PROF. DR. PIETRO ENRICO DI PRAMPERO – AN HONORARY DOCTOR OF THE UNIVERSITY OF PRIMORSKA

Prof. Pietro Enrico di Prampero, born on April 4, 1940, in the Italian city of Udine, graduated from the Faculty of Medicine at the University of Milan in 1964 and concluded his specialisation in sports medicine in 1968.

He had already commenced his extensive scientific research by the mid 1960s when he published a number of scientific works in the field of studying the energetics of muscle contraction, which had been a completely unexplored field at that time. With the many colleagues who joined him in his research challenges, Prof. di Prampero focused on examining and researching anaerobic metabolic processes, the speed of muscle contraction and the thermodynamic efficiency of muscle contraction.

At the same time, he also dedicated significant efforts to exploring the important role and various aspects of the energy processes of training and exercising, as well as the biomechanical laws of human movement. Prof. di Prampero's research during the 1980s focused mainly on examining human physiology and both the functions and adaptations of the human organism in a zero gravity environment. It is also vital to mention his significant contribution in researching the responses of the human body to extreme conditions. This body of research includes numerous studies which he managed and conducted for the European Space Agency. It is in this field which he initiated the cooperation with the Institute for Kinesiology Research in 2003 and which continues today.

During his career Prof. di Prampero has to his credit more than 330 publications, 136 of them in SCI journals (41 publications as the first author), more than 20 reviews and other papers. He is the author of several scientific works: *Physiological Chemistry of Exercise & Training* (Medicine and Sport), 1981; in *The Anaerobic Threshold: Physiological and Clinical Significance* (Advances in Cardiology), 1987.

He has been conveying his knowledge to students since 1964 when he was an assistant at the Institute of Human Physiology at the University of Milan, and later as a professor of Applied Physiology at the Universities of Milan, Geneva and Udine.

As visiting professor and researcher, he has also worked in institutes in Gottingen, Germany, in Toronto, Canada, at the State University of New York, at the University of Mogadish in Somalia, and at the University of Yaorunde in Cameroon, etc. During the period from 1989 to 1994, he was the Dean of the Faculty of Medicine in Udine. In 2000, he established the School of Sport Sciences at the University of Udine and managed it as its first director.

Prof. di Prampero has worked in several organisations and working groups: *The Life Sciences Working Group of the European Space Agency (ESA)*, as a member (1986–89) and as the chairman (1989–91); from 1991 to 1994 he was the member of the *Microgravity Advisory Committee of European Space Agency*, in 1994 he was the member of the *Expert Scientific Council of the Italian Space Agency (ASI): for the Life Sciences*. He also cooperated in the *Biochemistry of Exercise of the International Council of Sport Science Research Group*.

He was a member of the board of editors of the *European Journal of Applied Physiology* for more than 25 years and was the chief editor from 1998 to 2007. He was also a member of the board of editors of the following journals: *Journal de Physiologie (Paris)* (1983–87); *Respiration Physiology* (1987–91); *Scandinavian J. of Medicine and Science in Sports* (1990–95) and *the Journal of Sports Medicine and Physical Fitness* (since1992).

Prof. di Parmpero is a member of the Italian Physiologists Association, a member of the New York Academy of Science and the International Academy of Astronautics. He was also an active member of UNESCO from 1978 to 1997.

We are pleased that the Science and Research Centre of the University of Primorska is a part of his career, since he has been actively cooperating along with his colleagues from the University of Udine in research studies at our institute since 2003. His contributions should be noted in cooperation with international projects: BED REST – The impact of simulated zero gravity on human organism (2006, 2007, 2008), Altitude acclimatisation (2008–2009), S4H – Space for Health (2010), Central and peripheral limitations to oxidative metabolism in body builders (2009–2010), and in the recently acquired Interreg project – PANGEA – Body activity and food for quality ageing (2001–2014). He also participated in five conferences organised by the Science and Research Institute IKARUS and he is the co-author of an independent publication in our scientific paper. We are especially honoured that he has been lecturing at the new post-graduate study programme of UP Famnit: Applied Kinesiology (2nd degree), and that he is also the main lecturer of the course titled The abilities and limits of aerobic and anaerobic exercise.

In April of last year, Prof. di Prampero celebrated his 70th birthday within the circle of scientists and researchers, people with whom he has spent the major part of his extensive research career. This celebration was also the appropriate occasion for organising an international symposium *Exercise Physiology and the Limits of Human Performance – a tribute to Prof. Pietro E. di Prampero* and for publishing a special edition of the renowned scientific journal, *European Journal of Applied Physiology*, presenting

his extensive research opus. The IKARUS team was pleased and honoured to have the possibility to be a part of this celebration.

Prof. di Prampero retired in November 2010, however, he continues passing his knowledge on to students and researchers at many universities where he is invited as a lecturer and researcher. We are proud that the University of Primorska and its Institute for Kinesiology Research of the Science and Research Centre, as well as the study programmes of Applied Kinesiology at the Faculty of Mathematics, Natural Science and IT are involved in this collaboration.

Everything presented here clearly demonstrates that Professor Pietro Enrico di Prampero is one of the world's top researchers in the field of human physiology in zero gravity space. We were pleased that upon our proposal and with the excellent assessments of four renowned local and foreign scientists and experts, the Senate of the University of Primorska chose to award Prof. Dr. Pietro Enrico di Prampero the title Doctor Honoris Causae of the University of Primorska.

Those who have or had the opportunity to work with Prof. di Prampero have experienced his greatness, his attitude toward science and people, students and colleagues. It seems that this world is too small for him, and that is why we hope to continue our cooperation and look forward to having many possibilities to learn from him.

On behalf of the Institute of Kinesiology Research at UP ZRS

Prof. Dr. Rado Pišot, Head of the Institute of
Kinesiology Research at UP ZRS

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

PROF. DR. PIETRO ENRICO DI PRAMPERO – ČASTNI DOKTOR UNIVERZE NA PRIMORSKEM

Prof. Pietro Enrico di Prampero, roj. 4. 4. 1940 v Vidmu v Italiji, je leta 1964 diplomiral na Medicinski fakulteti Univerze v Milanu ter se leta 1968 nadalje specializiral v medicini športa.

Njegov začetek obsežnega znanstveno-raziskovalnega dela sega že v sredino 60. let 20. stoletja, ko je objavil vrsto znanstvenih del o takrat popolnoma neraziskanem področju proučevanja energetskih procesov mišičnega krčenja. S sodelavci, ki so se mu v teh raziskovalnih izzivih priključili, se je usmeril na proučevanje in raziskovanje anaerobnih presnovnih procesov, hitrosti mišičnega krčenja in termodinamične učinkovitosti mišičnega krčenja.

Vzporedno s temi raziskavami je posvečal veliko časa tudi odkrivanju pomembne vloge in različnih vidikov energijskih procesov treninga in vadbe ter biomehanskih zakonitosti človekovega gibanja. Nadalje se je njegovo raziskovalno delo v 80. letih usmerjalo predvsem na proučevanje fiziologije človeka in delovanja ter adaptacij človekovega organizma v breztežnem prostoru. Pri tem je treba omeniti njegov pomemben prispevek v raziskovanje odziva človekovega telesa na ekstremne pogoje, med katere sodijo številne študije, ki jih je vodil in opravil za Evropsko vesoljsko agencijo. Ravno na tem področju se je leta 2003 tudi začelo sodelovanje s takratnim ZRS RS – Inštitutom za kineziološke raziskave, ki traja še danes.

V svojem bogatem raziskovalnem obdobju je objavil preko 330 del, od tega 136 objav v SCI revijah (kar enainštiridesetkrat kot prvi avtor), preko 20 recenzij in delov monografij. Je avtor več znanstvenih knjig: *Physiological chemistry of exercise & training (Medicine and sport)*, 1981, in *The anaerobic threshold: Physiological and clinical significance (Advances in cardiology)*, 1987.

Svoje bogato znanje podaja študentom že od leta 1964, ko je pričel z asistenturo na Inštitutu za fiziologijo človeka na Univerzi v Milanu ter nadalje kot profesor Aplikativne fiziologije na Univerzah v Milanu, Ženevi ter Vidmu. Kot gostujoči profesor in raziskovalec pa je deloval na inštitutih v Göttingenu v Nemčiji, v Torontu v Kanadi, na Newyorški državni univerzi, na Univerzi v Mogadishu v Somaliji, na Univerzi v Yaorunde v Kamerunu itd.

V letih od 1989 do 1994 je kot prvi dekan vodil Medicinsko fakulteto v Vidmu. Leta 2000 je ustanovil *School of Sport Sciences University of Udine* in jo vodil kot prvi direktor.

Deloval je v več organizacijah in delovnih skupinah: *Life Sciences Working Group of the European Space Agency (ESA)*, kot član (1986–1989) in kot predsednik (1989–1991); od 1991–1994 kot član komiteja *Microgravity Advisory Committee of European Space Agency*, letu 1994 je bil član *Expert Scientific Council of the Italian Space Agency (ASI): for the Life Sciences*. Sodeloval je tudi v raziskovalni skupini *Biochemistry of Exercise of the International Council of Sport Science and Physical*.

Več kot 25 let je bil član uredniškega odbora znanstvene revije *European Journal of Applied Physiology* in med leti 1998 in 2007 tudi njen odgovorni urednik. Kot član uredniškega odbora je sodeloval še v revijah: *Journal de Physiologie* (Paris) (1983–1987); *Respiration Physiology* (1987–1991); *Scandinavian Journal of Medicine and Science in Sports* (1990–95) ter *Journal of Sports Medicine and Physical Fitness* (od 1992 dalje).

Prof. di Parmpero je član Združenja italijanskih fiziologov, član Newyorške Akademije za znanost ter Mednarodne akademije za astronavtiko. Od leta 1978 do 1997, kar 19 let, je bil tudi aktivni član UNESCA.

Zadovoljni smo, da smo bili tudi na UP ZRS deležni njegovega bogatega raziskovalnega dela, saj že od leta 2003 skupaj s sodelavci Univerze v Vidmu aktivno sodeluje pri raziskovalnem delu našega inštituta. Njegov prispevek lahko izpostavimo v sodelovanju na mednarodnih projektih BED REST – Vpliv simulirane breztežnosti na organizem človeka (2006, 2007, 2008), na projektu Višinska aklimatizacija (2008–2009), *S4H – Space for Health* (2010), projektu *Central and peripheral limitations to oxidative metabolism in body builders* (2009–2010) in nedavno pridobljenem Interreg projektu – PANGEA – Telesna aktivnost in prehrana za kakovostno staranje (2011–2014). Z odmevnimi temami je sodeloval na petih konferencah, ki smo jih organizirali na UP ZRS IKARUS, je soavtor samostojnega prispevka naše znanstvene monografije ter, kar nam je še posebej v čast, v zadnjih letih tudi nosilec predmeta Zmožnosti in meje aerobne in anaerobne vadbe ter predavatelj na novem podiplomskem študijskem programu UP Famnit: Aplikativna kineziologija (2. stopnja).

Prof. Di Prampero je lani aprila praznoval svoj 70. rojstni dan v krogu znanstvenikov in raziskovalcev, ljudi, s katerimi je preživel pretežni del svoje bogate raziskovalne kariere. Ob njegovem jubileju je bil posebej organiziran tudi mednarodni simpozij *Exercise Physiology and the Limits of Human Performance – a tribute to prof. Pietro E. di Prampero*, bila je objavljena posebna številka v priznani znanstveni reviji *European Journal of Applied Physiology* s predstavitvijo njegovega bogatega raziskovalnega opusa. Pri oblikovanju te številke smo v naše veselje sodelovali tudi člani IKARUS-a.

Prof. Di Prampero se je z novembrom 2010 upokojil, vendar pa svoje znanje še naprej prenaša na študente in raziskovalce številnih univerz, kjer redno sodeluje kot gostujoči predavatelj in sodelujoči raziskovalec. Štejemo si v posebno čast, da med te sodi tudi Univerza na Primorskem, njen Inštitut za kineziološke raziskave Znanstveno-raziskovalnega središča in študijski programi Aplikativne kineziologije Fakultete za matematiko, naravoslovje in informacijske tehnologije.

Z vsem navedenim je več kot očitno, da profesor Pietro Enrico Di Prampero sodi v svetovni vrh raziskav fiziologije človeka v breztežnostnem prostoru. V izjemno čast nam je bilo, da je na naš predlog in ob odličnih ocenah štirih domačih in tujih priznanih znanstvenikov in strokovnjakov Senat Univerze na Primorskem odločil, da se prof. dr. Pietru Enricu di Pramperu podeli naziv doctor honoris causae Univerze na Primorskem.

Tistim, ki imamo in smo imeli priložnost delati s prof. Di Pramperom, ki smo občutili njegovo širino, odnos do znanosti in ljudi, študentov in kolegov, se v njegovi bližini preprosto zazdi, da je ta svet zanj preozek. Zato si le želimo, da bi lahko še veliko sodelovali in imeli možnosti se še veliko od njega naučiti.

V imenu sodelavcev Inštituta za Kineziološke raziskave UP ZRS

prof. dr. Rado Pišot, predstojnik
Inštituta za kineziološke
raziskave UP ZRS

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

THERMOPHYSIOLOGY 450 YEARS AFTER SANTORIO SANTORIO SCIENTIFIC MEETING – KINESIOLOGY FOR THE FUTURE – KOPER, MARCH 29TH AND 30TH, 2011

The first scientific meeting in honour of the (2011) double anniversary of Santorio Santorio in 2011, organized by the Universities of Primorska and Padua, which took place on March 29th and 30th, 2011, in Koper, Slovenia. March 29th was the 450th anniversary of Santorio's birth in Koper.

The scientific meeting dealt with Santorio's work from a historical perspective and the role of the university in his time as well as the importance of his work in the development of kinesiology and its related sciences. There was a selection of current physiological topics with an emphasis on thermophysiology. Talks were held by scientists from the region, so an insight into regional research was given as well. The scientific meeting strengthened the cooperation between the University of Primorska and the University of Padua which had previously been connected by joint research projects. Collaboration amongst students was initiated via the visit of three students from the University of Padua who attended the meeting. It is our hope that this collaboration will become stronger during the second meeting when students from the University of Primorska will visit Padua.

The second scientific meeting devoted to Santorio will be held in Padua on October 5th and 6th, 2011, in honour of the 400th anniversary of the appointment of Santorio as a full professor at the University of Padua. This meeting will deal with Santorio's inventions from a historical perspective and the tools used for the study of physiology during his time. Also presented during the meeting will be the intellectual environment in which he worked, and the meeting will continue with the themes from modern biomedicine. The second meeting is also jointly organized by both Universities.

Nina Mohorko, PhD

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

TERMOFIZIOLOGIJA 450 LET PO SANTORIU SANTORIU ZNANSTVENI SESTANEK – KINEZIOLOGIJA ZA PRIHODNOST, KOPER, 29. IN 30. MAREC 2011

Prvi znanstveni sestanek v čast dvojne obletnice Santoria Santoria v letu 2011, ki sta ga organizirali Univerza na Primorskem in Univerza v Padovi, se je odvil 29. in 30. marca 2011 v Kopru. 29. marca je bila namreč 450-letnica Santorijevega rojstva v Kopru.

Sestanek je zajel zgodovinsko perspektivo Santorievega dela in pomena univerze v njegovem času ter pomen njegovega dela za kineziologijo in sorodne znanosti tedanjega in sedanjega časa. Nadaljeval se je z aktualnimi temami iz fiziologije, s poudarkom na termofiziologiji. Predavali so znanstveniki iz regije in tako predstavili tudi znanstveno dogajanje v njej sami. Znanstveni sestanek je okrepil sodelovanje med Univerzo na Primorskem in Univerzo v Padovi, ki sta na raziskovalnih projektih sodelovali že predhodno. Z obiskom treh študentov z Univerze v Padovi so se začela tudi študentska povezovanja, upamo, da bodo slednja z udeležbo koprskih študentov na drugem sestanku v Padovi še okrepljena.

Drugi znanstveni sestanek, posvečen Santoriu, bo 5. in 6. oktobra 2011 v Padovi, ob 400-letnici Santorievega imenovanja za rednega profesorja na Univerzi v Padovi. Sestanek bo zajel zgodovinsko perspektivo Santorievih izumov in pripomočkov za raziskave v tedanji fiziologiji, predstavil intelektualno okolje, v katerem je deloval, in se nadaljeval s temami iz sodobne biomedicine. Tudi ta sestanek družno organizirata obe Univerzi.

dr. Nina Mohorko

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

8th EUROPEAN ASSOCIATION FOR SOCIOLOGY OF SPORT CONFERENCE, UMEÅ, SWEDEN, MAY 18th–22nd 2011

Sport becomes a cultural expression in societies all over the world; therefore it is possible to see it as an international language which forms a bridge between the local and the global. Studies on sport and people in motion are important in terms of a local as well as a global perspective. These issues were the main themes of the 8th EASS conference: *People in Motion – Bridging the Local and the Global*. The aim of the conference was a shared awareness of the role of sport as a new civic right and as a privileged instrument for analyzing the cultural change which helps social scientists to rediscover their basic mission.

Over 130 different oral and poster presentations were held during the conference. They were divided into 13 different subtopics (sections) and were a perfect method for the exchange empirical, theoretical and cross disciplinary knowledge and experiences among over 200 participants.

The conference was attended by two active members of the Institute for Kinesiology Research, Scientific and Research Centre Koper, University of Primorska who gave oral presentations *Active family – Local and Global Issue* on the new findings from the national scientific project entitled *Analysis of Elementary Movement Patterns and Adaptation of Skeletal-Muscle Systems in Some of the Factors of the Modern Life Style of Children Between 4 and 7 Years of Age*.

The next conference will be held in Bern, Switzerland, in June 2012.

Saša Pišot, MA

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

8. KONFERENCA EVROPSKEGA ZDRUŽENJA ZA SOCIOLOGIJO ŠPORTA UMEÅ, ŠVEDSKA, 18.–22. MAJ 2011

Šport po vsem svetu postaja izraz in del kulture, zato ga lahko dojemamo kot mednarodni jezik povezovanja lokalnega in globalnega sveta. Vse to pa daje še dodaten pomen raziskovanju športa in človekove gibalne aktivnost z lokalne in globalne perspektive. Na to se je navezovala tudi glavna tema letošnje konference: *Ljudje v gibanju – povezovanje lokalnega z globalnim* s ciljem izmenjave znanja in izkušenj o vlogi športa in človekovega gibanja kot novi civilni pravici in kot instrumenta proučevanja kulturnih sprememb.

Na konferenci se je predstavilo preko 130 različnih raziskovalcev in strokovnjakov s 13 specifičnih področij, kar je omogočalo bogato priložnost za izmenjavo empiričnih in teoretičnih spoznanj med preko 200 udeleženci.

S strani Inštituta za kineziološke raziskave, UP ZRS, sta se konference udeležila dva člana, ki sta aktivno predstavila del rezultatov obširne raziskave *Aktivna družina – lokalni in globalni vidik* nacionalnega temeljnega projekta *Analiza elementarnih gibalnih vzorcev in adaptacija skeletno-mišičnega sistema na nekatere dejavnike sodobnega življenjskega sloga otrok med 4. in 7. letom starosti*.

Naslednja letna konferenca EASS bo v Švici, v Bernu, junija 2012.

Saša Pišot, mag.

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

THE SECOND INTERNATIONAL SCIENTIFIC CONFERENCE ON »EXERCISE AND QUALITY OF LIFE« EQOL

Between the 24th and 26th of March 2011, the scientific conference *Exercise and Quality of Life* EQOL was held in Novi Sad, Serbia with international participation. The aim of the conference was to encourage physical activity for the health and well-being of individuals as different forms of physical activity and exercise, such as active games, recreational and professional sports have a significant impact on quality of life. Clearly, this requires an interdisciplinary approach and a strong support of scientific research studies related to exercise. The above-mentioned approach encourages the participation of experts from various fields such as sports, education, medicine, psychology, politics and other relevant disciplines.

The conference was attended by nine active members of the Institute for Kinesiology Research, Scientific and Research Centre Koper, University of Primorska. The results of our scientific research derived from different scientific projects of the Institute for Kinesiology Research, which were presented in the form of posters and active learning. These projects have been fully published in a peer-reviewed journal of lectures.

Mihaela Jurdana, PhD

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

DRUGA MEDNARODNA ZNANSTVENA KONFERENCA »EXERCISE AND QUALITY OF LIFE« EQOL

Od 24. do 26. marca 2011 je potekala znanstvena konferenca *Exercise and Quality of Life* EQOL z mednarodno udeležbo v Novem Sadu, Srbija. Cilj konference je bil spodbuditi telesno aktivnost za zdravje in dobro počutje posameznikov, saj različne oblike telesne aktivnosti in vadbe, od aktivne igre do rekreativnega in vrhunskega športa, bistveno vplivajo na kakovost življenja. Nedvomno to zahteva interdisciplinarni pristop in močno podporo znanstvenih raziskovalnih vprašanj, povezanih s telesno vadbo. Potreba po takem pristopu spodbuja sodelovanje strokovnjakov z različnih področij: športa, izobraževanja, medicine, psihologije, politike in drugih ustreznih strok.

Konference se je aktivno udeležilo devet članov Inštituta za kineziološke raziskave Znanstveno-raziskovalnega središča Univerze na Primorskem. Rezultati našega znanstveno-raziskovalnega dela, pridobljeni iz različnih projektov Inštituta za kineziološke raziskave, so bili aktivno predstavljeni v obliki posterjev in aktivnih predavanj, ki so v celoti objavljeni v recenziranem zborniku predavanj.

dr. Mihaela Jurdana

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

BOOK REVIEW
MATEJ SUPEJ: BIOMECHANICS 1, student book, Faculty of Sports, University of Ljubljana, 2011, 111 pages

It is important for a sports expert to have knowledge regarding natural sciences such as functional anatomy, physiology, biomechanics etc. in order to be able to meet the standards of high quality professional work. With the book *Biomechanics 1,* we now have the first Slovene university level textbook on the field of biomechanics in human kinesiology. It contains clear presentations of the basic topics of biomechanics enriched by the applied examples from sports. The author is Assistant Professor Dr. Matej Supej Ph.D., who, with his background in physics, is a prominent, internationally recognized researcher as well as a former competitor and later also a coach and a national demo team member in alpine skiing. Even if he is strongly engaged in scientific work, he has sustained a practical orientation and collaboration with top level sports and now also acts as a consultant and a lecturer at the national and international level.

The author of the textbook first presents the basics of kinematics, which does not question the sources of movements, but rather describes it using purely fundamental physical quantities. After specifying the shapes and complexities of objects, descriptions of constant movement and straight and curved accelerated movement are described using different types of throws. This is followed by the chapter on the dynamics of movement which describes the forces which cause changes in velocity and/or the direction of movement. The author informs the reader about the laws regarding the action of forces such as basic laws regarding movement, friction, the flow of fluids, etc.

Informative examples are given throughout the text including that of the flight path of a rotating ball when explaining the Magnus Effect; landing after a drop jump and using the example of a dancing couple when speaking about force impulse and the collision of two bodies; knee valgus torque in relation to the width of a ski; and many more. The author continuously builds up the content of the textbook, for example in the introductory explanations he creates a base for the understanding of Steiner`s Law or understanding the role the eccentric take-off has in a successfully executed summersault in gymnastics. In the last part of the book, Dr. Supej presents topics from the fields of mechanical work, energy and power. Practical, illustrated examples of potential, kinetic and elastic energy (height of a jump, gigantic swing and bungee-jumping) are summarized with the Law of Preservation of Mechanical Energy.

The textbook, also accessible biomechanics on the web page http://www.fsp.uni-lj.si/COBISS/Monografije/SupejBiomehanika1.pdf, fills in the missing gap in the field of sports biomechanics. Because of its applied orientation, this textbook will be certainly useful as study material not only for students in sports science, but also for students and professionals from different fields such as medicine, ergonomics, sports technologies, orthopaedics, etc.

Dr. Supej, as your colleague and a researcher/lecturer in the field of kinesiology, I would like to thank you for your textbook, Biomechanics 1 (Slovene title: Biomehanika

1). I also believe that I can, in the name of our many colleagues, say that Biomechanics 2 and 3 would also be more than welcome. We need such textbooks in order to be able to further a science-based sports practice in Slovenia and, at the same time, to be more effective and successful in our cross and interdisciplinary communication.

Nejc Šarabon, PhD

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

RECENZIJA KNJIGE
MATEJ SUPEJ: BIOMEHANIKA 1, učbenik, Fakulteta za šport, Univerza v Ljubljani, 2011, 111 strani

Za kakovostno strokovno delo v športu je nujno dobro poznavanje nekaterih temeljnih naravoslovnih ved, kot so funkcionalna anatomija, fiziologija, biomehanika in druge. Z učbenikom *Biomehanika 1* smo dobili prvi slovenski visokošolski učbenik s področja biomehanike v kineziologiji. V njem so na jasen način predstavljene temeljne biomehanske vsebine in aplikativni primeri iz športa. Avtor doc. dr. Matej Supej, po svoji temeljni izobrazbi fizik, je odličen raziskovalec svetovnega kova, bil pa je tudi tekmovalec, demonstrator in trener v alpskem smučanju. Ob svojem poglabljanju v znanstveno-raziskovalna vprašanja nenehno ohranja uporabno naravnanost in posledično ohranja stik z vrhunskim športom kot strokovni svetovalec in predavatelj doma in v svetu.

Učbenik najprej poda osnove kinematike, ki se ne sprašuje o izvorih gibanja, temveč gibanje kot takšno zgolj opiše s fizikalnimi količinami. Opredelitvi različnih oblik in kompleksnosti teles sledijo predstavitve enakomernega, pospešenega premočrtnega in ukrivljenih gibanj na primerih različnih vrst metov. Sledi poglavje o dinamiki, v katerem so predstavljene sile, ki povzročajo spremembe smeri oziroma hitrosti gibanja. Avtor učbenika bralca seznani s ključnimi zakonitostmi o delovanju sil, kot so osnovni zakoni o gibanju, trenju, obtekanju tekočine in drugi. Skozi tekst se vrstijo nazorni praktični primeri, kot so let rotirajoče žoge za ponazoritev Magnusovega efekta, globinski doskok in drsalni par za boljše razumevanje sunka sile, gibalne količine in trka teles; valgusni navor kolenskega sklepa v odvisnosti od širine smučke in številni drugi. Avtor vsebine vseskozi nadgrajuje, na primer s predhodnimi razlagami pripravi osnovo za razumevanje pomena Steinerjevega zakona ali pa pomena ekscentričnega odriva za kakovostno izvedbo prevrata prosto naprej v gimnastiki. V zadnjem delu učbenika doc. dr. Matej Supej predstavi vsebine s področja mehanskega dela, energije in moči. S primeri (skok v višino, veletoč, skok z elastiko) podkrepljene razlage potencialne, kinetične in prožnostne energije zaključi z izrekom ohranitvi mehanske energije.

Učbenik, dostopen tudi preko spletnega naslova http://www.fsp.uni-lj.si/COBISS/Monografije/SupejBiomehanika1.pdf, zapolnjuje vrzel na področju biomehanike športa in je zaradi svoje aplikativne usmerjenosti dobrodošlo učno gradivo ne le za študente športa, temveč tudi za mnoge druge študente in strokovnjake s področij fizikalne medicine, ergonomije, športne tehnologije, ortopedije idr. Matej, kot kolega in kineziolog, se ti zahvaljujem za Biomehaniko 1 in menim, da lahko tudi v imenu mnogih drugih kolegov rečem: več kot dobrodošli bi bili tudi Biomehanika 2 in 3. Takšne učbenike potrebujemo, da bomo lahko še bolj učinkovito razvijali na znanosti temelječo športno stroko v Sloveniji in bili prepričljivi v komunikaciji s sebi sorodnimi strokami.

dr. Nejc Šarabon

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

"THE SANTORIO SANCTORII AWARD" – IN RECOGNITION OF THE MOST SUCCESSFUL STUDENTS OF APPLIED KINESIOLOGY

Naming an award or some form of recognition after an individual requires from all decision-makers involved much more than just a moment of inspiration and good will in commemorating a person, or of creating the possibility of recognising and awarding the efforts of other people. In the academic sphere, such a decision means wilfully taking on all responsibilities and commitments associated with creating that award. It is the responsibility of honouring great personalities whose names we dare to borrow and who have contributed to our society to a much greater extent than we generally realise. It is the commitment to further engage in and continue to improve upon their work and to consider the criteria of excellence which these great individuals had followed. Such a decision also requires a profound deliberation as to whether or not the persons who are candidates for receiving such an award or recognition have distinguished themselves in their field or whether or not they are worthy of receiving such recognition based on their work and the results they have achieved.

As is usual in such cases, the mosaic which is made up of the thousands of events in the life and work of this great man from Koper has been put together slowly and persistently. Since it is impossible to describe the contributions Santorio Sanctorii made to the field of natural sciences in only a few sentences - the academy, universal thought and the sphere in which he worked, I shall leave this to my learned colleagues, each of whom brings with them the expertise of their discipline and field. Instead, I shall try to summarise the fundamental starting points which guided us to celebrate Santorio Sanctorii, the great but unjustly forgotten man. I shall also attempt to connect his knowledge and excellence to Koper as it is today, to the young university that was established a few centuries after Santorio, and to the academy – lecturers and students who, even as we speak, are developing many of his ideas and the knowledge that he provided many years ago.

There are at least three significant reasons which justify this award or better yet, oblige us to return Santorio to this sphere with all honours.

The first reason is the fact that Santorio Sanctorii was most certainly one of the greatest and most prominent natural scientists born in Koper, who always and everywhere spoke proudly about the town of his birth. It is quite irrelevant whether or not his father from Cividale del Friuli was a Slovenian (Svetina – as presented by some sources, Šercer, 1950), since the fields to which he dedicated his life's work never had nor never will see any limits. When we as children ran through the streets of Koper, only the name of one street which was called for a great doctor, researcher, scientist, and inventor reached our minds. Later on we learned at school that among other instruments, Santorio contributed significantly to the development of the thermometer. Many other achievements of Santorio are most likely but unfortunately unknown to many people from Koper, to Slovenians and also to the world.

The second reason which gives special meaning to this award is Santorio's academic work and the role which he especially appreciated and to which he completely dedicated himself. Most certainly, the honourable lecturer at the University of Padua,

which was a closest university closest to Koper (and the second oldest university in the world) at the time of the establishment of *Accademia Palladiana*, the Koper Science Association, did not think about on the possibility of establishing the University of Primorska, and this also supports the fact that the University of Primorska was established later on. Even when he specified in his will that six out of ten students who would receive scholarships financed from the fund that was established after his death on the basis of his legacy, should originate from Koper (Grmek, 1953), he most certainly did not even imagine that the study programmes, the bases and knowledge for which he himself provided, would emerge right here.

The third reason is his great legacy of knowledge, inventions and instruments. The restless research-oriented spirit of his research obliges us and gives us the responsibility of following the criteria of excellence set by our fellow citizen, in all aspects of research and teaching.

I must confess that more than decade ago we did not have Santorio in mind when we initiated our first research projects which presented the significant basis for the establishment of the Kinesiology Research Centre (IKARUS) at the Science and Research Centre in Koper. Neither was he in our minds during the development of the IKARUS laboratory at the Valdoltra Orthopaedic Hospital; nor later on were his ideas or methods the basis for establishing the new study programme of Applied Kinesiology, already within the scope of the University of Primorska. In truth, we did not see nor acknowledge the significance and value that Santorio had set for our foundation a few centuries ago. Today, when we study his work and admire the ideas which led him to incredible inventions and experimentation, we can acknowledge his greatness and importance. Santorio contributed some of the fundamental tools and keys for understanding the functions of the human body, the starting points for developing physiology, pathology, and the basis for biomechanics. As a pioneer of experimental methodology he opened a new chapter in the natural sciences, especially medicine. By applying mathematics, discussing physical and chemical processes, conducting experiments and performing measurements, he set the path for physiology, biometrics, thermodynamics, and also for the fields which developed on the basis of the challenges of researching the functions of the human body in specific environments and activities, namely kinesiology, biomechanics, kinesiometrics, and ergonomics. His cooperation with other prominent persons of that time (especially with his friend Galileo Galilei) opened a wide horizon of various fields of knowledge and disciplines. Many years passed until we finally acknowledged (unfortunately mostly still on a declarative level) that the added value of an interdisciplinary, or even better, of an integrative approach defines the only right and complete approach in the field of dealing with the human body as a dynamic and open system. And we cannot imagine kinesiology without such guidelines and approaches!

His greatest work *De Medicina Statica* would probably not have earned the grade of such perfection (Nullus liber in re medica ad eam perfectionem scriptus est, H. Boerhaave, 1726), if Santorio had not deeply engaged himself in eight fundamental chapters in all fundamental aspects of human functions with the purpose of studying and understanding health as a complete balance of bodily fluids and as the harmony of internal

opposites. Among those eight chapters, the following parts are still very important for us: the chapter on the quantity and relation of visible and invisible perspiration; on food and beverages, on rest and activity; on motion and stillness. Numerous findings and expressed thoughts are still very important and also unparalleled. Perhaps by adding a note of contemporaneity, we will reopen the discussion and integrate those findings and thoughts as significant in the life of the individual and of society.

By being aware of the fact that no science (especially not a natural science) can be explained without a critical analysis and experiment, and by considering the fact that scientific theory and knowledge cannot be the result of isolated individuals, but a part of a historical development, we have decided to name the award which will go to the most successful students of applied kinesiology after this great man from Koper, Santorio Santorio. At the same time and in the name of current and future generations we also take on the responsibility and commitment which relate to his name and all future award winners.

The temporary senate of the UP FENIKS – Faculty for Ergonomics and Kinesiology Studies at the University of Primorska (in the process of being established), at its meeting on 29 March, 2011, and on the occasion of the 450th anniversary of Santorio Santorio's birth, adopted the following resolution:

"Based on the proposed argumentation, the temporary senate of the UP FENIKS names the award for the best students from the programmes in Applied Kinesiology after Santorio Sanctorii, the doctor, natural scientist and inventor from Koper. A detailed categorisation of awards, their number, the processes of selecting candidates and other issues related to awards are determined by the adopted Rules on UP FENIKS awards.''

On behalf of temporary senate of UP FENIKS

Prof. Dr. Rado Pišot

OCENE in POROČILA/REVIEWS and REPORTS, 67–86

SANTORIJEVO PRIZNANJE – PRIZNANJE ZA NAJUSPEŠNEJŠE ŠTUDENTE APLIKATIVNE KINEZIOLOGIJE

Poimenovati priznanje ali nagrado po nekomu zahteva od tistih, ki se o tem odločajo, veliko več kot le trenutek navdiha in dobre volje, da se nekoga spomnimo in omogočimo drugim priznavanje njegovega dela. V akademskem prostoru pomeni taka odločitev zavestno sprejeti odgovornost in obveze – odgovornost do velikih osebnosti, katerih imena si dovolimo prevzeti, ker so naši družbi v preteklosti prispevali veliko več, kot običajno vemo, ter obveze do poglabljanja in nadgrajevanja njihovega dela in upoštevanja kriterijev odličnosti, ki so jih postavili. Zahteva pa taka odločitev tudi poglobljen premislek, ali so tisti, ki bodo morebiti deležni te nagrade ali priznanja, s svojim trudom, delom in rezultati, opravičili ime, čigar priznanje nosijo s seboj.

Kot je običajno in kot se v takih primerih tudi spodobi, se mozaik, ki v sebi nosi tisočero dogodkov, tudi v življenju in delu velikega Koprčana gradi počasi in vztrajno. Ker je njegov zgodovinski prispevek naravoslovni znanosti, akademiji, univerzalni misli in prostoru, v katerem je delal, še posebej pa Kopru, nemogoče predstaviti v nekaj odstavkih, pa tudi zato, ker bodo to storili kolegi, ki so po stroki primernejši, bom poskušal v tem kratkem povzetku osvetliti le nekaj temeljnih izhodišč. Ta so nas vodila do odločitve, da proslavimo Santoria Sanctoria, velikega, žal večkrat pozabljenega Koprčana, in ga prek mostu znanja in odličnosti povežemo s sodobnim Koprom, mlado univerzo, ki se je rodila nekaj stoletij pozneje, in akademijo – s profesorji in študenti, ki še danes razvijajo prenekatero njegovo misel in davno tega njim ponujeno znanje.

Obstajajo vsaj trije pomembni razlogi, ki opravičujejo dejstvo, ali morda bolje rečeno, nam nalagajo odgovornost in obvezo, da Santoria vrnemo v ta prostor z vsemi častmi.

Prvi je dejstvo, da je Santorio Sanctorii prav gotovo eden največjih in najpomembnejših naravoslovcev, rojenih v Kopru, ki je svoje rojstno mesto vselej in povsod s ponosom izpostavljal. Ali je bil oče iz Čedada tudi po rodu Slovenec (Svetina – kot predstavljajo nekateri viri, Šercer, 1950) niti ni pomembno, saj področja, katerim je posvetil svoje delo in življenje, nikoli niso in niti ne bodo poznala meja. Ko smo se kot otroci podili po koprskih ulicah, je do nas seglo le ime ene od teh, ki je nosila ime po velikem zdravniku, raziskovalcu, znanstveniku, izumitelju. Pozneje smo v šoli izvedeli, da je med številnimi drugimi instrumenti pomembno prispeval k razvoju termometra. Veliko več od tega, in tega je ogromno, pa je žal številnim Koprčanom kot tudi Slovencem in širšemu svetu še neznanega.

Drugi razlog, ki priznanju daje poseben pomen, je Santorijeva akademska zavest in vloga akademizma, ki jo je posebej cenil in se ji povsem podredil. Prav gotovo se takratni častitljivi profesor najbližje Kopru (v svetovnem merilu druge najstarejše) padovanske univerze ob ustanovitvi koprskega znanstvenega društva *Accademia Palladiana* ni ukvarjal z mislijo o primorski univerzi, kar pa ne zmanjša njegovega prispevka, da se je ta veliko pozneje tudi zgodila. Tudi ko je v svoji oporoki posebej izpostavil, da mora biti kar 6 od 10-ih študentov iz Kopra, katerim finančno podporo naj omogoči sklad, ki naj bo po njegovi smrti ustanovljen iz njegove zapuščine (Grmek, 1953), si gotovo

ni zamišljal, da bodo ravno v tem prostoru nastali študijski programi, katerih osnove in znanja je pričel razvijati prav on.

Tretji razlog pa je njegova velika zapuščina znanja, izumov in instrumentov. Njegov nemirni raziskovalni duh nas posebej obvezuje in nam nalaga odgovornost, da pri svojem raziskovalnem in pedagoškem delu sledimo kriterijem odličnosti, ki jih je že dolgo tega postavil naš someščan. Ko smo pred dobrim desetletjem pričeli s prvimi raziskovalnimi projekti, ki so pomenili pomembno osnovo poznejšemu Inštitutu za kineziološke raziskave (IKARUS) na ZRS Koper, nato razvoju laboratorija IKARUS v Ortopedski bolnišnici Valdoltra in nato v okviru Univerze na Primorskem tudi novim študijskim programom Aplikativne kineziologije, moram priznati, da še nismo uvideli teže in vrednosti, ki jo je našim osnovam pred nekaj stoletji postavljal Santorio. Šele ko danes premišljamo njegova dela in občudujemo zamisli, ki so ga vodile do neverjetnih izumov in poizkusov, se zavemo njegove veličine in pomena. Santorio je namreč prispeval nekaj temeljnih orodij in ključev za razumevanje delovanja človeškega organizma, izhodišča za razvoj fiziologije, patologije, podlage biomehaniki. Kot začetnik eksperimentalne metodike je naravoslovni znanosti, posebej medicini, odprl novo poglavje. Z vključevanjem matematike, obravnavo fizikalnih in kemičnih procesov, eksperimentov, merjenjem je zarisal pot fiziologiji, biometriji, termodinamiki … in področjem, ki so z izzivom po obravnavi delovanja človeškega organizma v specifičnih okoljih in aktivnostih razvili: kineziologiji, biomehaniki, kineziometriji, ergonomiji. Njegovo sodelovanje z nekaterimi drugimi velikani svojega časa (še posebej s prijateljem Galileom Galileiem) mu odpira široko obzorje prepleta različnih znanj in disciplin. Veliko let je minilo, ko smo (žal še večinoma le na deklarativni ravni) ponovno doumeli, da je dodana vrednost interdisciplinarnega ali morda še bolje, integrativnega pristopa, tisto, kar je v obravnavi človeka kot dinamičnega in odprtega sistema edini pravi in celosten pristop. In ravno kineziologije si brez takih usmeritev in pristopov ne moremo zamisliti!

Njegovo največje delo *De medicina statica* si ocene take popolnosti (Nullus liber in re medica ad eam perfectionem scriptus est, H. Boerhaave, 1726) verjetno ne bi prislužila, če se ne bi s ciljem preučevanja in razumevanja zdravja kot popolnega ravnovesja telesnih tekočin, kot harmonijo notranjih nasprotij, skozi VIII temeljnih poglavij Santorio natančno poglobil v vsa temeljna področja delovanja človeka. Med njimi so za nas še posebej pomembna poglavja o količini in odnosu vidne in nevidne perspiracije; o hrani in pijači; počitku in aktivnosti; gibanju in mirovanju. Številne ugotovitve in izrečene misli so še danes ne le izredno aktualne, temveč še vedno tudi nepresežene. Morda jim bomo z dodano noto sodobnosti ponovno odprli obravnavo in jih kot pomembne končno umestili v življenje posameznika in družbe.

Ob zavedanju, da nobene znanosti (sploh pa naravoslovja) ne moremo razlagati brez kritične analize in eksperimenta, ter ob dejstvu, da znanstvene teorije in znanje nasploh ne morejo biti plod osamljenih posameznikov, temveč del zgodovinskega razvoja, smo se na osnovi predstavljenih dejstev odločili poimenovati priznanje za najuspešnejše študente aplikativne kineziologije po velikem Koprčanu Santoriu Sanctoriu. Hkrati sprejmemo v imenu sedanjih in prihodnjih generacij tudi vso ustrezno in pripadajočo odgovornost in obvezo do njegovega imena in vseh prihodnjih nagrajencev.

Začasni senat Fakultete za ergonomske in kineziološke študije Univerze na Primorskem (v ustanavljanju) je na svoji seji, na dan 29. 3. 2011, ob 450-letnici rojstva Santoria Sanctoriia sprejel naslednji sklep:

»Začasni senat UP FENIKS na osnovi predložene utemeljitve imenuje priznanje za najboljše študente študijskih programov Aplikativne kineziologije po koprskem zdravniku, naravoslovcu, znanstveniku in izumitelju Santoriu Sanctoriiu. Podrobna opredelitev vrste priznanj, njihovo število, postopke izbora kandidatov in druga vprašanja, povezana s priznanji, se določijo s posebnim pravilnikom o priznanjih UP FENIKS.«

V imenu začasnega senata UP FENIKS

prof. dr. Rado Pišot