



# 37<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**

**(23 DFP, ID 605436)**

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

**February 20<sup>th</sup> – 23<sup>rd</sup>, 2018**

in

**Innsbruck, Austria**



MEDIZINISCHE UNIVERSITÄT  
INNSBRUCK



- Location:** **Center for Chemistry and Biochemistry (CCB)**  
**Innrain 80, Innsbruck, Austria**  
Seminar Room M01.490 (1<sup>st</sup> floor)
- Scientific Committee:** Fuchs D (Innsbruck, AUT)  
Gostner JM (Innsbruck, AUT)  
Griesmacher A (Innsbruck, AUT)  
Melichar B (Olomouc, CZE)  
Postolache TT (Baltimore, MD, USA)  
Reibnegger G (Graz, AUT)  
Weiss G (Innsbruck, AUT)  
Werner ER (Innsbruck, AUT)
- 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:** 20 minutes (including 5 minutes for discussion)
- Publication:** Abstracts will be published in PTERIDINES (vol. 29, 2018)

## Organisation:

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## Tuesday, February 20<sup>nd</sup>, 2018 – afternoon

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

2:30 - 4:10 **Chair:** Gostner JM; (Innsbruck, AUT), Fuchs D (Innsbruck, AUT)

### ***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, AUT)

2:50 **Plasma and Urine Neopterin Levels in Oncohaematology Patients vs. Healthy Controls**  
Parrak V, Secnik P, Secnik jr. P, Mistrik M, Majerova P, Kovac A, Katina S, Fuchs D, Melichar B (Bratislava & Lucenec, SVK; Brno & Olomouc CZE; Innsbruck, AUT)

3:10 **Tryptophan, Kynurenine and Neopterin Serum Levels during Dengue Virus Infection**  
Geisler S, Lytton S, Nghia TH, Nam NM, Hung HV, Anh DT, Tuyen HT, Tien TV, Thai Son NT, Tong HV, Velavan TP, Gostner JM, Fuchs D (Munich, GER; HCM City, VIE; Innsbruck, AUT)

3:30 ***In vitro* Testing Applying Human PBMC**  
Stonig M, Fagundes P, Geisler S, Schennach H, Fuchs D, Gostner JM (Innsbruck, AUT)

3:50 **Thymoquinone and Carvacrol Suppress Tryptophan Breakdown in Mitogen-Stimulated Human PBMC *in vitro***  
Palabiyik SS, Becker K, Halici Z, Bayir Y, Schennach H, Gostner JM, Fuchs D (Erzurum, TUR; Innsbruck, AUT)

4:10 - 4:40 **Coffee Break**

4:40 - 6:00 **Chair:** Ganzera M, (Innsbruck, AUT), Engin B (Ankara, TUR)

### ***In vitro* Testings**

4:40 **Probing the Benefits of Ubiquitous Phyllobilins from Plants on Human Health - Exploratory Experiments in Cells and Possible Applications**  
Moser S, Fuchs D, Kräutler B, Gostner JM (Innsbruck, AUT)

5:00 **Influence of Zinc Oxide on the Activation of Peripheral Blood Mononuclear Cells and THP-1 Cells *in vitro***  
Fagundes P, Becker K, Schennach H, Fuchs D, Gostner JM (Innsbruck, AUT)

5:20 **Isolation and Analysis of Novel Sulfated Coumarins in the Siphonous Green Alga *Dasycladus Vermicularis* (Scopoli) Krasser**  
Hartmann A, Ganzera M, Stuppner H (Innsbruck, AUT)

5:40 **Collagenase Inhibitory Effects of Substances from the Marine Alga *Gracilaria chilensis***  
Orfanoudaki M, Hartmann A, Ganzera M (Innsbruck, AUT)

## Wednesday, February 21<sup>st</sup>, 2018 – morning

9:15 - 10:55 **Chair:** Werner ER (Innsbruck, AUT), Channon KM (Oxford, UK)

### ***Tetrahydrobiopterin – Functional Aspects***

9:15 **Pivotal Role for Endothelial Cell GTP Cyclohydrolase and Tetrahydrobiopterin in Cardiovascular Adaptations to Pregnancy**  
Channon KM (Oxford, UK)

9:35 **Alkylglycerol Monooxygenase in Infectious Diseases**  
Watschinger K, Keller MA, Golderer G, Coassin, Zschocke J, Werner ER (Innsbruck, AUT)

9:55 **Alkylglycerol Monooxygenase in Adipocytes? An Update**  
Sailer S, Keller MA, Hackl H, Golderer G, Geley S, Werner-Felmayer G, Hermetter A, Vaz FM, Zwerschke W, Werner ER, Watschinger K (Innsbruck & Graz, AUT; Amsterdam, NED)

10:15 **Fluorescence Based HPLC Assays for Ether Lipid Metabolic Enzymes**  
Werner ER, Keller MA, Sailer S, Seppi D, Golderer G, Werner-Felmayer G, Hermetter A, Zoeller RA, Watschinger K (Innsbruck & Graz, AUT; Boston, MA, USA)

10:35 **Probing the Roles of Orphan Chemokines in Macrophage Function**  
Hussain K, Gostner JM, Pease JE (Innsbruck AUT; London, UK)

**10:55 -11:15 Coffee Break**

11:15 - 12:55 **Chair:** Paparella M (Vienna, AUT), Girgin G (Ankara, TUR)

### ***In vitro Assays***

11:15 **From Adverse Outcome Pathways to Integrated Approaches to Testing and Assessment – for an Evolution of Regulatory Toxicology**  
Paparella M, Gostner JM (Innsbruck, AUT)

11:35 **Antioxidative Activity of the Tryptophan Metabolite Hydroxyanthranilic Acid**  
Hofer S, Gostner JM, Schennach H, Ganzera M (Innsbruck, AUT)

11:55 **The Effect of Kynurenic Acid on C1q-CD59 Balance in High Glucose-Exposed SH-SY5Y Neurons via Nitric Oxide Synthesis**  
Engin AB, Doruk Engin ED, Resul Karakus R, Engin A (Ankara, TUR)

12:15 **Spermidine and Intracellular Signalling**  
Lisandrelli R, Geisler S, Schennach H, Fuchs D, Gostner JM (Perugia, ITA; Innsbruck, AUT)

12:35 **Hydroxytyrosol: the Main Responsible for the Anti-Inflammatory Activity of Olive Pits is Revealed**  
Reis R, Sipahi H, Zeybekoglu G, Çelik N, Kirmizibekmez H, Aydin A (Istanbul, TUR)

**12:55 -2:00 Lunch Break**

## Wednesday, February 21<sup>st</sup>, 2018 – afternoon

2:00 - 3:20 **Chair:** Kurz K (Innsbruck, AUT), Sipahi H (Istanbul, TUR)

### ***Inflammation and Disease***

- 2:00 **FGF-23 Levels and Immune Activation in Patients with Heart Failure**  
Kurz K, Lanser L, Pölzl G, Nemati N, Seifert M, Weiss G (Innsbruck, AUT)
- 2:20 **Neopterin and Anemia are Risk Factors in Patients with Heart Failure**  
Lanser L, Pölzl G, Nemati N, Seifert M, Kurz K, Weiss G (Innsbruck, AUT)
- 2:40 **Human vs. Murine Immune System – Similarities and Differences**  
Gostner JM, Pease JE, Weiss G, Fuchs D (Innsbruck, AUT; London, UK)
- 3:00 **Neopterin and Tryptophan Metabolism in Patients with Influenza**  
Pizzini A, Tschurtschenthaler C, Fuchs D, Kurz K, Bellmann-Weiler R (Innsbruck, AUT)

**3:20 -3:40 Coffee Break**

3:40 - 5:00 **Chair:** Melichar B (Olomouc, CZE), Reibnegger G (Graz, AUT)

### ***Malignant Tumor Disease & Pathophysiological Consequences***

- 3:40 **Biomarkers of Immune and Inflammatory Response and the Response to Therapy with Immune Checkpoint Inhibitors in Patients with Solid Tumors**  
Bartoušková M, Spisarová M, Zezulová M, Vitásková D, Študentová H, Javorská L, Kujovská-Krčmová L, Solichová D, Adam T, Melichar B (Olomouc & Hradec Králové, CZE)
- 4:00 **Inflammatory Biomarkers, Comorbidity and Outcome in Breast Cancer Patients**  
Melichar B, Bartoušková M, Javorská L, Kujovská-Krčmová L, Študentová H, Solichová D, Ryška A (Olomouc & Hradec Králové, CZE)
- 4:20 **Tryptophan and Neopterin in Patients with Non-Small Cell Lung Carcinoma under Immunotherapy**  
Zimmer K, Fuchs D, Kurz K, Amman A, Gastl G, Seeber A (Innsbruck, AUT)
- 4:40 **Effects of Psychiatric Rehabilitation on the Tryptophan-Kynurenine Axis: Responders vs. Non-Responders**  
Platzer M, Reininghaus B, Gostner JM, Fuchs D, Riedrich K, Dalkner N, Reininghaus EZ (Graz & Innsbruck, AUT)

## Thursday, February 22<sup>nd</sup>, 2018 – morning

9:15 - 9:55 **Chair:** Fuchs D (Innsbruck, AUT); Fallarino F (Perugia, ITA)

### ***Immune regulation and Indoleamine 2,3-Dioxygenase-1 (IDO)***

9:15 **A Novel Kynurenine-Dependent Circuit in DC1 Promotes IDO1 Expression in DC2 Leading to Suppression of Experimental Autoimmune Encephalomyelitis**  
Fallarino F (Perugia, ITA)

9:35 **Immune Regulation via the AHR-CYP1 Feedback Loop**  
Effner R, Hiller J, Eyerich S, Traidl-Hoffmann C, Brockow K, Triggiani M, Behrendt H, Schmidt-Weber CB, Buters JT (Munich, GER)

9:55 - 12:00 **Chair:** Postolache TT (Baltimore, MD, USA); Sperner-Unterwiesing B (Innsbruck, AUT)

### **The Triple A (Appetite, Affect and Addiction), Immune Regulation and Dysregulation**

#### ***Environmental Symposium, Part I***

9:55 **Immune Associations with Sleep, Sleepiness, and Seasonality of Mood and Behavior in the Old Order Amish**  
Postolache TT, Wadhawan A, Nijjar G, Mohyuddin H, Daue ML, Corona C, Nazem S, Brenner LA, Lowry CA, Snitker S, Raheja UK, Stiller JW, Fuchs D (Baltimore MD, Washington DC, Denver & Boulder CO, USA; Innsbruck, AUT)

10:15 **Diverging Gender Differences in the Associations between Tooth Loss and Obesity vs. Depression in the Old Order Amish**  
Dagdag A, Postolache TT, Wadhawan A, Daue ML, Reynolds MA (Baltimore, MD, USA)

10:35 **Comfort Food, Addiction and the Immune System**  
Mathai AJ, Wadhawan A, Postolache TT, Rosenthal RN (Brooklyn NY, Baltimore MD, Washington DC, Denver CO & Stony Brook NY, USA)

10:55 - 11:20 **Coffee Break**

11:20 - 12:20 ***Environmental Symposium, Part II***

11:20 ***Toxoplasma gondii*-Oocyst IgG and Symptoms of Depression in the Old Order Amish**  
Wadhawan A, Hill D, Daue ML, Constantine N, Dagdag A, Nijjar G, Ryan KA, Stiller JW, Groer MW, Fuchs D, Mitchell BD, Brenner LA, Lowry CA, Dubey J, Postolache TT (Baltimore MD, Washington DC, Beltsville MD, Tampa FL, Denver CO & Boulder CO, USA; Innsbruck, AUT)

11:40 **Predictive Associations of Suicidal Behavior by the Synergistic Interactions between TBI and Inflammation-Mediated Medical Conditions**  
Postolache TT, Benros ME, Brenner LA, Lowry CA, Stiller JW, Erlangsen A (Baltimore MD, Washington DC, Denver & Boulder CO, USA; Copenhagen, DNK)

12:00 - 2:00 **Lunch Break**

## Thursday, February 22<sup>nd</sup>, 2018 – afternoon

2:00 - 3:40 **Chair:** Geisler S (Innsbruck, AUT), Oberacher H (Innsbruck, AUT)

### **Analytical Aspects**

2:00 **An Attempt to Theoretically Predict Redox Potentials of Pterin and its Dihydro and Tetrahydro Derivatives**  
Reibnegger G (Graz, AUT)

2:20 **RIDASCREEN® Neopterin ELISA Test**  
Sander P, Rüttger S, Jost N (Darmstadt, GER)

2:40 **The Blood-Saliva Barrier: Optimization of an *in vitro* Model for the Oral Mucosa Epithelium and its Application for Tryptophan Transport Studies**  
Lin G, Leitgeb T, Koch L, Bierbaumer L, Rhodes N, Gostner JM, Rossi A, Neuhaus W (Vienna & Innsbruck, AUT; Würzburg, GER)

3:00 **Planar Chromatography in Pteridines Analysis**  
Waligóra A, Waligóra S, Tyrpień-Golder K (Zabrze, Katowice, POL)

3:20 - 3:45 **Coffee Break**

3:45 - 4:45 **Chair:** Fuith LC (Eisenstadt, AUT)

### **Cardiolipin and Oncostatin**

3:45 **The Structural Diversity of Cardiolipins and its Impact on Mitochondrial Functions**  
Lackner K, Ömer G, Krumschnabel G, Leman G, Dubrac S, Werner ER, Zschocke J, Keller MA (Innsbruck, AUT)

4:05 **Oncostatin M and its Receptor - Overlooked Members of the IL6-Family**  
Luyckx VA, Pham WL, Miam Q, Pedrycz B, Compston CA, Jahroudi N, Rose-John S, Khadaroo R, Mueller TF (Zurich, SUI; Kiel, GER; Edmonton, CDN)

4:25 **Obituary - Wolfgang Pfeleiderer (+2018): A Life Devoted to the Chemistry of Pteridines**  
Groehn V, Ulmann M (Schaffhausen & Appenzell, SUI)

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



## Friday, February 23<sup>rd</sup>, 2018 – morning

9:15 - 11:35 **Chair:** *Leblhuber F (Linz, AUT), Harlander-Matauschek A (Guelph, CDN)*

### ***Tryptophan Metabolism and Neuropsychiatric Aspects***

9:15 **Repetitive Transcranial Magnetic Stimulation in Late Life Depression**

Leblhuber F, Geisler S, Egger M, Gostner JM, Fuchs D (Linz & Innsbruck, AUT)

9:35 **Effects of Social Stress on Tryptophan-Kynurenine Metabolism in Laying Hens**

Birkel P, McBride P, Forsythe P, Kjaer JB, Kunze W, Fuchs D, Harlander-Matauschek A (Guelph & Hamilton, Ontario, CDN; Celle and Innsbruck, AUT)

9:55 **Comparing Plasma Tryptophan Measurements between Labs using UPLC/HPLC Approaches**

Birkel P, McBride P, Forsythe P, Kjaer JB, Kunze W, Fuchs D, Geisler S, Harlander-Matauschek A (Guelph & Hamilton, Ontario, CDN; Celle, GER and Innsbruck, AUT)

10:15 **Low Cerebral Levels of Tryptophan, Phenylalanine and Tyrosine are Associated with Depression in Subarachnoid Hemorrhage Patients**

Kofler M, Schiefecker AJ, Gaasch M, Sperner-Unterwiesing B, Fuchs D, Beer R, Ferger B, Rass V, Hackl W, Rhomberg P, Pfausler B, Thomé C, Schmutzhard E, Helbok R (Innsbruck, AUT)

10:35 - 11:00 **Coffee Break**

11:00 - 12:40 **Chair:** *Weiss G (Innsbruck, AUT), Nagl M (Innsbruck, AUT)*

### ***Iron Metabolism and Clinical Aspects***

11:00 **Hepatic HFE and Iron-Driven Modulation of Kupffer cell Kinetics Critically Affect Cholesterol Homeostasis**

Demetz E, Tymoszuk P, Haschka D, Heim C, Auer K, Pfeifhofer C, Obermair G, Coassin S, Petzer V, Asshoff M, Schroll A, Dichtl S, Seifert M, Lener D, Gostner J, Vogel G, Pechlaner R, Willeit J, Kiechl S, Kronenberg F, Theurl I, Tancevski I, Weiss G (Innsbruck, AUT)

11:20 **Iron mediated Suppression of CD8+ T Cells in a Mouse Mammary Carcinoma Model**

Pfeifhofer-Obermair C, Tymoszuk P, Demetz E, Weiss G (Innsbruck, AUT)

11:40 **Tolerability of Inhaled N-Chlorotaurine – a Phase I Clinical Study**

Arnitz A, Stein M, Bauer P, Lanthaler B, Jamnig H, Scholl-Bürgi S, Stempfl-Al-Jazrawi K, Ulmer H, Baumgartner B, Embacher S, Geisler S, Gostner J, Müllinger B, Kälz B, Nagl M (Natters, Neufeld, Vöcklabruck & Innsbruck, AUT)

12:00 **Urinary Neopterin/Creatinine Ratios are Sensitive Indicators of Infection in Preterm Infants Suspected of Infection in the Absence of a Clear Diagnostic Parameter**

Deoora TK, Segal T, Fuchs D (London UK; Innsbruck, AUT)

12:20 **Cell Cycle Regulation by CDK Inhibitor Proteins**

Jäkel H, Kullmann M, Masuccio A, Pega F, Peschel I, Podmirsek S, Roilo M, Taschler M, Vosper J, Hengst L (Innsbruck, AUT)

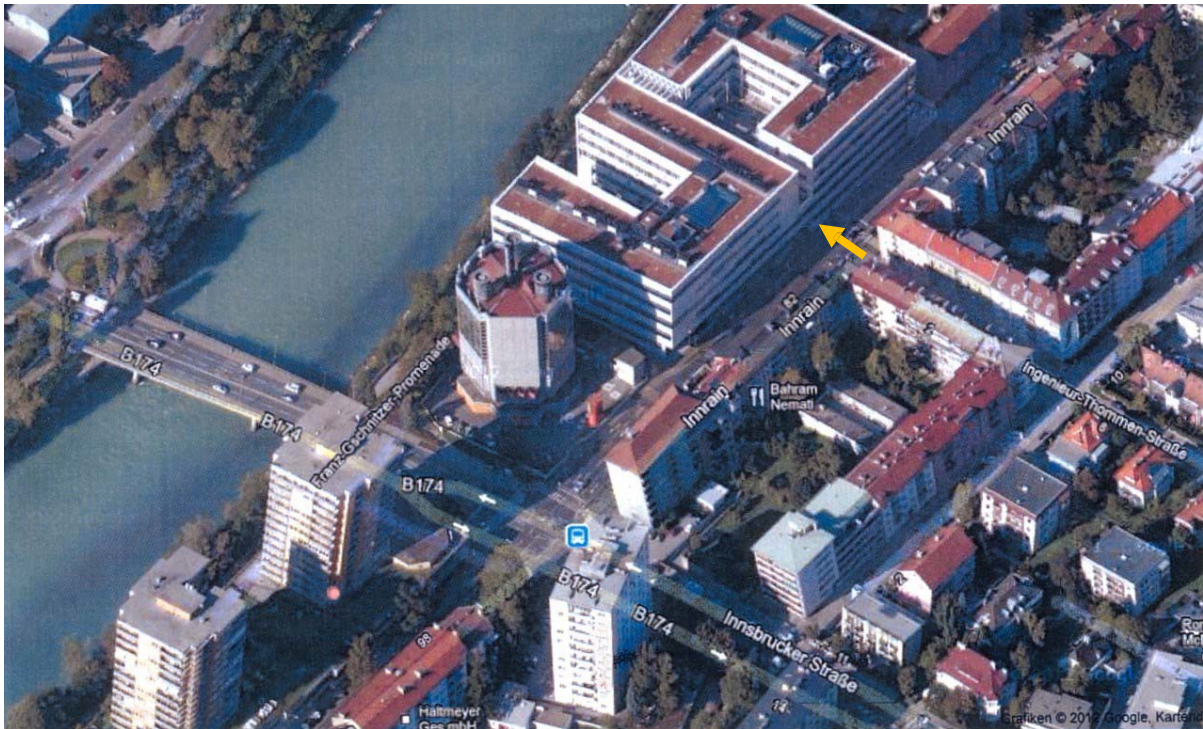
12:45 ***Blair-Curtius-Pfleiderer-Wachter AWARD***

### ***Closing Remarks***

Fuchs D (Innsbruck, AUT)

**Where to go:**

**CCB Innrain 80/82, main entrance:**



**Inside building – go to 1<sup>st</sup> floor, turn right:**

