International Conference
Cancer and Rhythm –
A new challenge in occupational medicine

Cancer and Rhythm

October 14 – 16, 2004 | Graz, Austria

Preliminary Program
CONTENTS

Who should attend 2

Schedule of Events

Thursday 3
Friday 3
Saturday 4

List of Speakers 5

Posters 7

Exhibition 9

General Information 10

Registration 11

VENUE
Old Minorite Monastery, Mariahilferplatz 1, 8020 Graz, Austria

CONGRESS LANGUAGES
English, German (simultaneous interpretation)

ORGANIZER
Allgemeine Unfallversicherungsanstalt (Austrian Workers’ Compensation Board)
with assistance of JOANNEUM RESEARCH

SCIENTIFIC ORGANIZERS
Maximilian Moser, JOANNEUM RESEARCH and Medical University of Graz, Austria
Norbert Winker, Allgemeine Unfallversicherungsanstalt, Vienna, Austria

PATRONAGE
Maria Rauch-Kallat, Minister for Health and Women
Herbert Haupt, Minister for Social Security, Generations and Consumer Protection
Waltraud Klasnic, Governor of Styria
Wolfgang Erlitz, National Health Councilor, Graz
Gerhard Franz Walter, Rector of the Medical University Graz

CONGRESS SECRETARIAT
Allgemeine Unfallversicherungsanstalt
Kongressbüro, Mag. Doris Scherling
Adalbert-Stifter-Strasse 65, 1200 Vienna, Austria
Phone: (+43) 1 33111-261; Fax: (+43) 1 33111-469
Email: doris.scherling@auva.at
www.auva.at

Cancer and Rhythm
Recently evidence has been mounting that the disturbances of rhythms, in particular, circadian disruption, e.g. shift work or chronic jet lag, contribute significantly to the development of cancer. Circadian rhythms are part of the rhythmic activities of the human body and obviously exert a protective influence on our health and well being. It has been observed for quite some time that disturbance of the circadian rhythms not only affects that fundamental recuperative activity of sleep, but may also lead to depression and autonomic disorders.

These and other implications for occupational health will be discussed in an international scientific conference in autumn 2004 in Graz. This conference will be a platform for the exchange of state of the art research results and the discussion of open issues.

**WHO SHOULD ATTEND**

This conference addresses scientists and researchers in the fields of

- chronobiology
- chronomedicine
- sensory physiology
- epidemiology
- investigation of the genome with respect to the effects of chronobiological disturbances as well as

- occupational physicians
- occupational psychologists
- social security experts

Picture Credit: Copyright by Graz Tourismus
THURSDAY, OCTOBER 14, 2004

14:00 Welcome

14:30 – 15:30 Opening Session
   The importance of prevention in work
   Norbert Winker, Austria
   Health and Rhythms: Why life oscillates
   Maximilian Moser, Austria

15:30 – 16:00 COFFEE BREAK

16:00 – 17:45 Risks of night and shift work:
   Epidemiological evidence
   Night-shift work and risk of cancer
   Eva Schernhammer, USA
   Scott Davis, USA
   Light at night, shift work, and breast cancer risk
   Johanni Hansen, Denmark

FRIDAY, OCTOBER 15, 2004

8:30 – 9:15 Keynote
   Chronotherapy: The relevance of timing in the therapy of cancer
   Francis Levi, France

9:15 – 10:30 Cancer and the vessels
   Periodic alteration of characteristics in the microcirculation of the tumor and surrounding tissue (results of an experimental study)
   Rainer Klopp, Germany
   Circadian Rhythm Chaos: Its value in the detection of early breast cancer
   Louis Keith, USA

10:30 – 11:00 COFFEE BREAK

11:00 – 12:45 Lifestyle studies
   Magnetic field and the circadian system
   Yvan Touitou, France
   Electromagnetic fields and breast cancer
   Maria Feychtling, Sweden
   Disruption of circadian coordination and malignant growth
   Elizabeth Filipski, France

12:45 – 14:45 LUNCH BREAK
FRIDAY, OCTOBER 15, 2004

14:45 – 16:30 Vision and the immune system
Photoreception for human melatonin regulation: Relevance of light intensity and spectrum
George C. Brainard, USA
Cancer, visual impairment and circadian rhythm disturbances
Eero Pukkala, Finland
Light in the Built Environment: role of circadian disruption in endocrine disruption
Richard Stevens, USA

16:30 – 17:00 COFFEE BREAK

16:30 – 18:00 Poster session in the "Kleiner Saal"

17:00 – 18:00 Task Force Meeting (for all speakers)

19:30 SOCIAL EVENING FOR ALL PARTICIPANTS

SATURDAY, OCTOBER 16, 2004

8:30 – 9:15 Keynote
Circadian Genetics of Cancer
Cheng Chi Lee, USA

9:15 – 10:30 Melatonin
Tumors and melatonin
Hermann Müller, Germany
Evaluation of the antitumor activity of the pineal gland
Christian Bartsch, Germany

10:30 – 11:00 COFFEE BREAK

11:00 – 12:30 Well structured work – timing schedules and rhythm therapies
The use of chronobiotics in resynchronization of the sleep-wake-cycle
Daniel P. Cardinali, Argentina
Rhythm as therapy
Maximilian Moser, Austria
Art and health
N.N.

12:30 – 13:30 Final discussion period
LIST OF SPEAKERS

Christian Bartsch  
Center for Research in Medical and Natural Sciences  
University of Tübingen  
Ob dem Himmelreich 7  
72074 Tübingen  
Germany  
christian.bartsch@uni-tuebingen.de

George C. Brainard  
Department of Neurology  
Thomas Jefferson University  
1020 Walnut Street  
Philadelphia, PA 19107-5587  
USA  
George.Brainard@jefferson.edu

Daniel P. Cardinali  
Departamento de Fisiología  
Facultad de Medicina  
Universidad de Buenos Aires  
Paraguay 2155  
1121 Buenos Aires  
Argentina  
dcardinali@fmed.uba.ar

Scott Davis  
Fred Hutchinson Cancer Research Center  
1100 Fairview Avenue North M4-B874  
PO. Box 19024  
Seattle, Washington 98109-1024  
USA  
sdavis@fhcrc.org

Maria Feychting  
Institute of Environmental Medicine  
Karolinska Institutet  
171 77 Stockholm  
Sweden  
Maria.Feychting@imm.ki.se

Elizabeth Filipski  
E 0354 INSERM  
“Chronothérapeutique des Cancers”  
Hôpital Paul Brousse  
12-14, av. Paul Vaillant Couturier  
94807 Villejuif Cédex  
France  
filipski@vjf.inserm.fr

Johnni Hansen  
Danish Cancer Society  
Institute of Cancer Epidemiology  
Strandboulevarden 49  
2100 Copenhagen  
Denmark  
johnni@cancer.dk

Louis Keith  
333 East Superior Street, #464  
Chicago, IL 60611  
USA  
louis.keith@obgyn.net

Rainer Klopp  
Institut für Mikrozirkulation  
Wolfener Straße 32-34  
12681 Berlin  
Germany
List of Speakers

Cheng Chi Lee
University of Texas
Health Science Center at Houston
P.O. Box 20708
Houston, TX 77225-0708
USA
Cheng.C.Lee@uth.tmc.edu

Eero Pukkala
Finnish Cancer Registry
Institute for Statistical and Epidemiological Cancer Research
Liisankatu 21 B
00170 Helsinki
Finland
eero.pukkala@cancer.fi

Eva Schernhammer
Channing Laboratory, Department of Medicine
Brigham and Women’s Hospital and Harvard Medical School
Boston, MA 02115
USA
eva.schernhammer@channing.harvard.edu

Richard Stevens
University of Connecticut Health Center
Department of Community Medicine
Farmington 06030-6325
USA
bugs@neuron.uchc.edu

Yvan Touitou
Service de Biochimie Médicale et Biologie Moléculaire
Faculté de Médecine Pitié-Salpêtrière
91 boulevard de l’Hôpital
75634 Paris Cédex 13
France
touitou@ccr.jussieu.fr

Norbert Winker
Allgemeine Unfallversicherungsanstalt
Adalbert-Stifter-Strasse 65
1200 Wien
Austria
norbert.winker@auva.sozvers.at

Francis Levi
E 0354 INSERM
“Chronothérapeutique des Cancers”
Hôpital Paul Brousse
12-14, av. Paul Vaillant Couturier
94807 Villejuif Cédex
France
levi-m@vjf.inserm.fr

Maximilian Moser
JOANNEUM RESEARCH – Institut für Nichtinvasive Diagnostik
Franz-Pichler-Straße 30
8160 Weiz
Austria
max.moser@meduni-graz.at

Hermann Müller
Zentrum für Kinder- und Jugendmedizin
Klinikum Oldenburg GmbH
Dr.-Eden-Straße 10
26133 Oldenburg
Germany
mueller.hermann@kliniken-oldenburg.de
You are invited to visit the Poster Exhibition in the "Kleiner Saal" where the posters will be exhibited during the conference. On Friday afternoon there will be a poster presentation where all the authors will be present for individual discussion with the participants.

**POSTER PRESENTATION:**
**Friday, October 15, 2004, 16:30 – 18:00, Kleiner Saal**

- **Exposure to light at night accelerates aging and spontaneous carcinogenesis in female CBA and TRANSGENIC HER-2/neu mice**
  V.N. Anisimov¹, D.A. Baturin¹, I.G. Popovich¹, M.A. Zabezhiński¹, K.G. Mantön², A.V. Semenchenko³, A.I. Yashin⁴—³
  ¹N.N. Petrov Research Institute of Oncology, St. Petersburg, Russia; ²Duke University, Durham, NC, USA; ³Max-Planck Institute for Demographic Research, Rostock, Germany

- **Melatonin increases focal adhesion contacts in MCF-7 cells: participation of protein kinase C**
  Benítez-King G.¹, Ramírez-Rodríguez G.¹, Ortiz L.¹, and Antón-Tay F.²
  ¹Dept. Neurofarmacología, SIC, Instituto Nacional de Psiquiatría; ²Hosp. Psiquiatría, Instituto Nacional de Psiquiatría, Mexico City, Mexico

- **Linking light at night to cancer risk in humans: Does the evidence add up?**
  Bullough JD, Figueiro MG, Rea MS
  Lighting Research Center, Rensselaer Polytechnic Institute, Troy, NY, USA

- **Seasonally changing penetrance of familial breast cancer**
  Philip Cohen
  Tivon, Israel

- **Sleep disturbances by light at night: two queries made 2003 in Czechia**
  Martin Forejt¹, Karel Skočovský¹, Roman Skotnica², Jan Hollan¹
  ¹Masaryk University in Brno; ²Focus Agency, Czech Republic

- **Circadian control of drug response: mouse sensitivity to chemotherapeutic drug cyclophosphamide is modulated by the functional status of CLOCK/BMAL1 transactivation complex**
  Victoria Yu. Gorbacheva¹, Roman V. Kondratov¹, Renliang Zhang², Andrei V. Gudkov³, Joseph S. Takahashi⁴, Marina P. Antoch⁵
  ¹Departments of Cancer Biology and Molecular Biology and ²Mass Spectrometry Core facility, Lerner Research Institute, Cleveland Clinic Foundation, Cleveland, OH and ³Howard Hughes Medical Institute, Department of Neurobiology and Physiology, Northwestern University, Evanston, IL, USA

- **Maintenance of circadian time organization in severely hypothyroid, thyroidectomized patients with residual or metastatic thyroid cancer**
  E. Haus¹, Dumitriu², G.Y. Nicolau², L. Sackett-Lundeen¹
  ¹Section of Pathology, Regions Hospital, HealthPartners, St. Paul, and Department of Laboratory Medicine and Pathology, University of Minnesota, Minneapolis, USA; ²C.I. Parhon Institute of Endocrinology, Romanian Academy of Medical Sciences, Bucharest, Romania

- **BMAL1/CLIF gene in endothelial cells**
  Tomoyuki Hisa, Hironobu Yanagie, Kuniaki Otsuka, Katsuya Tamai, Masazumi Eriguchi
  Division of Cancer Metastasis, Department of IP, RCAST, Tokyo University, Tokyo, Japan

- **Melanopsin-registered irradiation: measurement by digital cameras**
  Jan Hollan
  Recetox, Faculty of Science, Masaryk University in Brno, Czech Republic
Posters

Faint light at night: which levels are disturbing, how to estimate and measure them
Jan Hollan¹, Franz Kerschbaum², Thomas Posch²
¹Recetox, Faculty of Science, Masaryk University in Brno, Czech Republic; ²Institut für Astronomie der Universität Wien, Austria

Expression of Melatonin Receptors in Human Gallbladder Carcinoma
Susanne Humpeler¹,², Sylvia Aust³, Theresia Thalhammer³, Martin Klompfinger⁴, Peter Obrist⁵, Wolfgang Marktl¹,², Cem Ekmeckioğlu¹,²
¹Department of Physiology, Medical University Vienna, Austria; ²Ludwig Boltzmann Institute for Physiological Rhythms Research, Bad Tatzmannsdorf, Austria; ³Department of Pathophysiology, Medical University Vienna, Austria; ⁴Department of Bacteriology and Pathology, Ludwig-Boltzmann Institute of Applied Molecular Pathology, KKI, Vienna, Austria; ⁵Department of Pathological Anatomy, University of Innsbruck, Innsbruck, Austria

Measurement of the circadian-effective radiant exposure (dose) using a dosimeter
D. Kockott¹, H. Römich², S. Gerlach²
¹UV-Technik, Hanau; ²Fraunhofer-Institut für Silicatforschung Würzburg/Bronnbach, Germany

Dihydropyrimidyne dehydrogenase mRNA levels reveal no circadian rhythm in peripheral blood leukocytes of healthy volunteers but is down-regulated by insulin in Hep G2 cells
W. Krugluger¹, E. Krexner², M. Peinsipp², E. Ostermann², I. Zwickl¹, J. Schüller²
¹Institut für Klinische Chemie, Ludwig Boltzmann Institute for Medical Research, Vienna, Austria; ²Institut für Klinische Chemie, Ludwig Boltzmann Institute for Medical Research, Vienna, Austria

Is breast cancer risk among Norwegian nurses influenced by night-work?
JA Lie, J Kliukiene
Department of Environmental Cancer Epidemiology, Cancer Registry of Norway, Oslo, Norway

Melatonin re-establish cytoskeletal organization in N1E-115 cells damaged with hydrogen peroxide and antipsychotics
Ortiz L., Ramírez-Rodríguez G., Ortega-Soto H.A., and Benítez-King G.
¹Depto. Neurofarmacología, SIC, ²Servicios Clínicos, Instituto Nacional de Psiquiatría, México D.F., México

Melatonin elicits calmodulin phosphorylation by protein kinase C in MDCK cells
Ramírez-Rodríguez G., Benítez-King G.
¹Depto. Neurofarmacología, SIC, Instituto Nacional de Psiquiatría, México D.F., México

Circadian rhythm disturbances and positive effects of zeitgeber training
Schaumberger Karin
Medizinische Universität Graz, Institut für Physiologie, Graz, Austria

Disturbance of circadian processes by lack of dark: first results of blood-pressure monitoring
Jarmila Siegelová, Bohumil Fišer, Zuzana Brázdová, Martin Forejt, Jan Hollan
Masaryk University in Brno, Czech Republic

Melatonin – a natural anti-cancer substance
V. Srinivasan¹, S. R Pandi Perumal²
¹Department of Physiology, University Sains Malaysia, School of Medical Sciences, Kota Bharu, Malaysia; ²Department of Neurology, Downstate Medical Center, New York, USA

Evaluation of an optimized application model of chronotherapy with oxaliplatin/5-fluorouracil/leucovorin
R. Terkola, M. Peinsipp, E. Ostermann, J. Schüller
Austria

Melatonin and breast cancer: A prospective study
R.C. Travis¹, D.S. Allen², I.S. Fentiman², T.J. Key¹
¹University of Oxford, Oxford, United Kingdom; ²Academic Oncology Unit, Guy’s Hospital, London, United Kingdom

Melatonin: From Basic Research to Cancer Treatment Clinics. Vijayalaxmi¹, Terence S. Herman¹, Russel J. Reiter², Charles R. Thomas Jr.¹
¹Department of Radiation Oncology, ²Department of Cellular and Structural Biology, The University of Texas Health Science Center, San Antonio, USA

Principles of Photobiological Measurements for Melatonin Suppression Studies
Marko Weber, Karl Schulmeister
ARC Seibersdorf Research, Health Physics Division, Seibersdorf, Austria

Tumor Promotion and Cancer Risk: A Manifestation of Chronic Phase Decoupling of the Circadian Oscillator between Normal and Cancer “Initiated” Stem Cell Cohorts
John J. Wille
Bioderm Technologies, Inc, Trenton, New Jersey, USA

Melatonin secretion in patients with colorectal carcinoma
Zeman M.¹, Vician M.², Reis R.², Herichová I.¹
¹Department of Animal Physiology and Ethology, Comenius University, Bratislava, Slovakia; ²First Surgery Department, Medical Faculty and Hospital, Comenius University, Bratislava, Slovakia
TECHNICAL EXHIBITION
The Conference will be accompanied by a small technical exhibition.

LIST OF EXHIBITORS:

❖ HeartBalance
HeartBalance has the aim to use latest cognitions concerning human rhythms for diagnostic and therapeutic purposes. The initiative for the work of HeartBalance arose from the recognition that stress and overload are drastically increasing, both in the workplace and in our private lives. This can result in dysfunctions of the Autonomic Nervous System (ANS), psychosomatic problems and damage to the immune system which can subsequently lead to serious illnesses. To counter these threats, the scientists of HeartBalance have developed an early warning system to detect and display biorhythmic changes early on and thus to prevent an emerging illness. The HeartBalance early warning system – the HeartMan – measures the circadian body rhythms in a subtle way. Early diagnosis makes it possible to tackle serious illnesses before they break out.

❖ Lifeline
Lifeline Biotechnologies, Inc. is a medical research and development company engaged in the development of practical technologies for the detection of early stage cancer development. The company has developed a series of microendoscopes for the visual inspection of the breast’s ductal system and for the early detection of ovarian cancer.

Lifeline’s flagship technology, First Warning, is computer driven chronologically based method for early breast cancer detection. Based on the theory that the myriad of phenotypical and physiological changes, which take place during the maturation of both benign and neoplastic lesions of the breast have a profound effect on circadian rhythms.

It has been discovered that each of these classes of lesions may have their own distinct thermal “fingerprint”, which allows the lesions to be identified and distinguished from other types of breast lesions. Thus, eliminating both emotional impact to the patient and the high medical cost often associated with false positive detection of breast cancer.

Absolute temperature is of no diagnostic value. It is the activity of the temperature and the type of chaos produced by the lesion that is important. Thus, quantity of tissue is not important nor is the location of the lesion. Although, the First Warning System can isolate the quadrant in which the lesions are located. With the future development of a vector analysis algorithm, it will be possible to pin point the exact location of a lesion in the breast.

❖ WELEDA – in harmony with nature and the human being
Future-oriented as well as experienced, modern and traditionally anthroposophical – the WELEDA company.

WELEDA was founded in Switzerland in 1921 as a natural medicine laboratory. Today, WELEDA is the leading producer of anthroposophical medicines and holistic care products. The WELEDA headquarters are in Arlesheim, Switzerland. This original laboratory has expanded to including 18 affiliate companies all over the world. The company’s mission is to conserve, promote and restore physical health. The WELEDA range includes about 90 personal care products, like, for example, WELEDA Wild Rose Body Oil or WELEDA Calendula Baby Care. Approximately 100 over-the-counter medicines are produced for self-medication of arthrosis, colds, lesions and burns. Furthermore, the company produces about 6,000 prescription medicines and 200 individually manufactured medicines. WELEDA has established the highest standards for gathering, processing and preparing every ingredient used.
VENUE

"Minoritensäle" (Old Minorite Monastery)
Mariahilferplatz 1
8020 Graz, Austria

ACCOMMODATIONS

For hotel booking exclusively contact Graz Tourismus:

Almut Fuchs-Fehringer, Graz Tourismus GmbH
Messeplatz 1/Messeturm, 8010 Graz, Austria
Tel: ++43 316 8075-42, Fax: ++43 316 8075-55
e-mail: af@graztourismus.at

Should a hotel reservation be required, you are kindly requested to return the Hotel Reservation Form before September 13, 2004. As October is a busy period in and around Graz, we strongly advise you to reserve a hotel room as soon as possible.

TRANSPORTATION

Graz International Airport is located 12 km south of Graz.

There are various easy modes of transportation to the congress center and the hotels, such as taxis, train, and the public transportation system in Graz.

The "Minoritensäle" are located in the very heart of the city of Graz, only a 5 minutes walk from the city hall.

To get to the "Minoritensäle" by public transport: Bus 40 or 67, stop "Lendplatz", Tram 1,3,6,7 or 14, stop "Südtirolerplatz"

TOURISTIC INFORMATION ON GRAZ

Visit the website of the Graz Tourist board at cms.graztourismus.at/EN/
REGISTRATION

Please return the enclosed registration form to:
Allgemeine Unfallversicherungsanstalt, Kongressbüro
Adalbert-Stifter-Straße 65, 1200 Wien, Austria
Fax: (43 1) 33 111-469

Deadline for registration:
September 24, 2004 – places are limited!

PARTICIPATION FEE

The participation fee is EURO 300,--.
The fee for on-site registration is EURO 400,--.
The Conference registration fee includes participation in all scientific sessions, refreshment breaks, conference materials, and one ticket for the social evening.

PAYMENT

All bank transfers must be completed in Euro and with expenses paid by the sender to the following bank account:
"Allgemeine Unfallversicherungsanstalt - Kennwort Krebs und Rhythmus" with the Raiffeisen Zentralbank, Wien, bank code 31.000, account number 02000 105.460
IBAN-Code: AT083100002000105460, Swiftcode: RZBAATWW

It is imperative to indicate the name/s of the participant/s on the bank transfer. Otherwise your payment cannot be credited! Please make sure that transfer charges are not debited to the congress account.
Payment by credit card (Visa, Mastercard) will also be accepted.

Note

Upon receipt of the registration form and the corresponding payment, the congress office will send a confirmation form to the participant which also serves as an invoice. Please show this confirmation of participation at the registration counter when picking up your congress material.

Cancellations have to be submitted in writing to the Congress secretariat at the AUVA. A cancellation charge of EURO 50,-- will be applied to all cancellations. No refunds will be given for cancellations postmarked after September 24, 2004. Substitutions will be accepted.

ON-SITE REGISTRATION
(AFTER SEPTEMBER 24, 2004)

Participants who want to register on-site are advised to arrive very early. On-site registration will be proceeded on a first-come, first-served basis. As places are limited there is no guarantee for a ticket on site.

REGISTRATION HOURS AT THE CONFERENCE WILL BE AT THE FOLLOWING TIMES:

Thursday, October 14, 10:00 – 18:00
Friday, October 15, 8:00 – 18:00
Saturday, October 16, 8:00 – 12:00