New Frontiers in Molecular and Cellular Immuno-Therapy

Seminar for the Thematic Programs of the Doctoral Theses Studies N090, N094 and N790
Course number 902.218; Semester hours: 2
Supervision: Ass.-Prof. Dr. Johannes Huppa, Dr. Vladimir Leksa, Dr. Anna Repic and Prof. Dr. Hannes Stockinger (e-mail: hannes.stockinger@meduniwien.ac.at)

1. **Preparatory meeting**
   October 09, 2013, 11.00 am. Vienna Competence Center, Lazarettgasse 19, first floor, seminar room

2. **Sub-topics**
   **A. Cancer Immunotherapy**
   - Solving the hardest problem: finding (patient-specific) tumor markers
   - Dendritic cell-based immunotherapy of cancer
   - Killer cells (CTLs, NK cells) for the treatment of neoplasms
   - Depletion of immune cells (T cells, B cells) in HLA-mismatched hematopoietic stem cell transplantation
   - CARs (Chimeric antigen receptors) and BiTEs (bispecific T-cell engagers) in T-cell-based tumor therapy
   - Reprogramming cell death in hematological malignancies
   - Modeling cancer progression
   - Therapeutic gamma delta T cells

   **B. Dealing with the Transplantation Challenge**
   - Haploidentical and allogeneic hematopoietic stem cell transplantation
   - Controlling opportunistic viruses in transplantation with CTLs
   - New possibilities to exploit cord blood cells
   - Strategies to enhance the recovery of primary lymphatic organs after bone marrow transplantation

   **C. Treatment Options of Autoimmunity**
   - Therapeutic monoclonal antibodies and other recombinant proteins
   - IVIG – intravenous immunoglobulins
   - Therapeutic regulatory T cells

   **D. Learning by example: Disease modeling**
   - Hematopoietic defects and iPSC Disease Modeling
   - Therapeutic cytokines and chemokines including their expression by viral vectors
   - Allergen-specific therapies
   - Alternative therapies (helminths and so on…)

3. **Selection of a sub-topic**, deadline November 19, 2013

4. **Search for appropriate papers and text books in pubmed**
5. Discussion of the pre-selected publications and of the layout of the presentations, December 11, 2013, 11.00 am. Vienna Competence Center, Lazarettgasse 19, first floor, seminar room

6. Introductory lectures by the supervisors and presentation of the seminar works: January 27 – 28, 2014, 01.00 – 06.00 pm, Vienna Competence Center, Lazarettgasse 19, first floor, seminar room