

Prof HENNER HANSEN, MD, FESC

Clinician Scientist

Curriculum Vitae

Date of Birth: 10th November 1972; Place of Birth: Münster, Germany; Status: married, twins



University of Basel

Preventive Sports Medicine and Systems Physiology

Department of Sport, Exercise and Health

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BIOSKETCH

Prof. Hansen is a clinical researcher and physician with a background in preventive cardiology and exercise medicine. He applies exercise as a true polypill to reduce overall cardiovascular risk in all age groups. His research expertise lies in the field of vascular and systems physiology with a focus on retinal vessel diameters and function as microvascular biomarkers of cardiovascular risk and disease. Prof. Hansen's research in the context of vascular ageing and longevity aims (1) to optimize cardiometabolic risk stratification in young and older populations, (2) to facilitate treatment monitoring and guidance of drug and exercise therapy. His research goal is to help establish a strong evidence base for the clinical implementation of exercise as a treatment strategy, and retinal vessel imaging as a screening tool in the field of primary and secondary cardiovascular prevention. He has produced several landmark reviews in his field of research and has recently co-authored the 2024 ESC Guidelines for the management of elevated blood pressure and hypertension.

POSITIONS

Since 08/2020	Associated Professor, Head of Preventive Sports Medicine and Systems Physiology, Department Sport, Exercise and Health (DSBG), University of Basel
2015-2020	Tenure Track Professor, Preventive Sports Medicine and Systems Physiology, Department Sport, DSBG, University of Basel
2009-2015	Deputy Director, Consultant and Research Fellow, Division of Sports and Exercise Medicine, DSBG
2007- 2009	Senior Registrar and Research Assistant, Department of Prevention and Sport Medicine, Technical University Munich, Munich, Germany
2002-2007	Registrar, II. Medical Clinic, Technical University Munich & German Heart Center, Munich, Germany Focus: Hypertension, Cardiovascular and Renal Disease
2000-2002	House Officer, Medical and Outpatient Clinic, Ludwig-Maximilian-University, Munich, Germany

APPOINTMENTS

06/2021	Offer: Sports Medicine, Chair (W3), University of Hamburg, Germany (declined)
02/2021	Offer: Sports Medicine, Chair (W3), University of Leipzig, Germany (declined)

CLINICAL & SCIENTIFIC QUALIFICATIONS

2018	Hypertension Specialist; German Hypertension League (DHL)
2013	<u>Habilitation</u> (University of Basel): "Endurance exercise and the cardiovascular: the retinal microcirculation as a vascular biomarker"
2012	Sports Medicine Certification, German Society of Sports Medicine (DGSP)
2010	Swiss Medical Association (FMH) accreditation for General Internal Medicine
2009	Cardiovascular and Preventive Medicine Certification, German Society for Prevention & Rehabilitation of Cardiovascular Disease
2008	Internal Medicine Certification (Germany)
2000	<u>Medical Doctorate</u> (University of Freiburg/ University of Oxford): "Aspects of L-arginine transport and availability in disease states: a comparative study"

EDUCATION

2000	Queen Mary and Westfield College, Royal London Hospital, UK
1998	University of Yale, Medical School, USA
1995-1996	University of Oxford, Laboratory of Physiology
1993-2000	Albert-Ludwig-University Freiburg, Medical School, Germany

SELECTED RESEARCH PROJECTS & INTERESTS

Exercise Effects on chronic eye disease (HIT GLAUCOMA): *SNSF WEAVE Funding (PI: 2023-2027)*
Exercise and vascular health in children (EXAMIN YOUTH Study): *SNSF Funding (PI: 2018-2021)*
Exercise and vascular ageing in an older population (EXAMIN AGE Study): *SNSF Funding (PI: 2015-2018)*
Exercise and vascular health in chronic cardiometabolic and inflammatory disease
Exercise in the prevention and treatment of hypertension
New Frontiers in Retinal Vessel Imaging

INSTITUTIONAL TASKS UNIVERSITY of BASEL

Head of Department (since 2026), DSBG
Member of the Unterrichtscommission, DSBG
Member of the Fakultätsausschuss – und Versammlung, Medical Faculty

INTERNATIONAL AFFILIATIONS & INSTITUTIONAL TASKS

- **European Society of Cardiology (ESC):**
ESC Fellowship (FESC)
European Association for Preventive Cardiology (EAPC):
Chair, Membership Committee
Past-Chair, Task Force, Childhood Cardiovascular Health
Senior Advisor, Secondary Prevention and Rehabilitation Section
Past-EAPC Representative, ESC Council of Hypertension
- **European Society of Microcirculation (ESM):**
Working Group Chair “Retinal Microvascular Research”
- European College of Sport Science (ECSS)
- Swiss Society of Sports Medicine (SEMS) & Swiss Society of Sports Science (SGS)
- German, Swiss and Austrian Society of Arterial Stiffness (DeGAG)
- German Society of Sports Medicine and Prevention (DGSP)
- Associate Editor: European Journal of Preventive Cardiology
- Associate Editor: Frontiers in Physiology, Section Exercise Physiology
- Associate Editor: Journal of Clinical Medicine, Section Sports Medicine

ORGANISATION OF WORKSHOPS & SYMPOSIA

2024	German Speaking Society of Arterial Stiffness (DeGAG) Congress 2024 (Basel): Co-President
2020	Swiss Society of Sports Science (SGS Congress, Basel): Scientific board member
2020	European College of Sport Science (ECSS Congress, Sevilla): Organisation, speaker and symposium chair “Exercise & Healthy Ageing: Neuromuscular capacity, vascular ageing and skeletal muscle metabolism”
2020	Frontiers in Vascular Biomedicine (ESC Congress, Budapest): Organisation and speaker “Retinal Microcirculation: a window to cardiovascular risk”
2019	European Society of Microcirculation (ESM Congress, Maastricht): Organisation, speaker and symposium chair “Retinal Vessel Analysis - applied physiology and clinical application”
2018	European Association of Preventive Cardiology (EAPC Congress, Ljubljana): Organisation and speaker “Exercise and blood pressure in cardiovascular prevention- what can be achieved?”
2017	European Association of Preventive Cardiology (EAPC Congress, Satellite Symposium, Malaga): Organisation, speaker and symposium chair “Retinal Vessel Analysis in Cardiovascular Prevention”
2017	Swiss Society of Sports Science (SGS Congress, Zürich): Organisation, speaker and invited seminar chair “Exercise and Healthy Ageing”

SELECTION: INVITED CONGRESS PRESENTATIONS (since 2018)

- Lifestyle Management of Hypertension: MOVE. Main presentation ESC Congress 2024 (London)
- Cardiovascular Risk in Chronic Kidney Disease: Who and How to Screen? ESC Preventive Cardiology 2024 (Athens)
- Obesity in childhood: implications for future cardiovascular risk and how to manage. Main presentation ESC Congress 2023 (Amsterdam)

- Retinal Vessel Analysis in Cardiovascular Prevention and Clinical Practice. European Society of Microcirculation (ESM), Aarhus 2023
- Blood Pressure Management: Current State and Future Perspectives. ESC Preventive Cardiology 2023 (Malaga)
- Exercise in the prevention and treatment of hypertension and associated cardiovascular risk. International Society of Hypertension (ISH), World Congress, Japan 2022 (hybrid congress)
- Retinal Vessel Analysis in Cardiovascular Prevention across the lifespan. National Institute of Health (USA)/NHLBI 2022 Workshop: Novel Retinal Biomarkers Work Shop, 2022 (online)
- 23rd International Puijo Symposium: Physical exercise for health promotion and medical care. “Exercise and retinal microvascular function across the lifespan”, Kuopio Finland 2022
- How to treat the patient with hypertension in 2021? Main presentation ESC Congress 2021 (online)
- Pharmacological treatment versus exercise to manage hypertension: “Current Challenges to Optimal Exercise Treatment” and Essentials on Subclinical Atherosclerosis: “Unravelling Subclinical Atherosclerosis: What is new in research?” ESC Preventive Cardiology Congress 2021(online)
- Exercise and Vascular Ageing. European College of Sports Science (ECSS), Congress 2020 (Sevilla, online)
- 40 years of the American Heart Association journal “Hypertension”, Innovation and significant research 2018-19, Presentation of “Obesity, high blood pressure and physical activity determine vascular phenotype in young children: the EXAMIN YOUTH Study”, European Society of Cardiology (ESC), Congress 2019 (Paris)
- Retinal vessel analysis to determine preeclampsia risk, preterm microvascular phenotype & childhood cardiovascular risk. Congress of the European Association of Preventive Cardiology (EAPC) 2019 (Lisbon)
- Retinal Vessel Analysis: Biomarker of Cardiovascular Risk. European Society of Microcirculation and European Vascular Biology Organization (ESM & EVBO), Congress 2019 (Maastricht)
- Arterial Stiffness in a Swiss population of young children- The EXAMIN YOUTH Study. German, Swiss and Austrian Society of Arterial Stiffness (DeGAG), Congress 2019 (Munich)
- Exercise, blood pressure and cardiovascular health- role of vascular biomarkers. Congress of the European Association of Preventive Cardiology (EAPC) 2018 (Ljubljana)

AWARDS and FELLOWSHIPS

2019	Certification for High Impact paper in <i>Hypertension</i> , American Heart Association
2017	Sabrina Köchli, Young Investigator Award Nomination, EuroPrevent (PhD Supervisor)
2016	Katharina Imhof, Young Investigator Award, DeGAG (PhD Supervisor)
2014	Fellow of the European Society of Cardiology (FESC)
2008	ProLehre-Scholarship for University Didactics and Pedagogy: Werner-von-Linde Academy, Technische Universität München

RESEARCH OUTPUT SUMMARY

Net academic age in 2024 (SNF):	12 years
Number of papers as first or last author:	74 (Impact Factor: 331)
Number of papers as co-author:	82 (Impact Factor: 472)
Total number of papers:	156 (Cum. Impact Factor: 803)
https://orcid.org/0000-0001-5501-4205	
https://pubmed.ncbi.nlm.nih.gov/?term=henner+hanssen+&sort=date	
Current Hirsch Index (Web of Science):	30 (3135 Citations)
Total Funding:	3 669 551 CHF (€)

CONTRIBUTION TO POSITION STATEMENTS and GUIDELINES

- 2024 Guidelines for the management of elevated blood pressure and hypertension: Developed by the task force on the management of elevated blood pressure and hypertension of the European Society of Cardiology (ESC) and endorsed by the European Society of Endocrinology (ESE) and the European Stroke Organisation (ESO) McEvoy et al.; Eur Heart J. 2024;45(38):3912-4018
- Obesity and cardiovascular disease: an ESC clinical consensus statement. Koskinas et al.; Eur J Prev Cardiol. 2024, online ahead of print
- The role of exercise training on Cardiovascular risk factors and disease in patients with Chronic Kidney Disease (stages 3 to 5D): A position paper from EAPC and EURORECKD. Kouidi et al., Eur J Prev Cardiol. 2024 Sep 6;31(12):1493-1515 (co-lead)
- Lifestyle interventions to change trajectories of obesity-related cardiovascular risk from childhood onset to manifestation in adulthood: a joint scientific statement of the task force for childhood health of the European Association of Preventive Cardiology and the European Childhood Obesity Group. Hanssen et al., Eur J Prev Cardiol. 2023 Oct 10;30(14):1462-1472 (lead author)
- Hypertension in children and adolescents: A Consensus Document From ESC Council on Hypertension, European Association of Preventive Cardiology, European Association of Cardiovascular Imaging, Association of

- Cardiovascular Nursing & Allied Professions, ESC Council on Cardiology Practice and Association for European Paediatric and Congenital Cardiology. De Simone et al., *Eur Heart J*. 2022;43(35):3290-3301. (co-author)
- Cardiac screening prior to return to play after SARS-CoV-2 infection: focus on the child and adolescent athlete: A Clinical Consensus Statement of the Task Force for Childhood Health of the European Association of Preventive Cardiology. D'Ascenzi et al. *Eur J Prev Cardiol*. 2022;29(16):2120-2124 (co-author)
 - Personalized exercise prescription in the prevention and treatment of arterial hypertension: a Consensus Document from the European Association of Preventive Cardiology (EAPC) and the ESC Council on Hypertension. Hanssen et al., *Eur J Prev Cardiol*. 2022;29(1):205-215 (lead author)

TEN MOST RELEVANT PUBLICATIONS (since 2018)

Original Research in peer-reviewed journals as first or senior author

Author/ Title/ Journal/ Volume/ Page Number/ Year/ Impact Factor (IF)/ Specific Ranking (SR)

Hanssen H, Streese L, Vilser W. Retinal vessel diameters and function in cardiovascular risk and disease. **Prog Retin Eye Res**. 2022 Nov;91:101095. IF 19.704, SR1/62 (Ophthalmology)

Günthner R, Streese L, Angermann S, Lorenz G, Braunisch MC, Matschkal J, Hausinger R, Stadler D, Haller B, Heemann U, Kotliar K, Hanssen H (shared senior author), Schmaderer C. Mortality prediction of retinal vessel diameters and function in a long-term follow-up of haemodialysis patients. **Cardiovasc Res**. 2022 Dec 29;118(16):3239-3249. IF 14.239, SR10/143 (Cardiac & Cardiovascular System)

Köchli S, Smith W, Lona G, Goikoetxea-Sotelo G, Breet Y, Botha-Le Roux S, Mokwatsi GG, Kruger R, Hanssen H. Obesity, blood pressure and retinal microvascular phenotype in a bi-ethnic cohort of young children. **Atherosclerosis**. 2022 Jun;350:51-57. IF 6.851, SR11/67 (Peripheral Vascular Disease)

Lona G, Endes K, Köchli S, Infanger D, Zahner L, Hanssen H. Retinal Vessel Diameters and Blood Pressure Progression in Children. **Hypertension**. 2020 Aug;76(2):450-457. IF 9.897, SR8/67 (Peripheral Vascular Disease)

Streese L, Demougin P, Iborra P, Kanitz A, Deiseroth A, Kröpfl JM, Schmidt-Trucksäss A, Zavolan M, Hanssen H. Untargeted sequencing of circulating microRNAs in a healthy and diseased older population. **Sci Rep**. 2022 Feb 22;12(1):2991. IF 4.997, SR19/74 (Multidisciplinary Sciences)

Streese L, Khan AW, Deiseroth A, Hussain S, Suades R, Tiaden A, Kyburz D, Cosentino F, Hanssen H. High-intensity interval training modulates retinal microvascular phenotype and DNA methylation of p66^{Shc} gene: a randomized controlled trial (EXAMIN AGE). **Eur Heart J**. 2020 Apr 14;41(15):1514-1519. IF 35.855, SR 3/143 (Cardiac & Cardiovascular System)

Streese L, Khan AW, Deiseroth A, Hussain S, Suades R, Tiaden A, Kyburz D, Hanssen H (shared senior), Cosentino F. Physical activity may drive healthy microvascular ageing via downregulation of p66^{Shc}. *European Journal of Preventive Cardiology* 2019, **Eur J Prev Cardiol**. 2020 Jan;27(2):168-176. IF 8.526; SR 22/143 (Cardiac & Cardiovascular Systems)

Günthner R, Hanssen H (equally contributed), Hauser C, Angermann S, Lorenz G, Kemmner S, Matschkal J, Braunisch MC, Kuechle C, Renders L, Moog P, Wassertheurer S, Baumann M, Hammes HP, Mayer CC, Haller B, Stryeck S, Madl T, Carbajo-Lozoya J, Heemann U, Kotliar K, Schmaderer C. Impaired Retinal Vessel Dilation Predicts Mortality in End-Stage Renal Disease. **Circ Res**. 2019, Epub ahead of print. IF 23.218, SR 2/67 (Peripheral Vascular Disease)

Köchli S, Endes K, Steiner R, Engler L, Infanger D, Schmidt-Trucksäss A, Zahner L, Hanssen H. Obesity, High Blood Pressure, and Physical Activity Determine Vascular Phenotype in Young Children. **Hypertension**. IF 9.897, SR8/67 (Peripheral Vascular Disease)

Köchli S, Endes K, Infanger D, Zahner L, Hanssen H. Obesity, Blood Pressure, and Retinal Vessels: A Meta-analysis. **Pediatrics**. 2018;141(6). IF 9.703; SR 4/130 (Pediatrics)