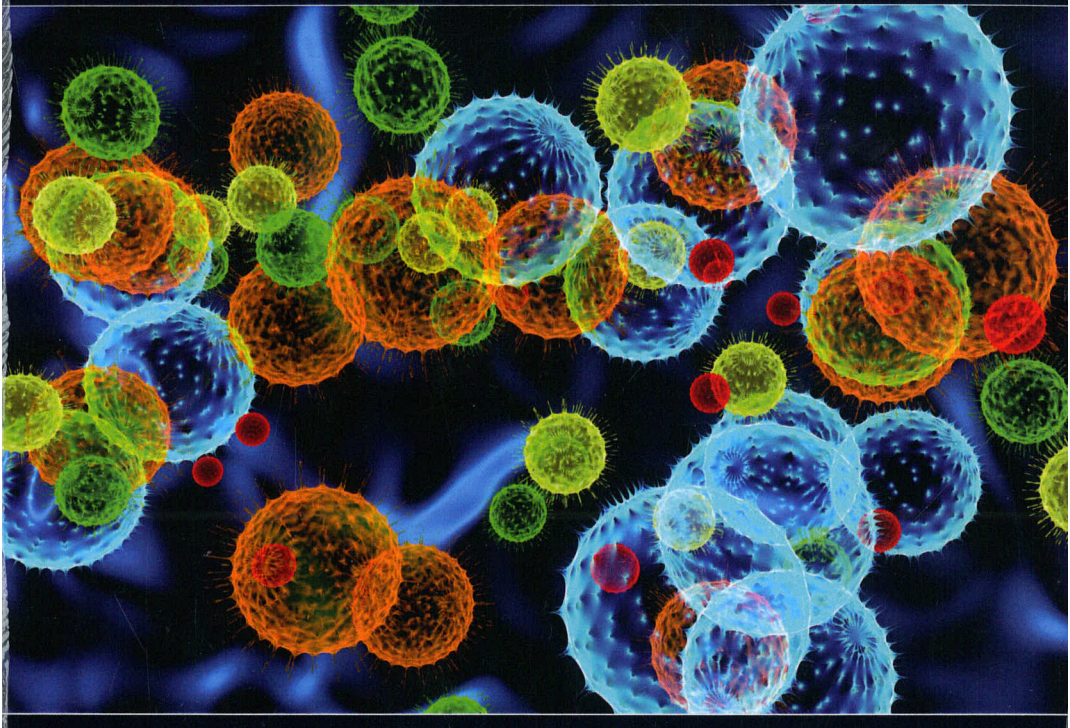
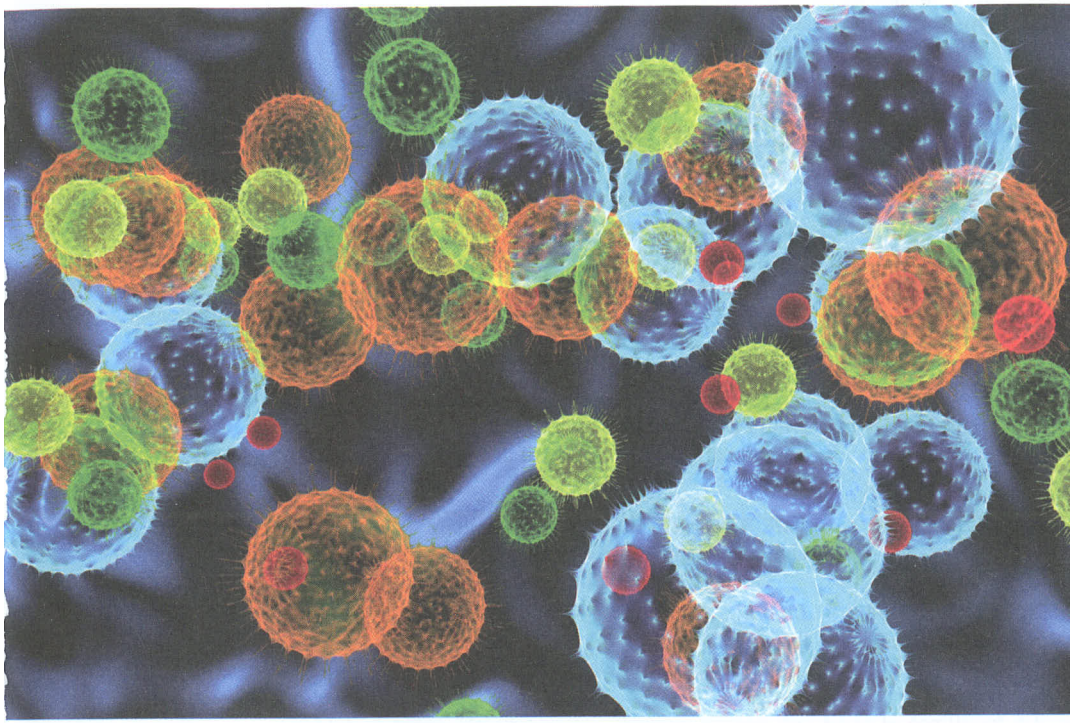
10th EFIS-EJI Tatra Immunology Conference



Molecular Determinants of T Cell Immunity

Štrbské Pleso, Tatra Mountains, Slovakia
June 9 - 13, 2012

EFIS
European Federation of Immunological Societies
European Journal of Immunology



CONFERENCE PROGRAM

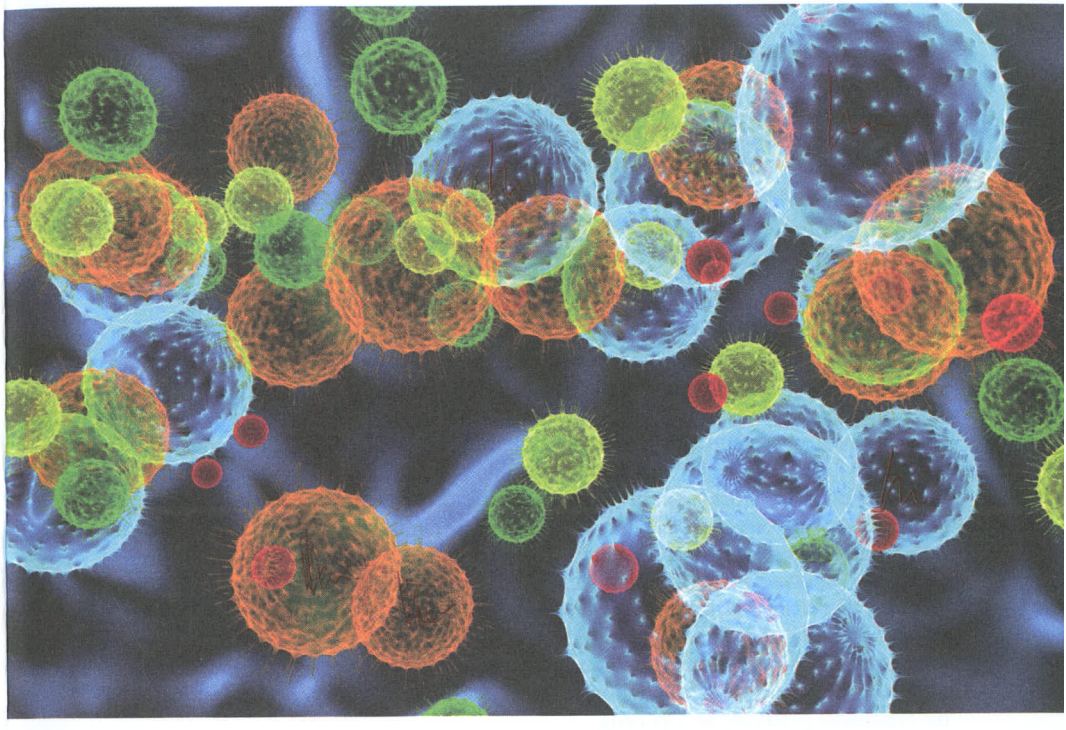
Monday, 11th June

SESSION 3 (8:30-12:00)
Chairperson: **Falk Nimmerjahn,** Erlangen, Germany

8:30 - 9:15	**Christian Munz**, Zurich, Switzerland Immune responses by mice with reconstituted human immune system
9:15 - 10:00	**Georg Wick**, Innsbruck, Austria HSP60-based approach for vaccination against atherosclerosis
10:00 - 10:15	*Tea/Coffee break*
10:15 - 11:00	**Maria Rescigno**, Milan, Italy Mucosal immune homeostasis: a highly regulated process
11:00 - 11:45	**Andreas Diefenbach**, Freiburg, Germany Transcriptional control of fate decisions of innate lymphoid cells
11:45 – 12:15	**Radek Špíšek,** Prague, Czech Republic Dendritic cell based immunotherapy of the prostate cancer
12:15 - 13:00	***Lunch***
13:00 - 16:10	**Afternoon trip**

SESSION 4 (16:30-18:00)
Selected poster presentations (6 speakers, each 15 min.)
Chairperson: **Václav Hořejší**, Prague, Czech Republic

J. Balounová	Toll-like receptors in early embryonic hematopoiesis
Aleš Drobek	OPAL1, a novel transmembrane adaptor protein for NEDD4 family of E3 ubiquitin ligases
J. Fučíková	Human tumor cells killed by anthracyclines induce a tumor-specific immune response
Ch. Koyogoku	Defining CD4+ T cell- and monocyte-specific interferon signatures in active, inactive and autologous stem cell transplanted lupus patients by global gene expression profiling
S.Paessler	Natural killer cell mediated pathogenesis determines outcome of central nervous system infection with venezuelan equine encephalitis virus in C3H/HeN mice
J. Pantic	Gal-3 deficiency accelerates diet-induced obesity and increases NLRP3 inflammasome and IL-1ß expression in pancreatic islets in mice
18:30 - 19:30	***Dinner***
20:00 - 22:00	**Poster session (with refreshments and wine)**



ABSTRACTS

GAL-3 DEFICIENCY ACCELERATES DIET-INDUCED OBESITY AND INCREASES NLRP3 INFLAMMASOME AND IL-1ß EXPRESSION IN PANCREATIC ISLETS IN MICE

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Adipose tissue inflammation and impaired pancreatic β-cell function underline the metabolic dysfunctions in type 2 diabetes. We investigated whether Galectin-3 (Gal-3) ablation affects the pathogenesis of diet-induced obesity and pancreatic islets inflammation using Gal-3-/- mice on a C57BL/6J background. Gal-3-/- and wild-type mice were placed on a high-fat (60% kcal fat) or low-fat diet (3% kcal fat) for 11 weeks. Body weight, visceral adipose tissue, fasting blood glucose and serum levels of uric acid were significantly increased in high-fat diet-fed Gal-3-/- compared to wild-type mice. Stromal vascular fraction cells of adipose tissue from obese Gal-3-/- mice contained increased percentages of T and NKT lymphocytes with Th1-phenotype and pro-inflammatory $CD11c^{+}CD206^{+}$ macrophages with reduced regulatory T cells. Marked infiltration of macrophage/dendritic lineage cells and NLRP3 inflammasome and IL-1ß expression within pancreatic islets were uniquely present in high-fat diet-fed Gal-3-/- mice, accompanied with enhanced accumulation of advanced glycation endproducts (AGE) and upregulation of proinflammatory receptor for AGE (RAGE). Collectively, the increased adipose tissue and pancreatic islet inflammation in obese Gal-3 deficient mice indicate an important immunoregulatory and protective role for Galectin-3 in obesity-related metabolic disorders which could be of therapeutic value.