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| July 2014 |  | Mon 7 | Tue 8 | Wen 9 | Thu 10 | Fri 11 |
| Morning session9:0013:00 | 9:00 |  | Gel Staining (RW) | *A+B - Practical:**2D PAGE with Serva HPE™ Tower and materials* | The uses of electrophoresis in biological discovery (PJ) |  |
| 10:00 | Troubleshooting (RW) | MS basics (PJ) |
| 10:45 | Welcome and introduction | Coffee break | Coffee break | Coffee break | *A: Spot cutting* |  |
| 11:15 | Gel-based Proteomics:an overview of the basic techniques (RW) | Statistical Analysis (PJ) | 2D gel study examples (RW) | Protein Fingerprinting (PJ) | *A: Target spotting* | *B: Spot cutting* |
| Isoelectric focusing and IPG; 2D PAGE basics (RW) | Experimental design (PJ) | Image analysis DIGE and non-DIGE (MK) | Peptide Fingerprinting (PJ) | *A: MALDI/MS* | *B: Target spotting* |
| 12:45 | Questions and discussion | Questions and discussion | Questions and discussion | Questions and discussion |  | *B: MALDI/MS* |
| Lunch | 13:00 | Lunch | Lunch | Lunch | Lunch | Lunch |
| Afternoonsession14:00 18:30 | 14:00 | Sample preparation (RW) | *A+B**Start of 1st dimension* | *A+B**Strip equilibration and start of 2nd dimension* | *A+B* *End of 2nd dimension* | *A: MS/MS instruments* | *B:**Case studies from the lab* |
| *A: MS/MS identification* | *B: MS/MS instruments* |
| 15:00 | *A**Disruption methods and protein extraction* | *B**Sample cleanup Protein conc. determination* | *A**Multicaster assembly* | *B**Western blotting* | *A+B* *Practical:**2D PAGE with Serva HPE™ Tower and materials* | *A+B**Typhoon scanning of DIGE gels* | *A:**Case studies from the lab* | *B:**MS/MS identification* |
| 15:30 | *A**Sample cleanup Protein conc. determination* | *B**Disruption methods and protein extraction* | *A**Western blotting* | *B**Multicaster assembly* | *A+B**Cassette opening and gel handling for staining* | End of course |
| 16:00 | Coffee break | Coffee break | Coffee break | Free Time |  |
| 16:30 | *A+B**DIGE labeling**Strip rehydration* | *A+B* *Gradient gel casting* | 2D Software Hands-on(MK) |
|  | 18:00 |  |  |  |
|  | 20:00 |  |  |  | Social Dinner in Alghero |
| Students will be divided into groups (A and B) for practical activities |
| Blue: Theoretical classes | Pink: Electrophoresis practical | Green: MS practical | Yellow: breaks and social activities |

Lecturers: Peter James (PJ); Reiner Westermeier (RW); Markus Kolbe (MK).