



**38<sup>th</sup> 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**

**(22 DFP, ID 643 244)**

[www.pteridines.org](http://www.pteridines.org) – [www.oeglmkc.at](http://www.oeglmkc.at) - [www.neopterin.net](http://www.neopterin.net)

**February 26<sup>th</sup> – March 1<sup>st</sup>, 2019**  
in  
**Innsbruck, Austria**



MEDIZINISCHE UNIVERSITÄT  
INNSBRUCK

**CCB, Innrain 80/82, Seminar Room M01.490 (1<sup>st</sup> floor)**



- Location:** **Center for Chemistry and Biomedicine (CCB)**  
**Innrain 80, Innsbruck, Austria**  
Seminar Room M01.490 (1<sup>st</sup> floor)
- Scientific Committee:** Gostner JM (Innsbruck, Austria)  
Fuchs D (Innsbruck, Austria)  
Fallarino F (Perugia, Italy)  
Griesmacher A (Innsbruck, Austria)  
Melichar B (Olomouc, Czech Republic)  
Postolache TT (Baltimore, Maryland)  
Reibnegger G (Graz, Austria)  
Weiss G (Innsbruck, Austria)  
Werner ER (Innsbruck, Austria)
- Scientific Goal:** The purpose of the workshop is to bring together researchers and clinicians being engaged or interested in a wide spectrum of issues covering chemistry, enzymology, transport and clinical aspects of pteridines and folates and related topics.
- Sessions:** Neopterin, biopterin, tryptophan, phenylalanine...  
analysis of  
biochemistry of  
chemistry of  
clinical biochemistry of  
in immunology  
in metabolic disorders  
in disease
- Language:** The official conference language is English
- Presentation:** Beamer (PC)
- Lectures:** 30 minutes (including 5 minutes for discussion)  
20 minutes (including 5 minutes for discussion)
- Publication:** Abstracts will be published in PTERIDINES (vol. 30, 2019)

## Organisation:

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## Tuesday, February 26<sup>th</sup>, 2019 – afternoon

2:00 p.m. **Get-Together-Coffee**

2:30 – 4:00 **Chair:** Gostner JM (Innsbruck, Austria), Fuchs D (Innsbruck, Austria)

### ***Clinical Chemical and Biochemical Aspects of Pteridines – Overview of Topics***

2:30 **Opening Remarks / What is all about: Neopterin-Biopterin-Tryptophan in Biomedicine**  
Fuchs D (Innsbruck, Austria)

### ***Immunomodulation - Consequences and Areas of Application***

2:50 **Dissecting the AhR-IDO1 Axis Function in Dendritic Cell Immunotherapy**  
Gargaro M, Scalisi G, Briseño CG, Manni G, Vacca C, Bianchi R, Nardi D, Fuchs D, Puccetti P, Murphy KM, Fallarino F (Perugia, Italy; St. Louis MO, USA; Innsbruck, Austria)

3:20 ***In Vitro* Immunomodulatory Properties of Phytochemicals**  
Hofer S, Geisler S, Stonig M, Lisandrelli R, Schennach H, Ngoc HN, Ganzera M, Liedl K, Fuchs J, Fuchs D, Gostner JM (Innsbruck, Austria)

3:40 **Modulation of Kynurenine Pathway by Probiotic Bacteria in Domestic Chickens**  
Mindus C, van Staaveren N, Forsythe P, Gostner JM, Kjaer JB, Kunze W, Fuchs D, Harlander A (Guelph & Hamilton, ON, Canada; Celle & Germany; Innsbruck, Austria)

4:00 - 4:30 **Coffee Break**

4:30 – 6:00 **Chair:** Ganzera M, (Innsbruck, Austria), Sailer S (Innsbruck, Austria)

### ***Pterins, Pteridines, Vitamins***

4:30 **Vitamin B12, Antivitamins B12 and (a little about) Folates**  
Kräutler B (Innsbruck, Austria)

5:00 **Biosynthesis of Riboflavin and Pantothenic Acid is Crucial for Virulence of *Aspergillus Fumigatus***  
Dietl AM, Oshero N, Haas H (Innsbruck, Austria; Tel Aviv, Israel)

5:20 **Vitamin D: Science *versus* Reality**  
Mangge H, Zelzer S (Graz, Austria)

5:40 **Molybdopterin-Modeling: The Synthesis of Pterin Dithiolene Ligands**  
Trentin I, Chrysochos N, Ahmadi M, Schulzke C (Greifswald, Germany)

## Wednesday, February 27<sup>th</sup>, 2019 – morning

9:00 – 10:30 **Chair:** *Pellegrin K (Portsmouth, VA, USA), Engin B (Ankara, Turkey)*

### ***Inflammation and Immunotoxicology***

9:00 **Are Immune Activation and Inflammation Involved in the Physiopathology of Frailty in Older Adults?**

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

9:30 **The Health Impact of Exposure to Disinfection By-Products in Indoor Swimming Pool – Looking at Immunological Biomarkers**

Sequeira D, Gostner JM, Esteves F, Amaro R, Silva S, Costa S, Costa C, Fuchs D, Teixeira JP (Porto, Portugal; Innsbruck, Austria)

9:50 **Immune Activation in Older-Aged Individuals is Associated with Genetic Instability (or Vice Versa)**

Gostner JM, Sánchez-Flores M, Marcos-Pérez D, Lorenzo-López L, Maseda A, Millán-Calenti JC, Fuchs D, Bonassi S, Pásaro E, Laffon B, Valdíglesias V (A Coruña, Spain; Rome, Italy; Innsbruck, Austria)

10:10 **Adverse Outcome Pathways: OECD's Transforming Science Interface and its Needs**

Paparella M, Gostner JM (Innsbruck, Austria)

10:30 -11:00 **Coffee Break**

11:00 – 12:20 **Chair:** *Postolache TT (Baltimore, MD), Sperner-Unterweger B (Innsbruck, Austria)*

### ***Neuropsychiatry I***

11:00 **How Acute and Chronic Physical Disease May Influence Mood - an Analysis of Neurotransmitter Precursor Monoamine Levels**

Hüfner K, Fuchs D, Blauth M, Sperner-Unterweger B (Innsbruck, Austria)

11:20 **Exploring the Role of Air-Borne Transmission of *Toxoplasma Gondii* in a High Seroprevalence Area**

Dagdag A, Wadhawan A, Daue ML, Hill D, Postolache TT (Baltimore & Beltsville, MD, USA)

11:40 **Sleep Duration and Timing in Relationship to *Toxoplasma Gondii* IgG Seropositivity and Serointensity**

Postolache TT, Corona CC, Zhang M, Wadhawan A, Daue ML, Groer MW, Dagdag A, Lowry CA, Hoisington AJ, Brenner LA, Ryan K, Stiller JW, Fuchs D, Mitchell BM (Baltimore, MD, Washington, DC, Tampa F, Boulder & Aurora, CO, USA; Innsbruck Austria)

12:00 **On the Dynamic Interrelations Between High Frequent Measures of Psychological and Immune Data**

Schubert C (Innsbruck, Austria)

12:20 - 1:30 **Lunch Break**

## Wednesday, February 27<sup>th</sup>, 2019 – afternoon

1:30 – 2:50 **Chair:** Fellendorf FT (Graz, Austria), Schubert C (Innsbruck, Austria)

### ***Neuropsychiatry II***

- 1:30 **Differences in Tryptophan Metabolism between Euthymic, Hypomanic and Depressive Episodes**  
Maget A, Fellendorf FT, Dalkner N, Bengesser SA, Birner A, Queissner R, Pilz R, Hamm C, Lenger M, Rieger A, Unterweger R, Fuchs D, Gostner JM, Schwarz M, Reininghaus EZ, Platzer M (Graz & Innsbruck, Austria)
- 1:50 **Tryptophan, Kynurenine and Cardiovascular Parameters in Individuals with Mental Disorders**  
Hamm C, Reininghaus B, Dalkner N, Bengesser SA, Birner A, Queissner R, Fellendorf FT, Platzer M, Maget A, Lenger M, Pilz R, Unterweger R, Fuchs D, Gostner JM, Heigl M, Riedrich K, Hufnagel A, Bach M, Perl S, Reininghaus EZ (Graz & Innsbruck, Austria)
- 2:10 **Neuroimaging in Psychiatry and Tryptophan-Kynurenine Metabolism**  
Bengesser SA, Dalkner N, Birner A, Queissner R, Fellendorf FT, Platzer M, Pilz R, Hamm C, Maget A, Unterweger R, Fuchs D, Gostner JM, Reininghaus EZ, Lenger M (Graz & Innsbruck, Austria)
- 2:30 **Changes in Tryptophan Metabolism during Psychiatric Rehabilitation**  
Reininghaus EZ, Dalkner N, Bengesser SA, Birner A, Queissner R, Fellendorf FT, Platzer M, Pilz R, Hamm C, Maget A, Lenger M, Unterweger R, Fuchs D, Gostner JM, Riedrich K, Reininghaus B (Graz & Innsbruck, Austria)
- 2:50 -3:10 **Coffee Break**
- 3:10 – 5:40 **Chair:** Reininghaus E (Vienna, Austria), Dagdag A (Baltimore, MD)
- ### ***Neopterin and Related Biomarkers, Personalized Medicine***
- 3:10 **Neopterin as Biomarker of Comorbidity, Toxicity and Outcome in Cancer Patients**  
Melichar B, Bartoušková M, Javorská L, Študentová H, Solichová D, Kujovská-Krčmová L (Olomouc & Hradec Králové, Czech Republic)
- 3:40 ***Porphyromonas Gingivalis* IgG Serointensity in the Old Order Amish**  
Postolache TT, Wadhawan A, Daue ML, Constantine N, Dagdag A, Makkar H, Brenner LA, Lowry CA, Gulati A, Gurman S, Bui Q, Ernst R, Reynolds MA (Baltimore MD; Boulder & Aurora, CO, USA)
- 4:00 **Knock on Effect from Periodontitis to the Pathogenesis of Alzheimer's Disease?**  
Leblhuber F, Huemer J, Steiner K, Gostner JM, Fuchs D (Linz & Innsbruck, Austria)
- 4:20 **Plasma and Urine Neopterin Concentrations in Healthy Individuals during Weight Loss Caused by Diet**  
Parrak V, Secnik P, Secnik P jr, Majerova P, Kovac A, Katina S, Mistrik M, Melichar B, Fuchs D (Bratislava, Brno; Kosice & Lucenec, Slovak Republic; Olomouc, Czech Republic; Innsbruck, Austria)
- 4:40 **Indoleamine 2,3-dioxygenase-1 Signalling Response of the Patients with Chronic Calculous Cholecystitis**  
Engin AB, Engin ED, Gonul II, Engin A (Ankara, Turkey)
- 5:00 **Synthesis of Pterin-Inspired Dithiolene Complexes of Molybdenum and Rhenium**  
Chrysochos N, Trentin I, Schulzke C (Greifswald, Germany)
- 5:20 **Journal Pteridines – Open Access**  
Daszkiewicz J (Berlin, Germany)

## Thursday, February 28<sup>th</sup>, 2019 – morning

9:00-10:20 **Chair:** Watschinger K (Innsbruck, Austria), Trentin I (Greifswald, Germany)

### ***Tetrahydrobiopterin, AGMO and Lipid Metabolism***

9:00 **AGMO and Etherlipids in 3T3-L1 Adipocyte Differentiation**

Sailer S, Keller MA, Lackner K, Koch J, Geley S, Pras-Raves ML, Vervaart MAT, Luyf ACM, Hackl H, Golderer G, Werner-Felmayer G, van Kampen AHC, Vaz FM, Zwerschke W, Werner ER, Watschinger K (Innsbruck, Austria; Amsterdam, The Netherlands)

9:20 **Emerging Physiological Roles of Alkylglycerol Monooxygenase**

Watschinger K, Sailer S, Keller M, Golderer G, Werner-Felmayer G, Werner ER (Innsbruck, Austria)

9:40 **Alkylglycerol Monooxygenase in *Dictyostelium Discoideum***

Seppi D, Golderer G, Keller MA, Watschinger K, Sailer S, Werner-Felmayer G, Schaap P, Werner ER (Innsbruck, Austria; Dundee, United Kingdom)

10:00 **LC-MS/MS Analysis for the Structural Characterisation of Ester and Ether Lipids in Biological Samples**

Koch J, Oemer G, Watschinger K, Sailer S, Linder H, Zschocke J, Keller MA (Innsbruck, Austria)

10:20 -10:50 **Coffee Break**

10:50-12:30 **Chair:** Werner ER (Innsbruck Austria), Kink P (Innsbruck, Austria)

### ***Dysregulated Metabolism, Inflammation, Infection***

10:50 **Immune Status, Depression and Quality of Life in Patients with Recurrent Infection**

Khalil H, Knoll M, Bellmann-Weiler R, Weiss G, Kurz K (Innsbruck, Austria)

11:10 **Depression and Quality of Life in Patients with Post-Infectious Fatigue**

Knoll M, Khalil H, Bellmann-Weiler R, Weiss G, Kurz K (Innsbruck, Austria)

11:30 **Tryptophan and Phenylalanine Metabolism and Depression in Patients with Solid Tumors**

Kink P, Egger EM, Klaunzner M, Weiss G, Willenbacher W, Kasseroler MT, Fuchs D, Kurz K (Innsbruck, Austria)

11:50 **Dysbiosis in Patients with Chronic Diseases: Probiotics as Possible Treatment Option?**

Kurz K, Hofer S, Knoll M, Khalil H, Bellmann-Weiler R, Weiss G (Innsbruck, Austria)

12:10 **Tryptophan and Phenylalanine Metabolism in Patients with Immunodeficiency Due to Immunoglobulin Deficiency**

Hofer S, Ludwig L, Knoll M, Khalil H, Weiss G, Kurz K, Bellmann-Weiler R (Innsbruck, Austria)

12:30 -1:30 **Lunch Break**

## Thursday, February 28<sup>th</sup>, 2019 – afternoon

1:30 – 3:10 **Chair:** *Fuchs D (Innsbruck, Austria), Kurz K (Innsbruck, Austria)*

### ***Iron and Nitric Oxide Metabolism***

- 1:30 **Inflammation, Iron and Vitamin D Metabolism in Different Cardiomyopathy Aetiologies**  
Lanser L, Pölzl G, Nemat N, Seifert M, Fuchs D, Weiss G, Kurz K (Innsbruck, Austria)
- 1:50 **Effects of Iron Overload, Iron Deficiency and Anemia on Mitochondrial Function and Consecutive Metabolic Pathways**  
Fischer C, Volani C, Komlodi T, Demetz E, von Raffay L, Valente de Souza L, Seifert M, Moser P, Gnaiger E, Weiss G (Innsbruck, Austria)
- 2:10 **Comparative Analysis of Pharmacokinetics and Therapeutic Efficacy of New Oral and Intravenous Iron Preparations in Anemia of Chronic Disease (ACD)**  
Valente de Souza L, Asshoff M, Petzer V, Weiss G (Innsbruck, Austria)
- 2:30 **Regulation of Arginase 1 and Inducible Nitric Oxide Synthase in *Salmonella Typhimurium* Infected Bone Marrow Derived Macrophages**  
Brigo N, Dichtl S, Pfeifhofer-Obermair C, Tymoszuk P, Seifert M, Weiss G (Innsbruck, Austria)
- 2:50 **Iron Supplementation Leads to an Increased Bacterial Load Independent of the Basal Iron Status**  
Hoffmann A, Haschka D, Weiss G (Innsbruck, Austria)

3:10 - 3:30 **Coffee Break**

3:30 – 4:50 **Chair:** *Geisler S (Innsbruck, Austria), Felder T (Salzburg, Austria)*

### ***Analytical Aspects***

- 3:30 **A Method for the Quantitative Determination of Tryptophan Metabolites in Serum by LC-MS/MS: Validation and its Application - a Preliminary Study**  
Gostner JM, Mair L, Geisler S, Tevini J, Cadamuro J, Haschke Becher E, Kurz K, Schennach H, Fuchs D, Felder T (Innsbruck & Salzburg, Austria)
- 3:50 **Development of an HPLC Method for Neopterin**  
Mair L, Geisler S, Felder T, Kurz K, Schennach H, Fuchs D, Gostner JM (Innsbruck & Salzburg, Austria)
- 4:10 **Tryptophan Measurements in Serum by ELISA**  
Geisler S, Fuchs D, Kellner KH, Gostner JM (Innsbruck, Austria; Karlsruhe, Germany)
- 4:30 **Development of an LC-MS/MS Assay for the Quantitation of Tryptophan and Associated Metabolites in Plasma, Feces and Brain Tissue**  
Lochmann F, Tuan HP, Koal T, Heischmann S (Innsbruck, Austria)

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5:00 **Annual General Assembly of the International Society of Pteridinology (ISP)  
(ISP-members only)**



## Friday, March 1<sup>st</sup>, 2019 – morning

9:00 - 10:30 **Chair:** *Fuchs D (Innsbruck, Austria), Gostner JM (Innsbruck Austria)*

### ***Tryptophan Metabolism and Cancer***

9:00 **Tryptophan Degradation in Cancer**  
Opitz C (Heidelberg, Germany)

9:30 **Novel links between Kinase Signaling and Tryptophan Metabolism**  
Thedieck K, Opitz C (Innsbruck, Austria; Heidelberg, Germany)

9:50 **Impact of Mitogens and Oncogenes on p27 Tyrosine Phosphorylation and Cell Cycle Control**  
Jäkel H, Taschler M, Jung K, Peschel I, Podmirseg S, Weini C, Hengst L (Innsbruck, Austria)

10:10 **Imaging – Inn Between Life and Death**  
Hermann M (Innsbruck, Austria)

10:30 -10:50 **Coffee Break**

10:50 - 12:20 **Chair:** *Weiss G (Innsbruck, Austria), Nagl M (Innsbruck, Austria)*

### ***Pteridines, Amino Acids and Iron***

10:50 **Pteridines in the Regulation of Iron Homeostasis and T Cell Responses**  
Weiss G (Innsbruck, Austria)

11:20 **Microbicidal Activity of N-Chlorotaurine in the Presence of Lung Epithelial Cells**  
Leiter H, Nagl M, Dollinger S, Gostner JM, Lackner M (Innsbruck, Austria)

11:40 **Fungal Infection in Cystic Fibrosis: First Steps towards an *In Vitro* Model**  
Dollinger S, Fuchs D, Nagl M, Lackner M, Hermann M, Gostner JM (Innsbruck, Austria)

12:00 **Phyllobilins as Bioactive Constituents of Medicinal Plants - Investigations of Immunomodulatory Activities**  
Karg C, Wang P, Fuchs D, Vollmar AM, Gostner JM, Moser S (Munich, Germany; Innsbruck, Austria)

12:20 ***Blair-Curtius-Pfleiderer-Wachter AWARD***

### ***Closing Remarks***

Fuchs D (Innsbruck, Austria)

The 38<sup>th</sup> Winterworkshop on "Clinical, Chemical, and Biochemical Aspects of Pteridines and Related Topics" is supported with unrestricted grants from:

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