



Society For Connective Tissues CMA J.E. Purkyně & Society for Prosthetics and Orthotics CMA J.E. Purkyně  
& Czech Medical Association J.E. Purkyně & Medical University of Lublin & Vincent Pol University in Lublin

invite you to

# THE 24<sup>TH</sup> PRAGUE-LUBLIN SYMPOSIUM

## Locomotor Apparatus Adaptation III – Interdisciplinary Aspects

The Symposium will be held under the auspices  
of the president of the Czech Medical Association (CMA) J.E. Purkyně

**Professor Štěpán Svačina, MD, DSc.**

&

the honorary president of the Society for Connective Tissues CMA J.E. Purkyně

**Professor Josef Hyánek, MD, DSc.**

The Symposium will be held at the  
**Medical House, Sokolská 31, 120 26 Prague 2, Czech Republic, in November 5, 2022**

This event belongs to education actions integrated into the life training system of physicians  
according to professional statute No. 16 of the General Medical Council.



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# PROGRAMME

## SATURDAY, NOVEMBER 5, 2022

8.00–9.00 REGISTRATION OF PARTICIPANTS

9.00 OPENING OF THE CONFERENCE

### WELCOME SPEECHES

**Professor Ivo Marik, MD, PhD**

President of the Society for Connective Tissues, Czech Medical Association J.E. Purkyně

**Professor Tomasz Karski, MD, PhD**

Honorary member of the Society for Connective Tissues CMA J.E. Purkyně and the CMA J.E. Purkyně

Braun Martin, RNDr, PhD

**Introduction of Assistant Professor Dr. Jacek Karski (Lublin, Poland)**

9.20–12.20 | MORNING SESSIONS

### 9.20 | SESSION I: ADAPTATION OF LOCOMOTOR APPARATUS – MECHANOBIOLOGY – BIOCHEMICAL AND BIOMECHANICAL ASPECTS 1

**Chairmen:** Mařík Ivo, Krawczyk Petr, Karski Tomasz

**Current treatment options for Avascular Necrosis (AVN) of the hip joint in oncohaematological patients. Preliminary report**  
**Současné možnosti léčby avaskulární nekrózy (AVN) kyčelního kloubu u onkohematologických pacientů. Předběžná zpráva**

Karski Jacek<sup>1</sup>, Dudkiewicz Ewa<sup>2</sup>, Madej Tomasz<sup>3</sup>, Karska Klaudia<sup>3</sup> (Lublin, Poland)

<sup>1</sup> Paediatric Orthopaedic and Rehabilitation Department of Medical University of Lublin, Poland

<sup>2</sup> Department of Paediatric Haematology and Oncology and Transplantology Department of Medical University of Lublin, Poland

<sup>3</sup> Department of Paediatric Radiology of Medical University of Lublin, Poland  
jkarski@vp.pl

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## **Partial astragalectomy in treatment of severe neurogenic clubfoot Parciální astragalektomie při léčbě těžké neurogení „golfové“ nohy**

Okoński Marek, Kandzierski Grzegorz, Karski Jacek

*Paediatric Orthopaedic and Rehabilitation Department of Medical University of Lublin, Poland*

*jkarski@vp.pl*

## **Is better prevention on cancer reachable and shouldn't it be aimed in childhood? Lze dosáhnout lepší prevence rakoviny a neměla by být zaměřena již na dětství?**

Carcinogenesis in the light of Discongruent Osteoneural Growth Relations and Two-Growth-Types (Egg-Sperm) Concepts by Milan Roth and the suboptimal morphogenesis of contemporary youth

Karcinogeneze ve světle diskongruentních osteoneurálních růstových vztahů a koncepce dvou růstových typů (vajíčko-sperma) Milana Rotha a suboptimální morfogeneze současné mládeže  
P.J.M. van Loon<sup>1</sup>, Soeterbroek A.M.<sup>2</sup>, Grotenhuis J.A.<sup>3</sup> and Smit T.H.<sup>4</sup>

<sup>1</sup> *Orthopedic surgeon, Proktovar, Hengelo, the Netherlands;*

<sup>2</sup> *Analyst, Chairman of Posture Network Netherlands, the Netherlands*

<sup>3</sup> *Em. Prof. of Neurosurgery Radboud University Nijmegen, the Netherlands;*

<sup>4</sup> *Professor of Tissue Engineering; Mechanobiology of development and disease; Amsterdam UMC, the Netherlands*

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## **Evaluation of the effect of ageing on collagen and elastin-based tissues from the biochemical and biomechanical point of view**

### **Hodnocení vlivu stárnutí na tkáně na bázi kolagenu a elastinu z biochemického a biomechanického hlediska**

Braun Martin<sup>1</sup>, Suchý Tomáš<sup>1,2</sup>, Šupová Monika<sup>1</sup>, Horný Lukáš<sup>2</sup>, Adámek Tomáš<sup>3</sup>

<sup>1</sup> *Department of Composites and Carbon Materials, Institute of Rock Structure and Mechanics, Czech Academy of Sciences, Prague, Czech Republic*

<sup>2</sup> *Faculty of Mechanical Engineering, Czech Technical University in Prague, Prague Czech Republic*

<sup>3</sup> *Regional Hospital Liberec, Department of Forensic Medicine and Toxicology, Liberec, Czech Republic*

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TIME FOR LECTURE INCLUDING DISCUSSION IS 20 MIN.

DISCUSSION AFTER EACH LECTURE

10.40–11.00 COFFEE BREAK

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## 11.00 | SESSION II: ADAPTATION OF LOCOMOTOR APPARATUS – NEUROMUSCULAR AND SKELETAL RELATIONS

**Chairmen:** Piet von Loon, Mařík Ivo, Karski Jacek, Zemková Daniela

INVITED LECTURE – 30 MIN.

### **Artificial Intelligence – Apocalypse or Salvation Umělá inteligence – apokalypsa nebo spása**

Assoc. Professor Eng. Ján Šípoš

*GUTTA Slovakia spol. s r.o.*

*janos@sipos.at | www.guttaeu.eu*

INVITED LECTURE – 30 MIN.

### **History of Discoveries of Biomechanical Etiology of the So-Called Idiopathic Scoliosis (Adolescent Idiopathic Scoliosis [AIS]) in dates and “think over” / meditations**

### **Historie objevů biomechanické etiologie tzv. idiopatické skoliózy (adolescentní idiopatická skolióza [AIS]) v datech a „zamyšlení“ / meditace**

Karski Tomasz

*Professor Lecturer in Vincent Pol University in Lublin, Poland / In years 1995 – 2009 – Head of Pediatric Orthopedic and Rehabilitation Department of Medical University in Lublin, Poland*

*tmkarski@gmail.com www.ortopedia.karski.lublin.pl*

### **Bodily resilience of army-soldiers, a measure of congruent or incongruent Osteoneural Growth Relations?**

### **Tělesná odolnost vojáků – měřítko kongruentních nebo diskongruentních osteoneurálních růstových vztahů? Bude mít vliv sedavého způsobu života v raném dětství rozhodující vliv na výdrž “bot v terénu”?**

P.J.M. van Loon<sup>1</sup>, Soeterbroek A.M.<sup>2</sup>, Grotenhuis J.A.<sup>3</sup> and Smit T.H.<sup>4</sup>

<sup>1</sup> *Orthopedic surgeon, Proktovar, Hengelo, the Netherlands*

<sup>2</sup> *Analyst, Chairman of Posture Network Netherlands the Netherlands*

<sup>3</sup> *Em. Prof. of Neurosurgery Radboud University Nijmegen, the Netherlands*

<sup>4</sup> *Professor of Tissue Engineering; Mechanobiology of development and disease; Amsterdam UMC, the Netherlands  
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## **Influence of COVID-19-Related Restrictions on the Prevalence of Overweight and Obese Czech Children**

### **Vliv opatření souvisejících s COVID-19 na výskyt nadváhy a obezity u českých dětí**

Vážná Anna<sup>1</sup>, Vignerová Jana<sup>2</sup>, Brabec Marek<sup>3,4</sup>, Novák Jan<sup>1</sup>, Procházka Bohuslav<sup>5</sup>, Gabera Antonín<sup>6</sup> and Sedlak Petr<sup>1</sup>

<sup>1</sup> Department of Anthropology and Human Genetics, Faculty of Science, Charles University, Prague, Czech Republic

<sup>2</sup> Institute of Endocrinology, Prague, Czech Republic;

<sup>3</sup> Institute of Computer Science, Czech Academy of Sciences, Prague 8, Czech Republic;

<sup>4</sup> National Institute of Public Health, Prague, Czech Republic

<sup>5</sup> MUDr. Bohuslav Procházka I.L.c., Kutná Hora, Czech Republic;

<sup>6</sup> Medical Department Krásné Březno, Ústí nad Labem, Czech Republic

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TIME FOR LECTURE INCLUDING DISCUSSION IS 15 MIN.

DISCUSSION AFTER EACH LECTURE

12.30–13.15 | LUNCH

13.15–17.30 | AFTERNOON SESSIONS

## **13.15 | SESSION III: BONE DYSPLASIAS. ETIOPATHOGENESIS OF GENETIC SKELETAL DISORDERS**

**Chairmen:** Kutílek Štěpán, Bayer Milan, Zemková Daniela, Mařík Ivo

### **Hypophosphasia**

#### **Hypofosfázie**

Kutílek Štěpán (Klatovy, Czech Republic)

Dept. of Paediatrics; Hospital Klatovy; Klatovy, Czech Republic

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### **Two heterozygous sequence variants of the CTSK gene in a girl with very small stature**

#### **Dvě heterozygotní sekvenční varianty genu CTSK u dívky s velmi malým vzrůstem**

Bayer M.<sup>1</sup>, Gregorova A.<sup>2</sup>, Romanova M.<sup>1</sup>

<sup>1</sup> Department of Children and Adolescents, 3rd. Faculty of Medicine, Charles University and University Hospital Královské Vinohrady, Prague, Czech Republic

<sup>2</sup> Department of Medical Genetics, University Hospital Ostrava, Czech Republic

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## **Beals-Hecht syndrome: comparison of radioclinical findings and molecular genetic testing of DNA isolated from blood and bone tissue. Long term follow up** **Beals-Hechtův syndrom: srovnání radioklinických nálezů a molekulárně genetického vyšetření DNA izolované z krve a kostní tkáně. Dlouhodobé sledování**

Mařík Ivo<sup>1,2</sup>, Krulišová Veronika<sup>3</sup>, Zemková Daniela<sup>1,4</sup>, Smrčka Václav<sup>5</sup>, Myslivec Radek<sup>1,6</sup>, Maříková Alena<sup>1</sup>, Paszeková Helena<sup>3</sup>, Michalovská Renáta<sup>3</sup>, Vlčková Zdenka<sup>3</sup>

<sup>1</sup> Centre for Defects of Locomotor Apparatus I.I.c.; Prague, Czech Republic

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<sup>5</sup> 1<sup>st</sup> Medical Faculty, Charles University in Prague; Prague, Czech Republic & ESME I.I.c.

<sup>6</sup> Orthopaedic and Traumatology Dept; Hospital; Pribram, Czech Republic

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## **Phenotypic continuum of pathogenic COMP variants. Comparison MED1 and PSACH** **Fenotypové kontinuum patogenních variant COMP. Srovnání MED1 a PSACH**

Zemková Daniela<sup>1,2</sup>, Krulišová Veronika<sup>5</sup>, Vážná Anna<sup>1,4</sup>, Krutilková Věra<sup>6</sup>, Petrášová Šárka<sup>1</sup>, Mařík Ivo<sup>1,3</sup>

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<sup>6</sup> Clinical Genetics Outpatient Clinic, Laboratories of Agel a.s., Member of the AGEL Group; Prague, Czech Republic

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## **Radioulnar Synostosis – uncommon manifestation of Feingold syndrome** **Radioulnární synostóza – neobvyklý projev Feingoldova syndromu**

Krulišová Veronika<sup>1</sup>, Mařík Ivo<sup>2,3</sup>, Zemková Daniela<sup>2,4</sup>, Paszeková Helena<sup>1</sup>, Michalovská Renáta<sup>1</sup>, Vlčková Zdenka<sup>1</sup>

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<sup>4</sup> Dept. of Paediatrics; University Hospital Motol; Prague, Czech Republic

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**Early molecular genetic diagnosis of Spondylometaphyseal dysplasia – Kozłowski typ**  
**Časná molekulárně genetická diagnostika spondylometafyzární dysplazie – typ Kozłowski**

Černa Šárka<sup>1</sup>, Laštůvková Jana<sup>1</sup>, Zemková Daniela<sup>2,4</sup>, Černý Jan<sup>5</sup>, Mařík Ivo<sup>2,3</sup>

<sup>1</sup> Department of Medical Genetics, Masaryk hospital, Usti n/L, Czech Republic

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<sup>4</sup> Department of Paediatrics, University Hospital Motol; Prague, Czech Republic

<sup>5</sup> Department of Orthopaedics, University of J. E. Purkyne, Masaryk hospital, Usti n/L, Czech Republic  
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TIME FOR LECTURE INCLUDING DISCUSSION IS 15 MIN.

DISCUSSION AFTER EACH LECTURE.

14.45–15.00 | COFFEE BREAK

**15.00 | SESSION IV: SESSION IV: NEUROMUSCULAR AND SKELETAL ADAPTATION – REMODELLING OF CONNECTIVE TISSUES**

**Chairmen:** Kraus Josef, Mařík Ivo, Krawczyk Petr

**Adaptation to extrapyramidal lesion in extrapyramidal form of cerebral palsy**  
**Adaptace na extrapyramidovou lézi u extrapyramidové formy mozkové obrny**

Kraus Josef

Dept. of child neurology, University Hospital Motol, Prague, Czech Republic

josef.kraus@lfmotol.cuni.cz

**Clinical and psychological symptoms of Minimal Brain Dysfunction (MBD). Causes. Children and adults. Examples of pathology. Methods of therapy**  
**Klinické a psychologické příznaky minimální mozkové dysfunkce (MBD). Příčiny. Děti a dospělí. Příklady patologie. Metody terapie**

Karski Tomasz<sup>1</sup>, Karski Jacek<sup>2</sup>, Kędzierski Zbigniew<sup>3</sup>, Domagała Marian<sup>4</sup>

<sup>1</sup> Professor Tomasz Karski MD, Ph.D., Vincent Pol University, Lublin, Poland

<sup>2</sup> Assist. Professor Jacek Karski MD Ph.D., Medical University in Lublin, Poland

<sup>3</sup> Dr med. Zbigniew Kędzierski, Orthopedic Scientific Center in Lublin, Poland

<sup>4</sup> Dr Domagała Marian, Medical Center in Laszczów, District Tomaszów Lubelski, Poland  
tmkarski@gmail.com

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## **Exopulse Mollii Suit – the first neuromodulation suit** **Exopulse Mollii Suit – první neuromodulační oblek**

Vostracká Karolína

*Otto Bock Czech Republic, I.Lc., Zruč-Senec, Czech Republic*

*email@ottobock.cz*

TIME FOR LECTURE INCLUDING DISCUSSION IS 20 MIN.

DISCUSSION AFTER EACH LECTURE.

### **16.00 | SESSION V: REMODELLING OF CONNECTIVE TISSUES**

**Chairmen:** Krawczyk Petr, Černý Pavel, Karski Jacek

#### **Development and testing of a 3D printed protective cranial orthosis** **Vývoj a testování 3D tištěné ochranné lebeční ortézy**

Rosický Michael, Martínek Matěj, Rosický Jiří

*Invent Medical Group, Ostrava, Czech Republic*

*michael@inventmedical.com*

#### **Ongoing evaluation of the treatment of pectus excavatum with a vacuum bell and pectus carinatum with a thoracic brace** **Průběžné hodnocení léčení pectus excavatum vakuovým zvonem a pectus carinatum hrudní ortézou**

Černý Pavel<sup>1,3</sup>, Mařík Ivo<sup>1,4</sup>, Doucha Miloš<sup>2</sup>, Kučerová Barbora<sup>2</sup>, Zemková Daniela<sup>5</sup>

<sup>1</sup> *Faculty of Health Care Studies, West Bohemia University; Pilsen, Czech Republic*

<sup>2</sup> *Dept. of Pediatric Surgery, 2nd Medical Faculty, Charles University and University Hospital Motol, Prague, Czech Republic*

<sup>3</sup> *Ortotika I.Lc., Prague, Czech Republic*

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<sup>5</sup> *Dept. of Paediatrics, Charles University Hospital Motol, Prague, Czech Republic*  
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**Risk of knee osteoarthritis in patients with transtibial amputation – effect of prosthesis weight**  
**Riziko osteoartrózy kolenního kloubu u pacientů s transtibiální amputací – vliv hmotnosti protézy**

Krawczyk Petr<sup>1</sup>, Rygelová Markéta<sup>2</sup>, Kutáč Petr<sup>2</sup>, Uchytíl Jaroslav<sup>2</sup>, Bužga Marek<sup>2</sup>, Zemková Dana<sup>3,4</sup>, Mařík Ivo<sup>4,5</sup>

<sup>1</sup> *PROTEOR CZ, I.L.c., Ostrava, Czech Republic*

<sup>2</sup> *Department of Human Movement Studies, Human Motion Diagnostic Centre, University of Ostrava,*

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**The use of technical aids to prevent serious consequences of falls in the elderly**  
**Využití technických pomůcek k prevenci závažných následků pádů u starších osob**

Šorfova Monika, Islami Timur

*Department of Biomedical Foundation in Kinanthropology, Faculty of Physical Education and Sport, Charles University, Prague, Czech Republic*

*sorfova@seznam.cz*

**Analysis of the contact area of the upper limb for three types of blows**  
**Analýza kontaktní plochy horní končetiny pro tři typy úderů**

Beránek Václav<sup>1</sup>, Šťastný Petr<sup>2</sup>, Turquier Frederic<sup>3</sup>, Nováček Vít<sup>1,4</sup>, Votápek Petr<sup>5</sup>

<sup>1</sup> *Department of Rehabilitation, Faculty of Health Care Studies, University of West Bohemia in Pilsen, Pilsen, Czech Republic*

<sup>2</sup> *Department of Sport Games, Faculty of Physical Education and Sport, Charles University, Prague, Czech Republic*

<sup>3</sup> *Ecole Spéciale de Mécanique et d'Electricité, Lyon, France*

<sup>4</sup> *Biomechanical modelling of the human body, New Technologies – Research Centre, University of West Bohemia in Pilsen, Czech Republic*

<sup>5</sup> *Department of Design, Faculty of Mechanical Engineering, University of West Bohemia in Pilsen, Pilsen, Czech Republic*

*vberanek@kfe.zcu.cz*

TIME FOR LECTURE INCLUDING DISCUSSION IS 15 MIN.

DISCUSSION AFTER EACH LECTURE.

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## 17.30 | CLOSING OF THE SYMPOSIUM AND PLANNING THE 25<sup>TH</sup> PRAGUE-LUBLIN SYMPOSIUM

Ivo Marik & Petr Krawczyk & Tomasz Karski & Jacek Karski & Piet van Loon

18.00 | DINNER

### **ORGANIZERS OF THE SYMPOSIUM**

**Professor Ivo Mařík, MD, PhD & Petr Krawczyk, MD & Martin Braun, RNDr., PhD**

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Participants will receive the Programme and Certificate of Attendance

Abstracts of lectures will be published in Supplement 2 of the journal Locomotor System, vol. 29, 2022  
(electronic version, ISSN 2336-4777, <http://www.pojivo.cz/cz/pohybove-ustroji/>)

More recent information about the Symposium will be available on the websites:

[www.pojivo.cz](http://www.pojivo.cz) & [www.ortoprotetika.cz](http://www.ortoprotetika.cz)