



**34th International Winter-Workshop
Clinical, Chemical and
Biochemical Aspects of Pteridines
and Related Topics**



**Society for Exploitation of Education and Research in
Immunology and Infectious Diseases, Innsbruck**

**in collaboration with
The International Society of Pteridinology
and
The Austrian Society of
Laboratory Medicine and Clinical Chemistry
(DFP approved, ID 519572, total 24P)**

www.pteridines.org – www.oeglmkc.at - www.neopterin.net

February 24th – 27th, 2015

in

Innsbruck, Austria



MEDIZINISCHE UNIVERSITÄT
INNSBRUCK

Tuesday, February 24th, 2015 – afternoon

1:45 *Get-Together-Coffee*

2:15 **Opening remarks (What is all about)**
Fuchs D (Innsbruck, Austria)

2:20 – 3:50 **Chair:** Hoffmann G (Vienna, Austria), Strasser B (Hall, Austria),

Pteridines, Tryptophan, Phenylalanine – Dietary Aspects

2:20 **Increased neopterin production and tryptophan breakdown in the frail elderly, potential pathophysiologic consequences**

Gostner JM, Marcos-Pérez D, Millán-Calenti JC, Sánchez-Flores M, Maseda A, Valdiglesias V, Lorenzo-López L, Pásaro E, Fuchs D, Laffon B (Innsbruck, Austria; A Coruna, Spain)

2:40 **Influence of alcohol intake and smoking on neopterin production and tryptophan breakdown rates in frail elderly**

Fuchs D, Gostner JM, Sánchez-Flores M, Millán-Calenti JC, Marcos-Pérez D, Maseda A, Pásaro E, Lorenzo-López L, Laffon B, Valdiglesias V (Innsbruck, Austria; A Coruna, Spain)

2:50 **Kynurenine metabolites in acute alcohol withdrawal**

Mechtcheriakov S, v. Gleissenthal G, Arnhard K, Oberacher H (Innsbruck, Austria)

3:10 **Black tea consumption increases blood kynurenine concentrations - a randomized controlled trial**

Gostner JM, Becker K, Croft KD, Woodman RJ, Puddey IB, Fuchs D, Hodgson JM (Innsbruck, Austria; Perth & Adelaide, Australia)

3:30 **Adherence to a Mediterranean dietary pattern and risk of cancer: systematic evidence from observational studies**

Hoffmann G, Schwingshackl L (Vienna, Austria)

3:50 – 4:20 *Coffee Break*

4:20 – 5:40 **Chair:** Gostner JM (Innsbruck, Austria), Reibnegger G (Graz, Austria)

Computed Biochemistry and Prognostic Biomarkers

4:20 **Quantum chemical studies on pterin radicals**

Reibnegger G (Graz, Austria)

4:40 **Freezing conformational dynamics in phenylalanine hydroxylase with pharmacological chaperones**

Fuchs JE, Santos-Sierra S, Lagler FB, Kirchmair J (Cambridge, UK; Hamburg, Germany; Innsbruck & Salzburg, Austria)

5:00 **Interferon- γ -mediated immune activation in patients with severe symptomatic aortic stenosis and implications of baseline inflammatory markers for risk stratification in patients undergoing transcatheter aortic valve implantation**

Csordas A, Fuchs D, Reibnegger G, Nietlisbach F, Maier W, Stähli BE, Binder RK, Cahenzli M, Lüscher TF (Zurich, Switzerland; Innsbruck & Graz, Austria)

5:20 **Prognostic significance of urinary neopterin compared with neutrophil/lymphocyte, lymphocyte/monocyte and platelet/lymphocyte ratios in patients with breast cancer**

Melichar B, Zezulová M, Bartoušková M, Kalábová H, Študentová H, Kujovská Krčmová L, Solichová D (Olomouc & Hradec Králové, Czech Republic)

Wednesday, February 25th, 2015 – morning

9:15 – 10:55 **Chair:** Sperner-Unterweger B (Innsbruck, Austria), Schubert C (Innsbruck, Austria)

Neuropsychiatric Aspects

9:15 **Growing impact of psychoimmunological findings to understand pathogenesis of severe mental illness**

Bechter K, Maxeiner H, Kühne L, Reiber H, Fuchs D, Schneider M (Günzburg & Ulm, Germany, Innsbruck, Austria)

9:35 **Lead-lag analysis of urinary IL-6 and ARC-based symptoms in a patient with SLE under real-life conditions**

Schubert C, Haberkorn J, Ocaña-Peinado FM, König P, Sepp N, Schnapka-Köpf M, Fuchs D (Innsbruck, Austria)

9:55 **Complex connections between marital satisfaction and urinary neopterin concentrations in a woman with breast cancer**

Hannemann J, Singer M, Primetshofer M, Neises M, Schmid-Ott G, Fuchs D, Ocaña-Peinado FM, Geser W, Schubert C (Innsbruck, Austria)

10:15 **Linking body and mind: A psychoneuroimmunological study of pteridine metabolism and world-view**

Schnell T, Hefti R, Schubert C, Fuchs D (Innsbruck, Austria; Langenthal, Switzerland)

10:35 **Schizophrenia and the immune system: Possible pathophysiological interactions – an overview**

Sperner-Unterweger B, Fuchs D (Innsbruck, Austria)

10:55 – 11:15 **Coffee Break**

11:15 – 12:35 **Chair:** Troppmair J (Innsbruck, Austria), Melichar B (Olomouc, Czech Republic)

Biomarkers Associated with Inflammation and Immune Activation

11:15 **Osteoprotegerin and RANKL in patients with rheumatoid arthritis**

Kurz K, Kaser S, Mur E, Weiss G, Herold M, Fuchs D (Innsbruck, Austria)

11:35 **Plasma levels of tyrosine, phenylalanine, tryptophan, kynurenine and neopterin in patients with CLL**

Parrak V, Secnik P, Mistrik M, Melichar B, Galba J, Michalicova A, Novak M, Kovac A (Bratislava & Lucenec, Slovak Republic; Olomuc, Czech Republic)

11:55 **Urinary neopterin and prognosis of patients with gastrointestinal stromal tumors**

Zezulová M, Bartoušková M, Študentová H, Kujovská Krčmová L, Solichová D, Melichar B (Olomouc, Hradec Králové, Czech Republic)

12:15 **Volatile breath markers of lung infection in mechanically ventilated patients**

Filipiak W, Sponring A, Filipiak A, Ager C, Nagl M, Beer R, Troppmair J, Amann A* (Dornbirn & Innsbruck, Austria)

*deceased

12:45 **Lunch (Cafeteria 80/82, ground floor)**

Wednesday, February 25th, 2015 – afternoon

2:15 – 3:55 **Chair:** Mangge H (Graz, Austria), Hammerer-Lercher A (Innsbruck, Austria)

Laboratorydiagnostic Assays and Applications

2:15 **Determination of the neopterin concentration- is it a useful parameter in the pediatric department?**

Plata-Nazar K, Grazyna Luczak G, Kaminska B (Gdansk, Poland)

2:35 **Comparison of LC/MS and HPLC coupled with UV and fluorescence detection for the analysis of tryptophan metabolism**

Oberacher H, Arnhard K, Pitterl F, Sperner-Unterweger B, Fuchs D (Innsbruck, Austria)

2:55 **Routine serum and urine neopterin measurements in a clinical central laboratory**

Loacker L, Weigel G, Hammerer Lercher A, Griesmacher A (Innsbruck, Austria)

3:15 **Development of an ELISA for neopterin measurement**

Dressler D (Mannheim, Germany)

3:35 ***In vitro* effects of stabilizer compounds in blood donations**

Gostner JM, Becker K, Schennach H, Fuchs D (Innsbruck, Austria)

3:55 – 4:15 **Coffee Break**

4:15 – 6:15 **Chair:** Haas H (Innsbruck, Austria), Weiss G, (Innsbruck, Austria)

Pathways of Inflammation Responses

4:15 **Systematic investigation of the effects of dietary iron supplementation on the course of infection in mice**

Haschka D, Demetz E, Tymoszuk P, Asshoff M, Seifert M, Nairz M, Theurl I, Weiss G (Innsbruck, Austria)

4:35 **HFE affects the atherosclerosis phenotype by regulating cholesterol trafficking**

Demetz E, Haschka D, Heim C, Auer K, Asshoff M, Schroll A, Dichtl S, Hilbe R, Lener D, Seifert M, Tymoszuk P, Pechlaner R, Willeit J, Kiechl S, Theurl I, Tancevski I, Weiss G (Innsbruck, Austria)

4:55 **The interplay of bioactive lipid mediators and cholesterol metabolism in sepsis**

Tancevski I, Auer K, Asshoff M, Bischof D, Hilbe R, Demetz E, Tymoszuk P, Weiss G (Innsbruck, Austria)

5:15 **Macrophages and breast cancer: an iron-hard relationship**

Tymoszuk P, Asshoff M, Doppler W, Weiss G, Theurl I (Innsbruck, Austria)

5:35 **Influence of carbon nanotubes, ZnO₂ and gold-doped TiO₂ nanoparticles on human PBMC *in vitro***

Becker K, Herlin N, Bouhadoun S, Gostner JM, Ueberall F, Schennach H, Fuchs D (Innsbruck, Austria; Paris, France)

5:55 **Impact of resveratrol on tryptophan metabolism *in vivo***

Gualdoni GA, Mayer KA, Fuchs D, Zlabinger GJ, Gostner JM (Vienna & Innsbruck, Austria)

Thursday, February 26th, 2015 – morning

9:15 – 10:45 **Chair:** Werner-Felmayer G (Innsbruck, Austria), Channon KM (Oxford, Great Britain)

5,6,7,8-Tetrahydrobiopterin (BH4)

9:15 **Specific in-vivo requirements for tetrahydrobiopterin revealed by cell-specific deletion of GTP cyclohydrolase I**
Channon KM (Oxford, UK)

9:45 **Ether lipids: metabolism and functional roles**
Werner ER, Golderer G, Werner-Felmayer G, Watschinger K (Innsbruck, Austria)

10:05 **Alkylglycerol monooxygenase in 3T3-L1 adipocyte differentiation**
Sailer S, Geley S, Hermetter A, Golderer G, Werner-Felmayer G, Werner ER, Watschinger K (Innsbruck, Austria)

10:25 **Alkylglycerol monooxygenase in murine macrophages**
Watschinger K, Keller MA, McNeill E, Alam MT, Laid S, Sailer S, Rauch V, Patel J, Hermetter A, Golderer G, Geley S, Werner-Felmayer G, Plumb RS, Astarita G, Ralser M, Channon KM, Werner ER (Innsbruck, Austria; Cambridge, Oxford, London & Milford, Great Britain)

10:45 – 11:15 **Coffee Break**

11:15 – 12:45 **Chair:** Fallarino F (Perugia, Italy), Boasso A (London, UK)

Indoleamine 2,3-dioxygenase In Vitro and In Vivo

11:15 **IDO and related pathways as targets for HIV immunotherapy**
Boasso A (London, Great Britain)

11:45 **Tryptophan metabolism and its relationship with immune activation, depression, and neurocognitive impairment among HIV-infected individuals**
Keegan MR, Chittiprol S, Winston A, Letendre S, Fuchs D, Boasso A, and Ellis RJ (London, Great Britain; Innsbruck, Austria; San Diego, CA)

12:05 **Investigating the NAD metabolome in Ewing Sarcoma**
Mutz CN, Schwentner R, Maximilian O. Kauer MO, Jozef Ban J, Aryee DNT, Erhardt S, Fuchs D, Heitger A, Kovar H (Vienna & Innsbruck, Austria; Stockholm, Sweden)

12:25 **IDO1 controls anti FVIII antibody response in hemophilia A**
Fallarino F (Perugia, Italy)

12:45 **Lunch (Cafeteria 80/82, ground floor)**

Thursday, February 26th, 2015 – afternoon

2:15 – 3:35 **Chair:** Volgger B (Lienz, Austria), Fuith LC (Eisenstadt, Austria)

Predictive Laboratorydiagnostic Biomarkers

- 2:15 **The expression of cathelicidin gene is reduced in the prefrontal cortex of depressed suicides**
Postolache TT, Zhang H, Lee E, Streeten E, Brenner LA, Dwivedi Y (Baltimore, MD, Denver Co & Birmingham, AL, USA)
- 2:35 **Decreased HDL-cholesterol in still healthy oberweight/obese offsprings indicates parental myocardial infarction and stroke whereas leptin is increased only in male offsprings with positive family anamnesis**
Kofler P, Stelzer I, Zelzer S, Reininghaus E, Mangge H (Graz, Austria)
- 2:55 **Effect of occupational mercury exposure on neopterin profile and tryptophan degradation in dental technicians**
Kilicarslan B, Girgin G, Tutkun E, Ünüvar S, Palabiyik SS, Yilmaz OH, Baydar T (Ankara, Turkey)
- 3:15 **Mycosporine like amino acids, their biological relevance in algae, isolation and pharmacological activities**
Hartmann A, Ganzera M (Innsbruck, Austria)

3:40 – 4:00 **Coffee Break**

4:00 – 5:00 **Chair:** Baydar T (Ankara, Turkey), Girgin G (Ankara, Turkey)

Biomarkers in Patients with Neuropsychiatric Disorders

- 4:00 **Toxoplasma gondii seropositivity and high kynurenine levels are associated with suicide attempts in patients with schizophrenia: Potential interaction with stress induced inflammation**
Postolache TT, Okusaga O, Duncan E, Langenberg P, Brundin L, Groer MW, Giegling I, Hartmann AM, Konte B, Friedl M, Rujescu D, Fuchs D (Atlanta, GA; Baltimore, MD; Grand Rapids, MI; Tampa FL & Denver, CO, USA; Halle, Germany; Innsbruck, Austria)
- 4:20 **Bright versus dim ambient light affects subjective well-being but not serotonin-related biological factors**
Stermer B, Melmer A, Fuchs D, Ebenbichler C, Kemmler G, Deisenhammer EA (Innsbruck, Austria)
- 4:40 **Probiotics, prebiotics, psychobiotics - an overview (update)**
Leblhuber F (Linz, Austria)
- 5:00 **Annual General Assembly of the International Society of Pteridinology (ISP)**
(ISP-members only)
- 6:30 **Conference Dinner (Guido's Restaurant; across the bridge)**

Friday, February 27th, 2015

9:15 – 10:55 **Chair:** Melichar B (Olomouc, Czech Republic), Seger C (Innsbruck, Austria)

Biomarkers in Disease Monitoring

9:15 **In psychiatrically healthy individuals, overweight women but not men have lower tryptophan levels**

Postolache TT, Raheja UK, Giegling I, Mohyuddin I, Rovner SF, Weghuber D, Mangge H, Rujescu D, Fuchs D (Baltimore, MD, Washington, DC & El Paso, TX, USA; Halle, Germany; Innsbruck, Salzburg & Graz, Austria)

9:35 **Neopterin as a monitoring marker in patients with high-risk, non-muscle invasive bladder cancer and intravesical Bacillus Calmette-Guérin (BCG) therapy: a pilot study**
Pichler R, Fuchs D, Fritz J, Brunner A, Horninger W, Culig Z (Innsbruck, Austria)

9:55 **Improved diagnosis and stabilization of vulnerable atherosclerotic plaques – a main challenge to fight myocardial infarction and stroke**
Mangge H, Almer G, Opriessnig P, Reininghaus E, Prassl R (Graz, Austria)

10:15 **Circulating neopterin and citrulline concentrations in patients with germ-cell tumors during chemotherapy**
Bartoušková M, Študentová H, Pejpková I, Zezulová M, Adam T, Melichar B (Olomouc, Czech Republic)

10:35 **The role of telomeres in cellular aging: effect of vitamins supplementation on LINE-methylation and telomere length in elderly**
Pusceddu I, Herrmann W, Kirsch S, Obeid R, Hübner U, Geisel J, Herrmann M (Homburg, Germany & Bolzano, Italy)

10:55 – 11:10 **Coffee Break**

11:10 – 12:30 **Chair:** Griesmacher A (Innsbruck, Austria), Fuchs D (Innsbruck, Austria)

Laboratory Diagnostic Aspects

11:10 **Routine performance of an "in house" testosterone LC-MS/MS assay: data from the first 500+ days**
Seger C, Pfisterer H, Griesmacher A (Innsbruck, Austria)

11:30 **Laboratory diagnostic markers: is there a potential in diagnosis of Alzheimer's disease?**
Parrak V, Secnik P, Kontseková E, Kovacech B, Kovac A, Novak M (Bratislava & Lucenec, Slovak Republic)

11:50 **Determination of phenylalanine, tyrosine, tryptophan and kynurenine in plasma of rat model for tauopathies by HPLC with fluorescent and mass spectrometry detection**
Galba J, Michalicova A, Parrak V, Novak M, Kovac A (Bratislava, Slovak Republic)

12:10 **Serum leptin levels are associated with the interferon- γ +847T/A polymorphism**
Egger C, Wallner V, Weghuber D, Zelzer S, Paulweber B, Fuchs D, Mangge H, Baumgartner GB (Salzburg, Graz & Innsbruck, Austria)

12:30 **Blair-Curtius-Pfleiderer-Wachter AWARD**

Closing remarks

Fuchs D (Innsbruck, Austria)

Innsbruck City map: **P** = parking, **CCB** = meeting place

