



**38th 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**

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

February 26th – March 1st, 2019
in
Innsbruck, Austria



MEDIZINISCHE UNIVERSITÄT
INNSBRUCK

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



- Location:** **Center for Chemistry and Biochemistry (CCB)**
Innrain 80, Innsbruck, Austria
Seminar Room M01.490 (1st floor)
- Scientific Committee:** Gostner JM (Innsbruck, Austria)
Fallarino F (Perugia ITA)
Griesmacher A (Innsbruck, Austria)
Melichar B (Olomouc, CZE)
Postolache TT (Baltimore, MD)
Weiss G (Innsbruck, Austria)
Werner ER (Innsbruck, Austria)
- Honorary Committee:** Fuchs D (Innsbruck, Austria)
Reibnegger G (Graz, 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:

Dietmar Fuchs
Sektion für Biologische Chemie
Biozentrum
Medizinische Universität Innsbruck
6020 Innsbruck, Austria
dietmar.fuchs@i-med.ac.at

Francesca Fallarino
Section of Pharmacology
Department of Experimental Medicine
University of Perugia, 06122 Perugia, Italy
flfnc@tin.it

Andrea Griesmacher
Zentralinstitut für Medizinische und Chemische
Laboratoriumsdiagnostik
Universitätsklinik
6020 Innsbruck, Austria
andrea.griesmacher@tirol-kliniken.at

Bohuslav Melichar
Onkologická klinika Lékařská
fakulta Univerzity
Palackého a Fakultní nemocnice
I.P. 775 20 Olomouc, Czech Republic
bohuslav.melichar@fnol.cz

Theodor T. Postolache
Mood and Anxiety Program (MAP) Department
of Psychiatry
University of Maryland School of Medicine
Baltimore, MD 21201
tpostolache@psych.umaryland.edu

Johanna M. Gostner
Sektion für Medizinische Biochemie
Biozentrum
Medizinische Universität Innsbruck
6020 Innsbruck, Austria
johanna.gostner@i-med.ac.at

Gilbert Reibnegger
Institut für Physiologische Chemie und Pregl
Laboratorium Medizinische Universität Graz
8010 Graz, Austria
gilbert.reibnegger@meduni-graz.at

Günter Weiss
Klinische Immunologie und Infektiologie
Department für Innere Medizin
Medizinische Universität Innsbruck
6020 Innsbruck, Austria
guenter.weiss@i-med.ac.at

Ernst R. Werner
Sektion für Biologische Chemie, Biozentrum
Medizinische Universität Innsbruck
6020 Innsbruck, Austria
ernst.r.werner@i-med.ac.at

Tuesday, February 26th, 2018 – 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)

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 **Vitamin D: Science versus reality**
Mangge H, Zelzer S (Graz, Austria)

3:40 **The impact of stressors on the tryptophan pathway in domestic chickens**
Mindus C, van Staaveren N, Forsythe P, Gostner JM, Kjaer JB, Kunze W, Fuchs D, Harlander A (Guelph, ON, Canada; Celle, Germany; Hamilton, ON, Canada; Innsbruck, Austria)

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

4:30 –6:00 **Chair:** Gostner JM (Innsbruck, Austria), Kurz K (Innsbruck, Austria)

Tryptophan metabolism and cancer

4:30 **Tryptophan degradation in cancer**
Opitz C (Heidelberg, Germany)

5:00 **Novel links between kinase signaling and tryptophan metabolism**
Thedieck K, Opitz C (Innsbruck, Austria; Heidelberg, Germany)

5:20 **Impact of mitogens and oncogenes on p27 tyrosine phosphorylation and cell cycle control**
Jäkel H, Taschler M, Jung K, Peschel I, Podmirseg S, Weinl C, Hengst L (Innsbruck, Austria)

5:40 **TBA**

Wednesday, February 27th, 2018 – morning

9:15 – 10:15 **Chair:** Postolache TT (Baltimore, MD), Sperner-Unterweger B (Innsbruck, Austria)

Neuropsychiatry I

9:15 **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)

9:35 **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)

9:55 **TBA**

Schubert C (Innsbruck, Austria)

10:15 **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 and Aurora CO, USA; Innsbruck Austria)

10:25 -11:00 Coffee Break

11:00 – 12:20 **Chair:** Reinighaus E (Vienna, Austria), Hüfner K (Innsbruck, Austria)

Neopterin and related biomarkers, personalized medicine

11:00 **TBA**

11:20 **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)

11:40 ***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 and Aurora CO, USA)

12:00 **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)

12:20 -2:00 Lunch Break

Wednesday, February 27th, 2018 – afternoon

2:00 – 3:20 **Chair:** Fellendorf FT (Graz, Austria), Schubert C (Innsbruck, Austria)

Neuropsychiatry II

- 2:00 **Differences in tryptophan metabolism between euthymic, hypomanic and depressive episodes.**
Maget A, Fellendorf FT, Dalkner N, Bengesser SA, Birner A, Queissner R, Pilz A, Hamm C, Lenger M, Rieger A, Unterweger R, Fuchs D, Gostner JM, Schwarz M, Reininghaus EZ, Platzer M. (Graz, Innsbruck, Austria)
- 2:20 **Tryptophan, kynurenine and cardiovascular parameters in individuals with mental disorders.**
Hamm C, Reininghaus B, Dalkner N, Bengesser SA, Birner A, Queissner R, Fellendorf FT, Pilz A, Platzer M, Maget A, Lenger M, Unterweger R, Fuchs D, Gostner JM, Heigl M, Riedrich K, Hufnagel A, Bach M, Perl S, Reininghaus EZ. (Graz, Innsbruck, Austria)
- 2:40 **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)
- 3:00 **Changes in tryptophan metabolism during psychiatric rehabilitation**
Reininghaus EZ, Dalkner N, Bengesser SA, Birner A, Queissner R, Fellendorf FT, Platzer M, Pilz A, Hamm C, Maget A, Lenger M, Unterweger R, Fuchs D, Gostner JM, Riedrich K, Reininghaus B. (Graz, Innsbruck, Austria)

3:20 -3:50 Coffee Break

3:50 –5:20 **Chair:** Pellegrin K (Portsmouth, VA, USA), Engin B (Ankara, Turkey)

Inflammation and immunotoxicology

- 3:50 **Are immune activation and inflammaging 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)
- 4:20 **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)
- 4:40 **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 Coruna, Spain; Rome, Italy; Innsbruck, Austria)
- 5:00 **Indoleamine 2,3-dioxygenase-1 signalling response of the patients with chronic calculous cholecystitis.**
Engin AB, Engin ED, Gonul II, Engin A (Ankara, Turkey)

Thursday, February 28th, 2018 – morning

9:15-10:15 **Chair:** Watschinger K (Innsbruck, Austria), Trentin I (Greifswald, Germany)

Tetrahydrobiopterin, AGMO and lipid metabolism

- 9:15 **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)
- 9:35 **Emerging physiological roles of alkylglycerol monooxygenase**
Watschinger K, Sailer S, Keller M, Golderer G, Werner-Felmayer G, Werner ER (Innsbruck, Austria)
- 9:55 **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)
- 10:15 **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)

10:35 -11:00 Coffee Break

11:00-12:20 **Chair:** Werner ER (Innsbruck Austria), Sailer S (Innsbruck, Austria)

Pterins and pteridine derivatives

- 11:00 **Vitamin B12 and derivatives**
Kräutler B (Innsbruck, Austria)
- 11:30 **Biosynthesis of riboflavin and pantothenic acid is crucial for virulence of Aspergillus fumigatus**
Dietl AM, Osherov N, Haas H (Innsbruck, Austria, Tel Aviv, Israel)
- 11:40 **Molybdopterin-Modeling: The Synthesis of Pterin Dithiolene Ligands**
Trentin I, Chrysochos N, Ahmadi M, Schulzke C (Greifswald, Germany)
- 12:00 **Synthesis of pterin-inspired dithiolene complexes of molybdenum and rhenium.**
Chrysochos N, Trentin I, Schulzke C (Greifswald, Germany)

12:20 -13:40 Lunch Break

Thursday, February 28th, 2018 – afternoon

1:40 – 3:00 **Chair:** Geisler S (Innsbruck, Austria), Felder T (Salzburg, Austria)

Analytical Aspects

- 1:40 **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)
- 2:00 **Development of a HPLC method for neopterin**
Mair L, Geisler S, Felder T, Kurz K, Schennach H, Fuchs D, Gostner JM (Innsbruck, Salzburg, Austria)
- 2:20 **Tryptophan measurements in serum by ELISA**
Geisler S, Fuchs D, Kellner KH, Gostner JM (Innsbruck, Austria; Karlsruhe, Germany)
- 2:40 **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)

3:00 -3:30 **Coffee Break**

3:30 – 4:50 **Chair:** Fuchs D (Innsbruck, Austria), Kurz K (Innsbruck, Austria)

Iron and nitric oxide metabolism

- 3:30 **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)
- 3:50 **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)
- 4:10 **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)
- 4:30 **Iron supplementation leads to an increased bacterial load independent of the basal iron status**
Hoffmann A, Haschka D, Weiss G (Innsbruck, Austria)

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

Friday, March 1st, 2018 – morning

9:15-10:35 **Chair:** Ganzera M, (Innsbruck, Austria), Moser S (Munich, Germany)

Detecting immunomodulatory activities with neopterin and related biomarkers

9:15 **TBA**

Hofer S (Innsbruck, Austria)

9:35 **Imaging – Inn between Life and Death**

Hermann M (Innsbruck, Austria)

9:55 **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)

10:15 **Adverse outcome pathways: OECD wants biochemists**

Paparella M (Innsbruck, Austria)

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

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

Immunometabolism

11:00 **Pteridines in the regulation of iron homeostasis and T cell responses**

Weiss G (Innsbruck, Austria)

11:30 **Microbicidal activity of N-chlorotaurine in the presence of lung epithelial cells**

Leiter H, Nagl N, Dollinger S, Gostner JM, Lackner M (Innsbruck, Austria)

11:45 **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)

12:05 ***Blair-Curtius-Pfleiderer-Wachter AWARD***

Closing remarks

Fuchs D (Innsbruck, Austria)

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