Subject Area: Advanced Methods in Biotechnology and Biodiversity
Subject: Plant functional genomics
Speciality: N/A Status: ECTS: 3
Department(s): Department of Genetics
Cooperating Department: n/a

Form of teaching (Number of hours; Form of assessment: Exam or Credit)

<table>
<thead>
<tr>
<th>Lectures</th>
<th>Seminars/Conversatoria</th>
<th>Practicals</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 h</td>
<td>N/A</td>
<td>26 h</td>
<td>30 h</td>
</tr>
</tbody>
</table>

Staff:
SUBJECT COORDINATOR: Agnieszka Janiak PhD
LECTURE/CONVERSATORIA: Mirosław Kwaśniewski PhD, Agnieszka Janiak PhD
PRACTICALS: Damian Gruszka PhD, Agnieszka Janiak PhD, Mirosław Kwaśniewski PhD

Contents:

LECTURES:
Application of qPCR and microarrays in gene expression analysis, application of TILLING in new alleles discovery.

PRACTICALS:
Tilling method in allele discovery, gene sequencing and gene sequence analysis, in silico translation and evaluation of the effect of identified mutation on protein domain structure, the use of insertional lines and lines over-expressing selected genes in gene function analysis, gene expression analysis with use of Quantitative Real-Time PCR, the use of microarray method for the evaluation of differences in transcriptomes of mutants and their parent forms.

Methods and forms of teaching:
Lectures with use of computer presentations to illustrated the discussed processes. Laboratory practical carried out according to manuals.

Requirements:
Basic knowledge of principles of genetics, genetic analysis, biochemistry and molecular biology.

Literature (maximum 5, preferably recent sources, all in English):