



UNIVERSITY OF LEEDS

This is a repository copy of *In Memoriam: Olga Hudlická (11.07.26-03.05.14)*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/88455/>

Version: Accepted Version

Article:

Egginton, S and Brown, MD (2014) *In Memoriam: Olga Hudlická (11.07.26-03.05.14)*.
Microcirculation, 21 (6). 475 - 477. ISSN 1073-9688

<https://doi.org/10.1111/micc.12151>

Reuse

Unless indicated otherwise, fulltext items are protected by copyright with all rights reserved. The copyright exception in section 29 of the Copyright, Designs and Patents Act 1988 allows the making of a single copy solely for the purpose of non-commercial research or private study within the limits of fair dealing. The publisher or other rights-holder may allow further reproduction and re-use of this version - refer to the White Rose Research Online record for this item. Where records identify the publisher as the copyright holder, users can verify any specific terms of use on the publisher's website.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

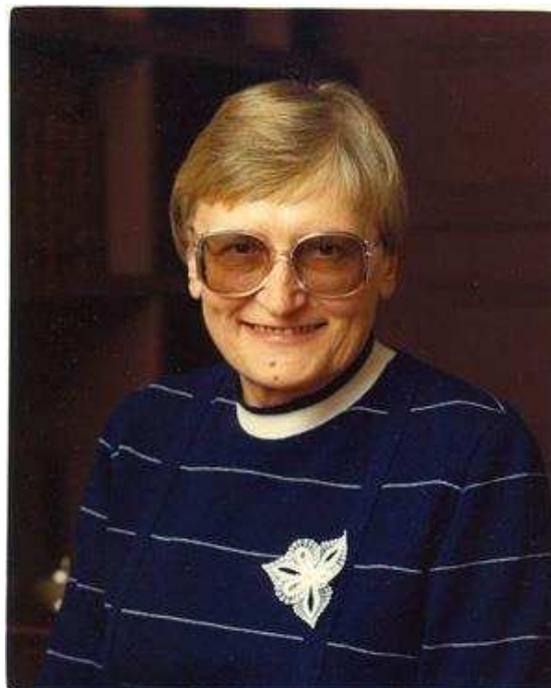


eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

In Memoriam: Olga Hudlická (11.07.26-03.05.14)

Dr Olga Hudlická, Professor Emeritus in the Department of Physiology, University of Birmingham Medical School, died suddenly on 3rd May not long after a fall. She was one of the best-known vascular physiologists of the last century, investigating control of blood flow and regulation of angiogenesis in skeletal and cardiac muscle.

Olga was born in Prelouc, Czechoslovakia, on 11th July 1926. She grew up in turbulent times, with school days interrupted by Hitler's invasion, but moved to Prague for medical studies and graduated MD in 1950 from the world-famous Charles University. She was inspired by pioneering work of the renowned muscle physiologist Ernest Gutmann and afterwards worked in his laboratory alongside another important figure in UK Physiology, her lifelong friend Gerta Vrbova. Olga developed an interest in muscle blood flow and its regulation under different conditions, and was awarded her PhD (1954) and DSc (1968) from the Institute of Physiology, Czechoslovak Academy of Sciences. Olga was Honorary Secretary of the Czechoslovak Physiological Society (1960-1969), and conducted important experiments that underpinned her subsequent contributions to understanding the regulation of physiological angiogenesis. Her success was particularly notable under the circumstances: working under a communist regime, subject to censorship and surveillance, she and her colleagues clearly found ways round formidable obstacles to generate some outstanding discoveries. This work led to invitations to work in the Department of Pharmacology at the prestigious Karolinska Institute in Stockholm (1960) and Duke Medical Center in USA (1964 and 1968).



This picture of Olga was taken on the occasion of her presenting the prestigious Physiological Society Annual Review Lecture in 1990.

Her determination and courage is epitomised by the events that led to her settling in England. Despite limited communications with Eastern European countries during the Cold War, many physiologists in the West had heard of Olga's work. She managed to obtain permission to attend the International Congress of Physiological Sciences in Washington in 1968, and spend a sabbatical working in Gene Renkin's laboratory in Durham, NC. This was the year of 'the Prague Spring' when Alexander Dubček, the Czechoslovak Communist Party leader's attempt at liberalising reforms resulted, perhaps inevitably, in tanks rolling into Prague and the Soviets seizing control of Government. During this worrying time Olga was not able to contact her family, but was able to discuss the situation calmly with colleagues. Olga returned to Prague shortly before Christmas and, surprisingly, was able to make a brief visit to England the following summer to present a paper at the Physiological Society meeting in Oxford, allowing Olga and her husband Andrej Klein to plan for evacuating their family from Czechoslovakia. This required both a cool head and bravery: their young son flew to London to stay with Professor Henry Barcroft, while their daughter took a train to Colmar in France to stay with friends for two months. One weekend Olga and Andrej drove their car out of Prague into the country and over the border to visit good friends in Hungary, carrying only a small suitcase of belongings. From there, they drove through Austria and Italy to France where they met their daughter, and their son off the train from London. After driving to Zurich to meet Olga's mother, they drove on to Frankfurt where Andrej was employed for a few months as a physician and Olga worked in the Max Planck Institute. They had left Czechoslovakia just in time; the borders were closed on 15th September 1969. Olga and her children moved to England at the end of the year and spent Christmas in London, joined in February 1970 by Olga's husband and her mother. They moved to Birmingham at the invitation of Sidney Hilton, who was Head of the Department of Physiology in the Medical School, eventually to be reunited with Gerta there. Her husband worked as a physician in a Birmingham hospital, and latterly as a respected GP at the Griffins Brook Medical Practice in Bournville (Elaine Zbrozyna, the wife of one of Olga's colleagues, was his receptionist), but tragically died just a few years later.

Although the political situation forced her to leave her beloved country and emigrate to England, Birmingham became her adopted home and she remained at the University until retirement in 1993. She of course maintained contact with as many of her colleagues as she could, and people in her lab were often introduced to members of the Czech diaspora around the world. Her main interest was on the role of various factors connected with increased blood flow (the monograph 'Muscle blood flow' was published in 1973), and capillary growth in normal and ischaemic skeletal and cardiac muscle (the hugely influential 'Angiogenesis' appeared in 1986). She published over 200 papers, chapters and reviews (the last one in 2011), and 3 edited monographs. Olga trained a dozen doctoral students, at least 20 post-docs benefitted from her guidance, and 5 MDs gained a critical insight into the scientific method to complete their education. Her collaborations were world-wide - from China to South America *via* most of Europe and a lot of the USA.

Olga played important roles in the British Microcirculation Society as Honorary Secretary (1985-1992) and President (1996-1999), with her international status recognised by membership of IUPS Committee for Microcirculation (1986-1997). She greatly enjoyed attending the Microcirculatory Society meetings in the USA, and served on the editorial board of *Microcirculation* for many years. Olga took a special delight in interacting with Brian Duling, and the mutual respect was evident to all. It is a great shock to lose both these highly respected members of the microcirculation community within a matter of months of each other.



This picture with Brian Duling was taken in Hungary (2008) when Olga was awarded the Malpighi award, the highest honour given by the ESM.

At scientific meetings she could always be relied upon to ask some penetrating questions, often forcing the recipient to consider a wider context to their work. Her influence on the field was recognised as a Visiting Professor at universities in Frankfurt/Main, California (Davis), and Caracas (Venezuela). She also received several prestigious awards including The Zweifach Award (Microcirculatory Society USA, 1996), the President's Lecture (American College of Sports Medicine, 1998), the Malpighi Award (European Society for Microcirculation, 2008), and was Annual Review Lecturer of the Physiological Society (1990).

In combining her interests into the local mechanisms regulating blood flow and angiogenesis, both of course key to delivery of oxygen and nutrients to working skeletal muscle, one of her most memorable legacies was the use of

indirect electrical stimulation of skeletal muscle. This greatly improved resistance to fatigue, and she realized the potential therapeutic implications for patients with peripheral vascular disease and other ischaemic conditions. Recognising that elevated shear stress (induced by vasodilators as well as stimulation) caused the release of nitric oxide and angiogenic growth factors led her to champion the idea of endothelial mechanotransduction, countering the prevalent chemotransduction mechanisms heavily influenced by the findings from tumour angiogenesis studies. She went on to demonstrate that electrical stimulation of muscles, in replicating endurance exercise training, was of great benefit to patients with intermittent claudication, and likely also in other situations of pathologically reduced blood flow such as hypertension, stroke, and heart failure. Her work with bradycardial pacing also demonstrated a novel way of overcoming the refractory nature of cardiac angiogenesis.

Casting a critical eye over work from her own lab or that of others, she had no time for superficially attractive explanations, especially when they revealed a lack of background knowledge. As an MD she got away with her opinion of over-confident clinicians as being “often in error, but never in doubt!” For those in her lab her breadth of knowledge was inspiring, while her uncanny ability to remember details of papers she had read many years earlier was rather intimidating – woe betide anyone with a vague recollection of ‘something’ relevant to the discussion at hand! Although teaching across many aspects of physiology for many years, with a traditional style that didn’t tolerate lazy students, her passion was always research. She demanded nothing less than the very highest performance: one of her PhD student remembers the threat “One day, I think I will severely punish you” when he made an error (they got on very well!), and while training a Post Doc in surgery his efforts were described as “an absolute disaster” when they didn’t meet with her exacting standards (all was forgiven when the experiment proved to be successful!).

She continued to work as Professor Emeritus and it took her many years before her activity slowed down, so we often joked that it was only her salary that had retired! Her enthusiasm for physiology never waned, and well into her retirement she could be seen at seminars interested to find out where the new trends were leading. She lived life at a pace, whether it was tiring out younger visitors as she acted as tour guide around Prague, or stints in surgery that would daunt anyone half her age. Her hospitality was generous, and we gratefully consumed platefuls of Czech treats (which consisted of various combinations of apple and poppy seeds, all specially prepared for the lab) at Christmas time. Even in the last few years she was still active in research, this time testing out recipes and writing a cookbook. As you may expect by now, this was no ordinary cookbook but contained detailed recipes (using a fat:protein+carbohydrate ratio of 3:1, whilst keeping daily calorie intake to 1500 calories, over 5 meals a day for 30 days) used in treatments of epilepsy, brain tumours and diabetes. She took a special ketone diet that had been in use for some time, and significantly refined it to be used for her son's patients. The first book was followed by a vegetarian version, then a kosher version, and she was working on a second 30 day program and the use of vitamins to complement these dietary programmes.

Her family knew that she never stood still, never wasted a moment and was firing on all cylinders until her last breath. She was simply phenomenal. It is satisfying to know that lately she was content with the knowledge that her scientific legacy was being continued. We owe her a tremendous amount, and consider it a privilege to have known and worked with her. All in all Olga Hudlická was a remarkable person who will be much missed. She is survived by her daughter Olga (a scientist in London) and her son Pavel (a consultant neurologist in Washington DC).

Stuart & Maggie are grateful to colleagues for sharing their memories, and to Olga's family for help in preparing this brief summary of an extraordinary life.

Prof S. Egginton, School of Biomedical Sciences, University of Leeds (s.egginton@leeds.ac.uk); Dr M.D. Brown, School of Sport & Exercise Sciences, University of Birmingham

Stuart Egginton