab. Karolina Gromadzka**, Department of Chemistry, PULS – "Methods for the extraction, purification and identification of mycotoxins of different environmental samples" – 2x45 min practical course:
   - general information about mycotoxins
   - methods of extermination
   - methods of purifications
   - chromatographic methods in the analysis of mycotoxins

   **Laboratory Exercises: 23 May (Thursday) 2019, at 9 am, Faculty of Wood Technology at Poznań University of Life Sciences, Department of Chemistry, Wojska Polskiego 75 Street.**

8. **Prof. dr hab. Małgorzata Jędryczka** – "Patho(genes) in the air" – 2x45 min lecture
   Methods commonly used in aerobiology for the detection of plant pathogenic fungi in the air; recent advances in detection of plant pathogens in air samples; integrated plant protection practices and the implementation of traditional and molecular aerobiological methods in decision support systems worldwide and in Poland

   **Lecture: 30 May (Thursday) 2019, at 9 am, lecture room IPG PAS.**

9. **Dr Joanna Kaczmarek** – "Aeromycology in practice" – 2x45 min practical course:
   - current methods used in aeromycology; Burkard, Lanzoni, Tauber, Cyclone and MicroBio traps
   - the techniques used for spore trapping
   - identification and characterization of genetic variants of plant pathogens

   **Laboratory Exercises: 30 May (Thursday) 2019, at 10:30 am, lecture room IPG PAS.**

## Oral exam: 27 June (Thursday), at 9 am in lecture room/reading room IPG PAS