



invite you to

The 19th Prague – Lublin – Sydney – St. Petersburg Symposium

Main topic: **Interdisciplinary approach to growing skeleton**

The Symposium will be held in the Czech Police Museum & the Medical House
Sokolská 31, 120 26 Prague 2, Czech Republic

under the auspices of honorary president of the Czech Medical Association J.E. Purkyně

Professor Jaroslav Blahoš, MD, DSc.

&

the dean of The Faculty of Health Care Studies, West Bohemia University
Assoc. Professor Dr. Ilona Mauritzová, PhD

in September 13 – 16, 2017

SYMPOSIUM PRELIMINARY PROGRAMME

Wednesday, September 13, 2017

Arrival of participants to Prague

19.30 Celebrating Supper with participants from abroad

Thursday, September 14, 2017

8.00 - 9.00 Registration of participants in the CZECH POLICE MUSEUM

9.00 Opening of the Symposium

Ivo Marik & Tomasz Karski & Mikhail Dudin (or Aleksey Arsenev)

Welcome Speeches

Professor Ivo Marik
Professor Mikhail Dudin
Professor Tomasz Karski

Invited lecture of the Honorary President of the
Czech Medical Association J.E. Purkyně (CMA) and Czech Osteological Society CMA
Professor Jaroslav Blahos, MD, DSc.

Blahos Jaroslav /Prague, Czech Republic/

Theme reserved

Czech Medical Association, J.E. Purkyně, Prague, Czech Republic

Moderator: Professor Josef Hyánek, MD, DSc.

10.00 – 13.00 Session I:

Biomechanics – varia

Chairmen: **Petrtyl Miroslav, Culik Jan, Marsik Frantisek**

Petrtyl Miroslav¹, **Volf Jaromír**², **Povysil Ctibor**³ /Prague, Czech Republic/

The subtle electrical energy in bone tissue

¹ *Department of Mechanics, Laboratory of Biomechanics and Biomaterial Engineering, Czech Technical University, FCE, Prague, Czech Republic*

² *Department of Electrical Engineering and Automation, The Faculty of Engineering, Czech University of Life Sciences Prague*

³ *Institute of Pathology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic*

Marsik Frantisek^{1,2,3} /Prague, Czech Republic/

The irreversibility of natural processes and their consequences for the evolution of biological systems. Entropy and its biological interpretation

¹ *Institute of Thermomechanics of the Czech Academy of Sciences, Prague, Czech Republic*

² *University of West Bohemia, New Technologies - Research Centre, Pilsen, Czech Republic*

³ *Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic*

Tesar Karel^{1,2}, **Sucharda Zbynek**³, **Zaloudková Margit**³, **Balik Karel**³ /Prague, Czech Republic/

Biodegradable magnesium wires for bone support application

¹ *Department of Materials, Faculty of Nuclear Sciences and Physical Engineering, Czech Republic*

² *Department of Dielectrics, Institute of Physics of the Czech Academy of Sciences, Czech Republic*

³ *Department of Composites and Carbon Materials, Institute of Rock Structure and Mechanics of the Czech Academy of Sciences, Prague, Czech Republic*

Braun Martin, **Ryglova Sarka**, **Supova Monika**, **Zaloudkova Margit**, **Krizková Martina**, **Sucharda Zbynek**, **Suchy Tomas** /Prague, Czech Republic/

Chemical analysis of collagen and non-collagen components of composite biomaterials for implantology

*Department of Composites and Carbon Materials, Institute of Rock Structure and Mechanics
Academy of Sciences of the Czech Republic*

Culik Jan /Prague, Czech Republic/

Gait model

*Czech Technical University, Division of Informatics of Faculty of Biomedical engineering, Kladno,
Czech Republic*

13.00 Lunch

14.00 – 16.30 Session II:

Osteology, Bone Metabolism

Chairmen: **Palicka Vladimír, Bayer Milan, Marik Ivo**

Palicka Vladimír /Hradec Kralove, Czech Republic/

Theme reserved

Medical faculty, Charles University, Hradec Kralove

Lyrītis George /Athens, Greece/

ELECOST: A Greek educational tool for the diagnosis and management of osteoporosis in Greece

Faculty of Medicine, National and Kapodistrian University of Athens, Greece

Rizou Stavroula /Athens, Greece/

Are Women Overtreated for Osteoporosis?

Hellenic Osteoporosis Foundation, Kifissia, Greece

Nikolaou Dimitrios¹, **Rizou Stavroula**² /Athens, Greece/

A novel approach for fracture risk and risk of falling aggregation

¹*Medical School, National and Kapodistrian University of Athens, Greece*

²*Hellenic Osteoporosis Foundation, Kifissia, Greece*

Lambrou George I.^{1,2,3,4} /Athens, Greece/

Microgravity and bone metabolism. Issues of *orbis novum* colonalization

¹*National and Kapodistrian University of Athens, Medical School*

²*Graduate Program “Metabolic Bones Diseases”, National and Kapodistrian University of Athens,*

³*Medical School, Goudi, Athens, Greece*

⁴*First Department of Pediatrics, University of Athens, Choremeio Research Laboratory, National and Kapodistrian University of Athens, Greece*

15.40 Coffee break

Bayer Milan^{1,2}, **Jirotkova Jana**³ /Prague, Czech Republic/

Osteogenesis imperfecta – treatment with bisphosphonate from newborn period

¹*Department of Children and Adolescents, Third Faculty of Medicine, Charles University, Prague, Czech Republic*

²*Department of Pediatrics, Thomayer Hospital of Prague, Czech Republic*

³*Department of Pediatrics, Hospital of Ceske Budejovice, Czech Republic*

Vyskocil Vaclav /Pilsen, Czech Republic/

Theme reserved

17.30 Visit of of the exhibition *Man-made Man –Technology and Medicine*, The National technical museum, Prague

19.00 Dinner

Friday, September 15, 2017

8.00 - 9.00 Registration of participants in the Medical House, Prague

9.00 – 13.00 Session III:

Spine disorders I: pathogenesis, diagnosis and treatment

Chairmen: **Karski Tomasz, Arsenev Aleksey Valentinovich, Parizkova Jana, Repko Martin**

Karski Tomasz¹, **Karski Jacek** ²/Lublin, Poland/

Twenty two years of knowledge about aetiology of the so-called idiopathic scoliosis (adolescent idiopathic scoliosis – AIS). Rules of casual prophylactics and new treatment. Examples

¹*Vincent Pol University in Lublin, Poland*

²*Pediatric Orthopedic and Rehabilitation Department of Medical University in Lublin, Poland*

Pallová Iveta /Prague, Czech Republic/

Characteristic features of idiopathic scoliosis

Center of Rehabilitation, Pediatrics and Acupuncture, Prague, Czech Republic

Arsenev Aleksey Valentinovich, Dudin M.G. /St. Petersburg, Russia/

“Targets” for pathogenetic treatment of patients with adolescent idiopathic scoliosis

Children's Rehabilitation Center of Orthopaedics and Traumatology «Ogonyok», St. Petersburg, Russia

Repko Martin, Filipovic Milan /Brno, Czech Republic/

Theme reserved

Orthopaedic department, Faculty Hospital of Masaryk's University Brno

Piet J.M. van Loon¹; **Ruud HGP van Erve**¹; **Eric BTM Thunnissen**², **Lodewijk W.van Rhijn**³, **Andre J Grotenhuis**⁴ /Deventer, Amsterdam, Maastricht & Nijmegen, Netherlands/

Sedentary lifestyle and discongruent neuro-osseous growth relations (M.Roth) as external and internal etiologic factors of spinal deformity and skeletal malalignment. Modern youth and their short cord.

¹ *Orthopedic surgeon, Care to Move, Centre for Orthopedics, Deventer, Netherlands*

² *Pathologist, epidemiologist VUMC, Free University, Amsterdam, Netherlands*

³ Professor of orthopedic surgery, Maastricht UMC, Maastricht, Netherlands

⁴ Professor of neurosurgery, RadboudMC, University of Nijmegen, Netherlands

Parizkova Jana, Sedlak Petr, Musalek M, Dvorakova H /Prague, Czech Republic/

Long term changes of physical activity, motor abilities and problems, and body composition in children and adolescents

Obesity Management Centre, Institute of Endocrinology, Prague Czech Republic

11.00 Coffee break

Spine disorders II – pathogenesis, diagnosis and treatment - varia

Chairmen: **Kolesnichenko Vera, Cerny Pavel, Karski Jacek**

Cerny Pavel^{1, 2, 3)}, **Stolinski Lukasz**^{4, 5, 6)}, **Czaprowski Dariusz**^{7, 8)}, **Marik Ivo**^{1, 9)}, **Muranova J.**³⁾, **Kotwicki T.**⁴⁾ /Prague Pilsen, Czech Republic - Poznań Olsztyn, Poland /

Method of measuring axial pelvis rotation – a pilot study

¹ Faculty of Health Care Studies, University of West Bohemia, Pilsen, Republic

² Faculty of Physical Education and Sport, Charles University, Prague, Republic

³ ORTOTIKA, l.l.c., the complex of the Faculty Hospital at Motol, Prague, Republic

⁴ Department of Spine Disorders and Pediatric Orthopedics, University of Medical Sciences, Poznan, Poland

⁵ Rehasport Clinic, Poznan, Poland.

⁶ Rehasport Clinic Licensed Rehabilitation Center, Skierniewice, Poland

⁷ Department of Physiotherapy, Józef Rusiecki University College, Olsztyn, Poland

⁸ Center of Body Posture, Olsztyn, Poland

⁹ Ambulant Centre for Defects of Locomotor Apparatus l.l.c., Prague, Czech Republic

Vasilevich Sergey Viktorovich³, **Arsenev Aleksey Valentinovich**¹, **Dudin Mikhail Georgiyevic**¹, **Baloshin Yuriy Aleksandrovich**³, **Kipke M.V.**², **Sorokin A.A.**² **Sukhov T.M.**^b, **Sukhova M.A.**^c /St. Petersburg, Russia/

The potential of modern mobile technology for the diagnosis of anthropometric parameters of a human

¹ Children's Rehabilitation Center of Orthopaedics and Traumatology «Ogonyok»,

² FSBEI HE Baltic State Technical University "Voenmeh" Named after D.F. Ustinov

³ Ltd "Smart-Orto", St. Petersburg, Russia

Kolesnichenko Vera¹, **Gresko Igor**² /Kharkov & Lviv Ukraine/

Motor control dysfunction particularly in patients with chronic low back pain and a variety of myotonic reactions

¹ - SI "Sytenko Institute of Spine and Joint Pathology

National Academy of Medical Sciences of Ukraine", Kharkov, Ukraine

² - Lviv National Medical University named after Danila Galitsky, Ukraine

Karski Tomasz¹, **Kędziński Zbigniew**², **Karski Jacek**³, **Domagała Marian**⁴, **Slowinska Beata**², **Kowalska Magdalena**², **Boryga Bartosz**² /Lublin, Poland/

Physiotherapy of spine, hips, knees, feet, shoulders – correct, incorrect, mistakes, wrong conceptions. Examples.

¹ Vincent Pol University in Lublin, Poland

² Military Hospital in Lublin, Poland

³Medical University in Lublin, Poland

⁴Medical Centre in Laszczów, Poland

13.00 Lunch

14.00 – 18.30 Session IV:

Disorders of growing skeleton – orthopaedic anthropology – pathobiomechanics – varia

Chairmen: **Zemkova Daniela, Karski Jacek, Marik Ivo**

Zemková Daniela ^{3, 1}, **Marik Ivo** ^{1, 2, 4}, **Petrasova Sarka**¹, **Hudakova Olga**¹ /Prague & Pilsen, Czech Republic/

Skeletal disorders with lower and higher bone density

¹ Ambulant Centre for Defects of Locomotor Apparatus l.l.c.; Prague; Czech Republic

² Faculty of Health Care Studies, West Bohemia University; Pilsen, Czech Republic

³ Dept. of Paediatrics; University Hospital Motol; Prague; Czech Republic

⁴ Orthopaedic and Traumatology Department, Hospital Pribram, Czech Republic

Hruskova Lucie et al. /Prague, Czech Republic/

Recessive forms of osteogenesis imperfecta

Department of Pediatrics and Adolescent Medicine, First Faculty of Medicine, Charles University in Prague, Czech Republic

Marik Ivo ^{1, 2, 4}, **Zemkova Daniela** ^{1, 3}, **Myslivec Radek** ^{4, 1}, **Marikova Alena**¹, **Cerny Pavel** /Prague & Pilsen, Czech Republic/

Functional adaptation of bones. Explanation of skeletal deformities in skeletal genetic disorders

¹ Ambulant Centre for Defects of Locomotor Apparatus l.l.c.; Prague; Czech Republic

² Faculty of Health Care Studies, West Bohemia University; Pilsen, Czech Republic

³ Dept. of Paediatrics; University Hospital Motol; Prague; Czech Republic

⁴ Orthopaedic and Traumatology Department, Hospital Pribram, Czech Republic

⁵ Ortopica l.l.c.

Anyzova Tereza¹, **Zemkova Daniela** ^{2, 1}, **Petrasova Sarka**¹, **Marikova Alena**¹, **Morvova Zuzana**¹, **Marik Ivo** ^{1, 2} /Prague & Pilsen, Czech Republic/

Growth curves of Czech achondroplastic patients – a pilot study

¹ Ambulant Centre for Defects of Locomotor Apparatus l.l.c.; Prague; Czech Republic

² Dept. of Paediatrics; University Hospital Motol; Prague; Czech Republic

³ Faculty of Health Care Studies, West Bohemia University; Pilsen, Czech Republic

Funda Jiri /Příbram, Czech Republic/

Leg length discrepancy following total hip arthroplasty

Department of Trauma and Orthopaedic Surgery, Hospital Příbram, Czech Republic

Kwiatkowski Michal, Popko Janusz /Bialystok, Poland/

Surgical treatment of flexible flatfoot in children. Early follow up study.

Department of Pediatric Orthopaedics and Traumatology, Medical University of Białystok, Białystok, Poland

Karski Jacek¹, Okoński Marek¹, Jakubowski Paweł¹, Karska Klaudia², Kandzierski Grzegorz¹

Indications for surgical treatment in Perthes disease. The effectiveness of different methods

¹ *Paediatric Orthopaedic and Rehabilitation Department of Medical University in Lublin*

² *Department of Interventional Radiology and Neuroradiology of Medical University in Lublin*

16.30 Coffee break

Zwipp Hans /Dresden, Germany/

Fractures of the Foot and its Relevance of Foot Development in Children

Orthopedic and Traumatology Department of the University in Dresden, Germany

Nemec Ivo¹, Smrcka Vaclav², Mihaljevič M.³, Mazánek J.⁴, Pokorný J.⁵ /Prague, Czech Republic/

Effect of inferior alveolar nerve transection on the inorganic component of the mandible – experimental model.

¹ *Department of Otorhinolaryngology and Maxillofacial Surgery 3rd Faculty of Medicine of Charles University in Prague & the Military University Hospital Prague, Czech Republic.*

² *Institute for History of Medicine and Foreign Languages & Department of Plastic Surgery, 1st Faculty of Medicine, Charles University in Prague, Bulovka Hospital, Czech Republic*

³ *Institute of Geochemistry, Mineralogy and Mineral Resources, Faculty of Science, Charles University in Prague, Czech Republic*

⁴ *Department of Stomatology, 1st Faculty of Medicine, Charles University in Prague and General University Hospital in Prague, Czech Republic*

⁵ *Institute of Physiology, 1st Faculty of Medicine, Charles University in Prague, Czech Republic*

Zarković Dragana¹, Sorfova Monika¹, Groleger-Srsen Katja², Cikajlo Imre³ /Prague, Ljubljana & Soča, Czech Republic & Slovenia/

Can we improve selective voluntary motor control in cerebral palsied children?

¹ *Charles University in Prague, Faculty of Physical Education and Sport, Department of Anatomy and Biomechanics, Prague, Czech republic bUniversity of Ljubljana, Faculty of Medicine,*

² *University Rehabilitation Institute of Republic Slovenia - Soča, Children's rehabilitation department, Ljubljana, Slovenia*

³ *University Rehabilitation Institute of Republic Slovenia - Soča, Laboratory of clinical kinesiology, Ljubljana, Slovenia*

Ryba Lukas¹, Koudela Karel², Marik Ivo^{1,3}, Rybova Stepanka¹, Staskova Sarka¹, Vlckova Iva¹ /Pilsen & Prague, Czech Republic/

Physiotherapy treatment in patient with femoroacetabular impingement - systematic review

1) *Faculty of Health Care Studies, West Bohemia University; Pilsen, Czech Republic*

2) *Faculty of Medicine, Charles University, Pilsen, Czech Republic*

3) *Ambulant Centre for Defects of Locomotor Apparatus; Prague; Czech Republic*

19.00 Dinner – Raut in the Restaurant History

Saturday, September 16, 2017

8.00 - 9.00 Registration of participants in the Medical House, Prague

9.00 - 12.00 Session V: lectures & posters

Disorders of growing skeleton – orthotics and prosthetics - biomechanics – varia

Chairmen: **Povysil Ctibor, Zemkova Daniela, Kuklik Miloslav**

Povysil Ctibor¹, **Marik Ivo**^{2,3}, **Zemkova Daniela**^{2,4}, **Krepelová Anna**⁵, **Kuklik Miloslav**⁴,
Kozlowski Kazimierz⁶, /Prague & Sydney, Czech Republic, Australia/

Diastrophic dysplasia

¹Institute of Pathology, 1st Faculty of Medicine, Charles University, Prague, Czech Republic

²Ambulant Centre for Defects of Locomotor Apparatus; Prague; Czech Republic

³Faculty of Health Care Studies, West Bohemia University; Pilsen, Czech Republic

⁴Dept. of Paediatrics; University Hospital Motol; Prague; Czech Republic

⁴Genetic Dept.; Czech Republic, Prague 3; Czech Republic

⁵Dept. of molecular genetics, Institute of biology and medical genetics, University Hospital Motol; Prague; Czech Republic

⁶New Children Hospital, Westmead, Sydney, Australia

Smrcka Vaclav /Prague, Czech Republic/

Challenges of biomolecular paleopathology

Institute for History of Medicine and Foreign Languages, Prague, Czech Republic

Chairmen: **Piet J.M. van Loon, Krawczyk Petr, Marik Ivo, Arsenev Aleksey**

Piet J.M. van Loon¹; **Ruud HGP van Erve**¹; **Andre J Grotenhuis**², **Eric BTM Thunnissen**³

/Deventer, Nijmegen & Amsterdam, Netherlands/

Thoracolumbar lordotic intervention (TLI) in spinal deformities. Effective mechanical growth modulation by muscular forces induced by bracing

1)Orthopedic surgeon, Care to Move, Centre for Orthopedics, Deventer, Netherlands

2)Professor of neurosurgery, RadboudMC, University of Nijmegen, Netherlands

3)Pathologist, epidemiologist VUMC, Free University, Amsterdam, Netherlands

Wanka Pavel, Šnytr Jan /Pilsen, Czech Republic/

Theme reserved

Otto Bock CZ l.l.c., Czech Republic

11.00 Coffee break

Bem Robert, Fejfarova Vladimira /Prague, Czech Republic/

Charcot foot the neglected complication of diabetes

Diabetes Centre, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

Fejfarova Vladimira /Prague, Czech Republic/

Conservative treatment of Charcot foot

Diabetes Centre, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

Navratil Kamil /Prague, Czech Republic/

Surgical management of Charcot foot

Transplantation Surgery Department, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

Krawczyk Petr¹, **Marik Ivo**², **Jakub Jozef**¹, **Sykora Ales**¹, **Zemkova Daniela**², **Petrasova Sarka**²

Marik Jan², **Uchytel Jaroslav**³, **Jandacka Daniel**³ /Prague & Ostrava, Czech Republic/

Influence of the weight of the transtibial prosthesis on postural stability and locomotion

¹ *PROTEOR CZ l.l.c., Ostrava, Czech Republic*

² *Ambulant Centre for Defects of Locomotor Apparatus l.l.c., Prague, Czech Republic*

³ *Diagnostic Centre of Human Movement PdF, Ostrava University, Czech Republic*

⁴ *Faculty of Medical Studies, West Bohemia University, Pilsen, Czech Republic*

E- posters

Presenter: **Arsenev Aleksey Valentinovich**

Rybka Dina Olegovna, **Dudin Mikhail Georgiyevich**, **Sharova L.E.** /St. Petersburg, Russia/

Capabilities of ultrasound diagnostics of paravertebral muscles in healthy children.

Preliminary report

Children's Rehabilitation Center of Orthopaedics and Traumatology «Ogonyok», St. Petersburg, Russia

Nikitina A.A., **Dudin Mikhail Georgiyevich** /St. Petersburg, Russia/

Parameters of electromyogram of paravertebral muscles of healthy children from 6 to 12 years old

Children's Rehabilitation Center of Orthopaedics and Traumatology «Ogonyok», St. Petersburg, Russia

Bazanova M.V., **Dudin Mikhail Georgiyevich**, **Koloskova L.E.**

Vitamin D 3 and VDR gene role in AIS pathogenesis within infant population.

(Preliminary report.)

Children's Rehabilitation Center of Orthopaedics and Traumatology «Ogonyok», St. Petersburg, Russia

Dudin Mikhail Georgiyevich, **Bober S.**, **Maximova N.**, **Gaiduk T.**, **Bogdanova N.**

/St. Petersburg, Russia/

Selective biofeedback training of the m. transversospinalis method for AIS.

Children's Rehabilitation Center of Orthopaedics and Traumatology «Ogonyok», St. Petersburg, Russia

Zaltsman P.L. /St. Petersburg, Russia/

Treatment of pain syndrome of vertebrogenic genesis in children and adolescents using differentiated methods of acupuncture

*Children's Rehabilitation Center of Orthopaedics and Traumatology «Ogonyok», St. Petersburg, Russia
Saint Petersburg, Russia*

Ivo Marik & Petr Krawczyk, Tomasz Karski & Arsenev Aleksey Valentinovich

Closing of the Symposium & Certificates & planning The 20th Prague-Lublin-Sydney-St. Petersburg Symposium

13.00 Lunch

14.00 Social Program
18.00 Celebratory dinner

Good bye!

NOTES

Lectures and text slides will be presented in English. Time of both the individual lectures and discussion is about 20 min.

A list of lectures/posters and chairmen of sessions can be changed!

Conference fee 50 Euros (it contains social programme & refreshment) will be paid by Bank Transfer
Bank: ČSOB, Na Pankráci 310/60, 140 00 Praha 4
Bank account: 500617613/0300
IBAN: CZ84 0300 0000 0005 0061 7613
Swift Code/BIC: CEKOCZPP
Owner of account: Czech Medical Association J.E. Purkyně, Prague, CZ
Variable symbol: 2517025 (into recipient information put on your name and surname).

Accommodation in hotels everybody pays independently.

Abstracts of lectures will be published in the Supplement 2 of the journal Locomotor System 24/2017 (electronic version, ISSN 2336-4777, <http://www.pojivo.cz/cz/pohybove-ustroji/>)

Participants will receive the Programme & Certificate of Attendance & Symposium materials

More recent information about the Symposium will be available on the websites:
www.pojivo.cz & www.pls-symposium.com

Do not hesitate address your questions to

International Organizers of the Symposium:

Prof. Ivo Marik, MD, PhD & Petr Krawczyk, MD
e-mail: ambul_centrum@volny.cz & krawczyk@proteorcz.cz

Prof. Tomasz Karski, MD, PhD & Jacek Karski, MD, PhD
e-mail: tmkarski@gmail.com & jkarski@vp.pl

Prof. Mikhail Dudin, MD, PhD & Assist. Prof. Aleksey Shashko, MD
e-mail: ogonek@zdrav.spb.ru & shravan@mail.ru

Notes: an information on the Czech Police Museum is at
<http://www.prague.eu/en/object/places/544/czech-police-museum-muzeum-policie-cr>