

**GGNB: Short Methods Courses & Method Seminars; Extended Methods Courses**
*Preliminary program October 2019 - March 2020 (winter semester 2019/20)*

- subject to change -

- Registration possible two months before the course month -

| Department/Group                        | Supervisor(s)   | UniVZ  | ID    | Title of Course   | Credits | Date           |
|---|---|--------|-------|---|---------|----------------|
| <b>Biochemistry</b>                     |   |        |       |   |         |                |
| Rodnina, Marina                         | Mercier, Evan   | 340010 | A 081 | Introduction to transient kinetic methods   | 1.0     | 10-11 Oct 2019 |
| Tittmann, Kai                           | Viktor Sautner, Fabian Rabe von Pappenheim                        | 340018 | A 064 | Principles and methods of protein purification by chromatography  | 1.0     | 7-8 Oct 2019   |
| Feußner, Ivo                            | Herrfurth, Cornelia   | 340045 | A 016 | Introduction to lipid analysis  | 1.0     | Mar 2020       |
| Tittmann, Kai                           | Sören Rindfleisch, Viktor Sautner                                 | 340077 | A 071 | Thermodynamic characterization of biomolecular interactions by isothermal titration calorimetry                             | 1.0     | 17-18 Oct 2019 |
| Rehling, Peter                          | Bettina Homberg, Sabine Poerschke                                 | 340211 | A 163 | Native membrane protein complex isolation   | 0.5     | 11 Nov 2019    |
| Rehling, Peter                          | Ridhima Gomkale, Roya Yousefi                                     | 340212 | A 164 | <i>In vitro</i> import into purified mitochondria   | 1.0     | 17-18 Oct 2019 |
| Urlaub, Henning                         | Luisa Welp, Raffaella Garofalo, Momchil Ninov, Aleksandar Chernev | 340237 | A 177 | Sequence analysis of proteins and their post-translational modifications by electrospray ionization (ESI) mass spectrometry | 1.0     | 28-30 Oct 2019 |
| Ischebeck, Till                         | -   | 340243 | A 198 | Metabolite profiling (GC-MS)  | 1.0     | 2-3 Dec 2019   |
| Jahn, Reinhard                          | Angel Perez-Lara, Sonja Pribicevic                                | 340255 | A 210 | Study of membrane binding proteins involved in exocytosis   | 1.0     | 14-15 Nov 2019 |
| Katschinski, Dörthe                     | Maithily Nanadikar  | 340340 | A 234 | Using biosensors to study cellular redox processes  | 0.5     | tba            |
| <b>Molecular Biology &amp; Genetics</b> |   |        |       |   |         |                |
| Fischer, André                          | Stefan Irriger, Daniel Riester, Cemil Kerimoglu                   | 340218 | A 084 | Chromatin-immunoprecipitation and epigenomic gene-profiling in the adult brain  | 1.0     | Nov 19         |
| Jakobs, Stefan                          | Jensen, Nickels   | 340233 | A 173 | Strategies to design photoswitchable fluorescent proteins and their application in nanoscopy                                | 1.0     | 22-23 Oct 2019 |
| Cramer Patrick                          | -   | 340316 | A 214 | Genome Science Lecture Series   | 1.5     | tba            |
| Outeiro, Tiago                          | Daniel Kaganovich, Triana Amen                                    | 340417 | A 247 | Generation of CRISPR/Cas9 knockout cell lines   | 1.0     | 15-16 Oct 2019 |

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| <b>Cell Biology &amp; Microbiology, Imaging</b>       |   |        |       |  |         |                |
| Mitkovski, Mišo                                       | Mitkovski, Mišo / Georg Wieser                          | 340066 | A 098 | Introduction to image processing in biology with ImageJ and FIJI   | 1.0     | 24-25 Oct 2019 |
| Kehlenbach, Ralph                                     | -   | 340081 | A 039 | Analysis of nucleocytoplasmic transport by flow cytometry  | 0.5     | Jan 2020       |
| Pöhlmann, Stefan                                      | Michael Winkler, Markus Hoffmann, Heike Hofmann-Winkler | 340221 | A 171 | Viral transduction systems   | 1.0     | 12-14 Nov 2019 |
| Nave, Klaus-Armin                                     | Möbius, Wiebke  | 340222 | A 044 | Subcellular localization of proteins by immunoelectron microscopy of cryosections                            | 1.0     | 21-22 Oct 2019 |
| Wouters, Fred   | Gertrude Bunt, Fred Wouters                             | 340321 | A 220 | Bioimage analysis for microscopists  | 1.0     | Feb 2020       |
| Lorenz, Verena  | Andrea Braun  | 340362 | A 240 | Immunofluorescence of skin cells   | 1.0     | tba            |
| Braun, Andrea   | -   | 340363 | A 241 | Mouse models in experimental dermatology: contact dermatitis   | 1.5     | Feb/Mar 2020   |
| Enderlein, Jörg, Tsukanov, Roman                      | Nazar Oleksiievets                                      | 340406 | A244  | Super-resolution microscopy with DNA-PAINT   | 0.5     | 16 Oct 2019    |
| Pöhlmann, Stefan                                      | Pöhlmann, Stefan  | 350052 | A 160 | Molecular Biology of HIV replication and pathogenesis  | 1.0     | Wednesdays     |
| Richter-Dennerlein, Ricarda                           | Lavdovskaia, Elena                                      | 340415 | A 246 | Investigating macromolecular complexes by density gradient centrifugation                                    | 1.0     | 7-8 Nov 2019   |
| <b>Developmental Biology, Anatomy &amp; Histology</b> |   |        |       |  |         |                |
| Stadelmann, Christine                                 | Katja Schulz  | 340033 | A 060 | Non-radioactive <i>in situ</i> hybridization   | 1.0     | Nov 19         |
| Bucher, Gregor  | -   | 340083 | A 145 | Orthologs and Paralogs – how they evolve and how to distinguish them   | 0.5     | 6 Dec 2019     |
| Ebert, Antje  | -   | 340320 | A 219 | Human induced pluripotent stem cells (iPSCs), their differentiation and genomic modification via CRISPR/Cas9 | 1.0     | 17-18 Mar 2020 |
| Uhmann, Anja  | Uhmann, Anja, Dominik Botermann                         | 340321 | A 217 | Culture and immunofluorescence staining of murine pituary whole mounts                                       | 0.5     | 7-8 Nov 2019   |
| Uhmann, Anja  | Uhmann, Anja, Nadine Brandes                            | 340323 | A 218 | Flow cytometric analysis of freshly isolated keratinocytes of adult mice                                     | 1.0     | 21-22 Nov 2019 |

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| <b>Vertebrate Animal Models</b>                                 |  |        |       |  |         |                |
| Wirths, Oliver  | -  | 340199 | A 175 | Neurodegenerative Diseases: Behavioral and neuropathological analysis of transgenic mouse models | 1.0     | Jan 2020       |
| Bähr, Mathias   | Lingor, Paul   | 340219 | A 139 | <i>In vitro</i> and <i>in vivo</i> models for Parkinson's disease research                       | 0.5     | 27 Nov 2019    |
| <b>Molecular &amp; Cellular Neuroscience, Electrophysiology</b> |  |        |       |  |         |                |
| Rhee, JeongSeop   | -  | 340038 | A 096 | Nerve cell culture and patch-clamp recordings from nerve cells                                   | 1.0     | 10-11 Oct 2019 |
| Pardo, Luis   | -  | 340040 | A 063 | Patch clamp  | 1.0     | 23-25 Oct 2019 |
| Wichmann, Carolin   | Chakrabarti, Rituparna                                   | 340196 | A 149 | Basic methods of transmission electron microscopy - from tissue preparation to 3D reconstruction | 1.0     | Oct/Nov 2019   |
| Brose, Nils   | Erinn Gideons  | 340236 | A 153 | Isolation of synaptic compartments for quantitative biochemical analysis                         | 0.5     | 22 Nov 2019    |
| Fiala, André  | Annekathrin Widmann                                      | 340319 | A 216 | Neuronal circuit dissection in <i>Drosophila</i>   | 1.0     | 7-9 Oct 2019   |
| Gärtner, Jutta  | Susann Diegmann  | 340339 | A 233 | Next Generation Sequencing to identify the disease gene in unclear neurogenetic disorders        | 1.0     | Mar 2020       |
| Wojcik, Sonja   | -  | 340379 | A 201 | Whole-cell patch-clamp recording of adrenal chromaffin cells                                     | 0.5     | 10 Jan 2020    |
| <b>Theoretical, Systems &amp; Behavioral Neuroscience</b>       |  |        |       |  |         |                |
| Antal, Andrea   | Strenzke, Nicola / Hoch, Gerhard / Nova, Mattia          | 340054 | A 041 | Auditory and visual evoked potentials  | 1.0     | Oct 2019       |
| Geisel, Theo / Gollisch, Tim / Gütig, Robert/                   | Geisel, Theo / Gollisch, Tim / Gütig, Robert/ Wolf, Fred | 530170 | A 021 | Theoretical and Computational Neuroscience: Collective Dynamics Biological Neural Networks I     | 2.0     | Fridays        |
| <b>Structural Biology</b>                                       |  |        |       |  |         |                |
| Bennati, Marina   | Tomas Orlando, Markus Hiller                             | 340055 | A 003 | EPR-Spectroscopy   | 1.5     | 22-24 Jan 2020 |
| Stark, Holger   | Niels Fischer  | 340378 | A 225 | Single particle cryo-EM of macromolecular complexes and cellular electron tomography             | 2.5     | Nov/Dec 2019   |

| <b>Biophysics, Bioinformatics and Statistics</b> |   |        |         |   |     |                                  |
|--|---|--------|---------|---|-----|----------------------------------|
| Friede, Tim                                      | Röver, Christian                                  | 340061 | A 100   | Basic statistics for graduate students in the life sciences   | 1.0 | 21, 22, 29 Oct and 5,12 Dec 2019 |
| Steinem, Claudia                                 | Stefan Krüger, Kristina Kramer, Ingo Mey          | 340067 | A 133   | Using biosensors to study analyte-ligand interactions: basic principles and applications                  | 0.5 | 13 Feb 2020                      |
| Grubmüller, Helmut / Schmidt, Christoph F.       | Grubmüller, Helmut / Schmidt, Christoph F.        | 340166 | A 025   | Current Topics in Biophysics – Lecture Series   | 1.0 | Fridays                          |
| Beißbarth, Tim / Maksims Fiosins / Posnien, Nico | Beißbarth, Tim / Maksims Fiosins / Posnien, Nico  | 340208 | A 157   | Next Generation Sequencing (NGS) – Analysis of RNAseq and ChIP-seq data                                   | 1.5 | 19-21 Nov 2019                   |
| Grubmüller, Helmut / de Groot, Bert              | Grubmüller, Helmut / de Groot, Bert               | 340232 | A 143   | Theoretical and Computational Biophysics  | 2.0 | Mondays                          |
| Steinem, Claudia                                 | Andreas Janshoff / Ingo Mey/ Florian Mann         | 340235 | A 169   | Atomic Force Microscopy versatile tools to study surfaces and surface properties                          | 1.0 | 12 Mar 2020                      |
| Hörndl, Elvira                                   | Appelhans, Marc /Claudia Pätzold                  | 340247 | A 188   | Introduction into the bioinformatic analysis of next generation sequence data                             | 1.0 | 1,2,4 Oct 2019                   |
| Godec, Aljaz                                     | Kristian Blom                                     | 340296 | A 212   | Advanced Computational Methods in Statistical Mechanics   | 4.0 | Wednesdays                       |
| Hörndl, Elvira                                   | Appelhans, Marc /Claudia Pätzold                  | 340300 | A 190   | Reduced-representation NGS methods in phylogenomics and biogeography: RADseq & RNAseq                     | 1.5 | 7-9 Oct 2019                     |
| Nietert, Manuel                                  | -   | 340317 | A 215_1 | An introduction to reproducible handling of scientific data and concordant analysis using KNIME workflows | 0.5 | tba                              |
| Grubmüller, Helmut / de Groot, Bert              | Helmut Grubmüller, Bert de Groot, Malte Schäffner | 340378 | A 024   | Introduction to Molecular Dynamic Simulations   | 1.0 | March 2020                       |
| Nietert, Manuel                                  | -   | 340389 | A 215_2 | An introduction to reproducible handling of scientific data and concordant analysis using KNIME workflows | 0.5 | tba                              |
| Beißbarth, Tim                                   | Hryhorii Chereda, Maren Sitte                     | 440727 | A 176   | Introduction to R and RNA-Seq analysis  | 1.0 | 9-11 Oct 2019                    |
| Strenzke, Nicola                                 | Hanafi-Metwalli, Alek                             | 340419 | A 248   | Introduction to Structured Query Language (SQL)   | 0.5 | 1 Oct 2019                       |
| Jeschke , Markus                                 | -   | tba    | A 249   | Implementing open-source microcontrollers to customize your experiments – an introduction                 | 1.0 | 11-13 Nov 2019                   |