

Sebastian Mussnig

Academic Degree: MD (Dr. med. univ.)

Nationality: Austria

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Prepared: January 23, 2024



Education

09/2023 - present: Medical University of Vienna, PhD UN094 Program *Medical Physics*

Implementing routine bioimpedance spectroscopy measurements into hemodialysis practice

Junior-Supervisor: Manfred Hecking, Senior-Supervisor: Franz Kainberger

Thesis proposal graded 1 (excellent)

10/2017 - 07/2023: Medical University of Vienna, Diploma Studies in Human Medicine UN202

ECTS-weighted GPA: 1.14

Bioimpedance Spectroscopy in Pulmonary Hypertension: An Exploratory Retrospective Study

Supervisor: Roman Reindl-Schwaighofer, Co-Supervisor: Manfred Hecking

Diploma thesis graded 1 (excellent)

Research Affiliations

HD & Co Research Group (Group Leader: Manfred Hecking)

07/2023 - present: Medical University of Vienna, Center for Public Health, Department of Epidemiology (Department Head: Eva Schernhammer)

11/2020 - 06/2023: Medical University of Vienna, Department of Medicine III, Division for Nephrology (Department Head: Rainer Oberbauer)

Areas of Expertise:

- Bioimpedance Spectroscopy: Technology, Modeling, Clinical Application
- Absolute Blood Volume during Hemodialysis: Data Synthesis, Modeling, Clinical Application
- Dialysis Target Weight Adjustment: Study Design and Implementation

Report of Scholarship

ORCID - Google Scholars - Web of Science - ResearchGate

Research Investigations (First Author, Co-Author):

1. *Assessment of Bioimpedance Spectroscopy Devices: A Comparative Study and Error Analysis of Gold-Plated Copper Electrodes.* **Mussnig S**, Krenn S, Hecking M, Wabel P. *Physiol Meas.* 2024 Jan 18. doi: 10.1088/1361-6579/ad205b. Epub ahead of print. PMID: 38237199.
2. *Differences in bioimpedance-derived fluid status between two versions of the Body Composition Monitor.* **Mussnig S**, Schmiedecker M, Waller S, Paschen C, Schneditz D, Hecking M, Krenn S. *Nutrition.* 2023 Jun 14;114:112131. doi: 10.1016/j.nut.2023.112131. Epub ahead of print. PMID: 37467529.

3. (Abstract) *Comparison of two bioimpedance spectroscopy devices: a practical step forward on the way to daily bioimpedance measurements for dialysis patients.* **Mussnig S**, Krenn S, Hecking M, Wabel P. *Nephrol Dial Transplant.* 2023 Jun. https://doi.org/10.1093/ndt/gfad063c_4657
1. *Day-to-day variability in ewolemic body mass.* Schneditz D, Hofmann P, Krenn S, **Mussnig S**, Hecking M. *Ren Fail.* 2023;45(2):2273421. doi: 10.1080/0886022X.2023.2273421. Epub 2023 Nov 13. PMID: 37955103; PMCID: PMC10653631.
2. *Estimation of absolute blood volume in hemodialysis patients: a numerical algorithm for assessing blood volume increase after dialysate bolus infusion.* Pstras L, Krenn S, Waniewski J, Schmiedecker M, **Mussnig S**, Niknam J, Wabel P, Mayer CC, Schneditz D, Hecking M. *Biomed Signal Process Control.* 2024 Feb;88:105440. doi: 10.1016/j.bspc.2023.105440.
3. *Bioimpedance-derived ewolemic weight varies in hemodialysis patients - challenging the fixed target weight concept.* Waller M, Krenn S, **Mussnig S**, Schmiedecker M, Niknam-Saeidi J, Mayer CC, Wabel P, Schneditz D, Chazot C, Hecking M. *Nephrol Dial Transplant.* 2023 Sep 14:gfad206. doi: 10.1093/ndt/gfad206. Epub ahead of print. PMID: 37708039.
4. *Ultrafiltration-induced decrease in relative blood volume is larger in hemodialysis patients with low specific blood volume: Results from a dialysate bolus administration study.* Schmiedecker M, Krenn S, Waller M, Paschen C, **Mussnig S**, Niknam J, Wabel P, Mayer CC, Hecking M, Schneditz D. *Hemodial Int.* 2023 Apr;27(2):174-183. doi: 10.1111/hdi.13066. Epub 2023 Jan 26. PMID: 36703281.
5. *Revisiting the concept of constant tissue conductivities for volume estimation in dialysis patients using bioimpedance spectroscopy.* Schneditz D, **Mussnig S**, Krenn S, Hecking M. *Int J Artif Organs.* 2023 Feb;46(2):67-73. doi: 10.1177/03913988221145457. Epub 2022 Dec 22. PMID: 36550616.
6. *The systemic renin-angiotensin system in COVID-19.* Reindl-Schwaighofer R, Hödlmoser S, Domenig O, Krenn K, Eskandary F, Krenn S, Schörgenhofer C, Rumpf B, Karolyi M, Traugott MT, Abrahamowicz A, Tinhof V, Mayfurth H, Rathkolb V, **Mußnig S**, Schmölz L, Ullrich R, Heinzl A, König F, Binder C, Bonderman D, Strassl R, Puchhammer-Stöckl E, Gorkiewicz G, Aberle JH, Jilma B, Wenisch C, Poglitsch M, Oberbauer R, Zoufaly A, Hecking M. *Sci Rep.* 2022 Nov 22;12(1):20117. doi: 10.1038/s41598-022-24628-1. PMID: 36418458; PMCID: PMC9684482.

Editorials:

1. *Mechanistic Basis for Intradialytic Hypertension with Hemodialysis.* Hecking M, **Mussnig S**, Chazot C. *CJASN* 1–3, 2024.

Honors & Prizes

12/2023: Merit Scholarship, Medical University of Vienna

12/2022: Merit Scholarship, Medical University of Vienna

10/2022 - 09/2023: MDPHD Excellency Program, Medical University of Vienna. *Prior admission to PhD courses during the last year of medical school and PhD financing for 11 months.*

Presentations

05/10/2023: 15th Annual Meeting of the German Society of Nephrology, Berlin (Germany). Topics: *Ewolemia - Never Give Up!*, *Blood-Volume-Monitor Data Extraction*, *A Comparison of Two Bioimpedance Spectroscopy Devices*

17/06/2023: 60th Congress of the European Renal Association 2023, Milan (Italy). Topic: *Comparison of Two Bioimpedance Spectroscopy Devices*

04/05/2023: Brodovy Dny 2023 - Annual Meeting of the Czech Society of Nephrology, Mikulov (Czech Republic). Topic: *Fluid Management in Hemodialysis*

07/10/2022: Annual Meeting of the Austrian Society of Hypertension and Nephrology, Vienna (Austria). Topic: *Differences in the measured overhydration of hemodialysis patients between two versions of the Body Composition Monitor*

04/05/2022: Research Symposium: The Future of Hemodialysis (& review board of WWTF grant LS20-079), Vienna (Austria). Topic: *BCM - old vs. new*

Ad-Hoc Reviewer

BMC Nephrology, The International Journal of Artificial Organs

Clinical Experience

08/2022 - 07/2023: Clerkships at Klinik Hietzing: Dermatology (2 months), Klinik Favoriten: Urology (4 months), Vienna General Hospital, Department of Neurology (2 months), Mein Hanusch Hospital, 1st Medical Department (4 months)

2019 - 2020: Internships at LKH Laas: Internal Medicine (3 weeks); UKH Klagenfurt: Traumatology (4 weeks); Vienna General Hospital: Nephrology & Dialysis (2 weeks); LKH Klagenfurt: Gastroenterology & Hepatology, Pulmonology, Cardiology (2 weeks each)

Work Experience

10/2020 - 06/2022: Employee at the urological practice of Dr. Türk, 1030 Vienna

2017/2018: Lifeguard, Klagenfurt am Wörthersee

08/2016 - 04/2017: Civilian Service at the Red Cross Klagenfurt, Emergency Medical Service

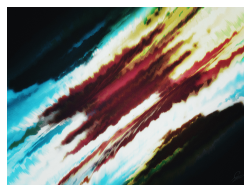
Skills & Interests

Languages: German (Native), English (Fluent), French (B2)

IT Skills: MS Office (+++), R (+++), Final Cut (+++), Blender (++), Python (+), SPSS (+)

Interests: Saxophone (Classical & Jazz), Film, Photography, Composition, Digital Art

Other: Good Clinical Practice Certificate (09/21), Driver's License Class B



Mussnig S, 2020