

Publikationsverzeichnis Dr. phil. Barlo Hillen

Stand 20.02.2025

1| ZEITSCHRIFTENARTIKEL (MIT WISS. BEIRAT)

Als Erstautor

- 01| **Hillen, B.**, Lopez, D. A., Marzano-Felisatti, J. M., et al. (2023). Acute physiological responses to a pyramidal exercise protocol and the associations with skin temperature variation in different body areas. *JOURNAL OF THERMAL BIOLOGY*, 115. doi: <https://doi.org/10.1016/j.jtherbio.2023.103605>
- 02| **Hillen, B.**, Lopez, D. A., Pfirmann, D., et al. (2023). An exploratory, intra- and interindividual comparison of the deep neural network automatically measured calf surface radiation temperature during cardiopulmonary running and cycling exercise testing: A preliminary study. *JOURNAL OF THERMAL BIOLOGY*, 113. doi: <https://doi.org/10.1016/j.jtherbio.2023.103498>
- 03| **Hillen, B.**, Lopez, D. A., Schömer, E., Nägele, M., & Simon, P. (2022). Towards Exercise Radiomics: Deep Neural Network-Based Automatic Analysis of Thermal Images Captured During Exercise. *IEEE Journal of Biomedical and Health Informatics*, 1-11. doi: [10.1109/JBHI.2022.3186530](https://doi.org/10.1109/JBHI.2022.3186530)
- 04| **Hillen, B.**, Simon, P., Schlotter, S., Nitsche, O., Bahner, V., Poplawska, K., & Pfirmann, D. (2021). Feasibility and implementation of a personalized, web-based exercise intervention for people with cystic fibrosis for 1 year. *BMC SPORTS SCIENCE MEDICINE AND REHABILITATION*, 13(1). doi: [10.1186/s13102-021-00323-y](https://doi.org/10.1186/s13102-021-00323-y)
- 05| **Hillen, B.**, Pfirmann, D., Naegele, M., & Simon, P. (2020). Infrared Thermography in Exercise Physiology: The Dawning of Exercise Radiomics. *SPORTS MEDICINE*, 50(2), 263-282. doi: [10.1007/s40279-019-01210-w](https://doi.org/10.1007/s40279-019-01210-w)
- 06| **Hillen, B.**, Simon, P., Grimminger, P. P., Gockel, I., & Pfirmann, D. (2019). Use of a Perioperative Web-Based Exercise Program for a Patient with Barrett's Carcinoma Scheduled for Esophagectomy. *CASE REPORTS IN ONCOLOGY*, 12(3), 755-764. doi: [10.1159/000503558](https://doi.org/10.1159/000503558)

Als Koautor

- 07| Knoll, R. L., Brauny, M. M., Robert, E., Cloos, L., Beck, L., Hilbert, K., **Hillen, B.**, Birkner, T., Bartolomaeus, T. U. P., Nitsche, O., Jarquín-Díaz, V. H., Gehring, S., Maier, L., Poplawska, K., & Forslund, S. K. (2024). CFTR Modulator Therapy Reshapes the Microbiome Across Ecological Niches Toward Health in Cystic Fibrosis (under review). doi: <https://doi.org/10.2139/ssrn.4775202>
- 08| Andrés López, D., **Hillen, B.**, Nägele, M. et al. StereoThermoLegs: label propagation with multimodal stereo cameras for automated annotation of posterior legs during running at different velocities. *J Therm Anal Calorim* 149, 11349–11360 (2024). doi: <https://doi.org/10.1007/s10973-024-13343-w>

- 09| Tomaskovic, A., Weber, V., Ochmann, D. T., Neuberger, E. W. I., Lachtermann, E., Brahmer, A., Haller, N., **Hillen, B.**, Enders, K., Eggert, V. L., Zeier, P., Lieb, K., & Simon, P. (2024, Aug 2). Multimodal web-based telerehabilitation for patients with post COVID-19 condition (Mainz PCC TeR Study): Study protocol of a randomized controlled clinical trial (Preprint). doi: <https://doi.org/10.2196/preprints.65044>
- 10| Andrés López, D., **Hillen, B.**, Nägele, M. et al. ThermoNet: advanced deep neural network-based thermogram processing pipeline for automatic time series analysis of specific skin areas in moving legs. *J Therm Anal Calorim* 149, 11337–11348 (2024). doi: <https://doi.org/10.1007/s10973-024-13625-3>
- 11| Knoll, R. L., Jarquín-Díaz, V. H., Klopp, J., Kemper, A., Hilbert, K., **Hillen, B.**, . . . Poplawska, K. (2023). Resilience and stability of the CF- intestinal and respiratory microbiome during nutritional and exercise intervention. *BMC Microbiology*, 23(1). doi:10.1186/s12866-023-02788-y
- 12| Ochmann, D., Philippi, K. F. A., Zeier, P., Sandner, M., **Hillen, B.**, Neuberger, E. W. I., . . . Brahmer, A. (2021). Association of Innate and Acquired Aerobic Capacity With Resilience in Healthy Adults: Protocol for a Randomized Controlled Trial of an 8-Week Web-Based Physical Exercise Intervention. *JMIR RESEARCH PROTOCOLS*, 10(11). doi:10.2196/29712
- 13| Neuberger, E. W. I., **Hillen, B.**, Mayr, K., Simon, P., Kraemer-Albers, E. -M., & Brahmer, A. (2021). Kinetics and Topology of DNA Associated with Circulating Extracellular Vesicles Released during Exercise. *GENES*, 12(4). doi:10.3390/genes12040522
- 14| Schubert, M., Leipold, J., Friedrich, L., **Hillen, B.**, & Dreher, M. (2020). Der Pausenexpress an der Johannes Gutenberg-Universität. *ASU Arbeitsmedizin Sozialmedizin Umweltmedizin*, 2020(11), 673-675. doi:10.17147/asu-2011-8859

2| ABSTRACT-PUBLIKATIONEN & FACHKONFERENZBEITRÄGE (MIT WISS. BEIRAT)

- 01| **Hillen, B.**, Zentgraf, S., Weber, V., et al. (2023). *Deep neural network-driven time series analysis of posterior legs surface radiation during cardiopulmonary exercise testing and associations with core temperature and internal load*. 28th Annual Congress of the European College of Sport Science (ECSS), Paris; *Book of Abstracts*.
- 02| **Hillen, B.**, Andrés López, D., Marzano Felisatti, J. M., et al. (2023). *Skin thermal radiation variation during a pyramidal load cycling protocol and the association with individual load and thermoregulation*. Sports, Medicine and Health Summit, CCH Hamburg; *German Journal of Sports Medicine* (74) 4/2023.
- 03| Weber, V., **Hillen, B.**, Nägele, M., et al. (2023, Juni 26). *The intraindividual reproducibility of skin thermal radiation variations during repeated cardiopulmonary exercise tests and associations with physical capacity*. Sports, Medicine and Health Summit, CCH Hamburg; *German Journal of Sports Medicine* (74) 4/2023.
- 04| Andrés López, D., **Hillen, B.**, Simon, P., Schömer, E. (2023). *Improved deep neural network-driven automatic segmentation of skin's thermal radiation in moving posterior legs during cardiopulmonary exercise testing for time series data analysis* 3rd Journal of Thermal Analysis and Calorimetry Conference, Budapest, Ungarn, Book of Abstracts, <https://akcongress.com/jtacc/>.

- 05| Enders, K., **Hillen, B.**, Brahmer, A., et al. *Individualized App-based exercise therapy in cancer and depression - a feasibility study*. German Exercise Science & Training Conference 2023, Köln.
- 06| Schwab, L. M. M., Enders, K., Brahmer, A., et al. *Approaches of individualized web-based exercise therapy in clinical settings*. German Exercise Science & Training Conference 2023, Köln.
- 07| **Hillen, B.**, Legat, L., Knoll, R. L., et al. (2022, Juni 30). *P034 Long-term elxacaftor/tezacaftor/ivacaftor CFTR modulation significantly increases lung function and peak power output in people with cystic fibrosis*. Published. 45th European Cystic Fibrosis Conference, Rotterdam. [https://doi.org/10.1016/S1569-1993\(22\)00367-8](https://doi.org/10.1016/S1569-1993(22)00367-8)
- 08| Knoll, R. L., Klopp, J., Diaz, V. H. J., **Hillen, B.**, et al. (2021, Juni 30). *WS13.3 Microbiome composition during a personalised internet-supported exercise and nutrition program*. Published. 44th European Cystic Fibrosis Conference. [https://doi.org/10.1016/S1569-1993\(21\)00989-9](https://doi.org/10.1016/S1569-1993(21)00989-9)
- 09| Weber, V., **Hillen, B.**, Brahmer, A., et al. (2021). *Pooled re-analysis to investigate the associations of laboratory markers with the cellfree DNA kinetics after bicycle and treadmill exercises*. Sports, Medicine and Health Summit, Virtueller Kongress, 95-95.
- 10| **Hillen, B.**, Neuberger, E., Pfirrmann, D., et al. (2020). *Infrared Thermography in exercise testing: A comparison between people with cystic fibrosis, trained people, and untrained people*. I INTERNATIONAL CONGRESS ON APPLICATION OF INFRARED THERMOGRAPHY IN SPORT SCIENCE, Book of Abstracts, 25.
- 11| **Hillen, B.**, Pfirrmann, D., Etzel, J., et al. (2020). *Infrared Thermography during graded exercise testing in patients with cystic fibrosis including two retests*. I INTERNATIONAL CONGRESS ON APPLICATION OF INFRARED THERMOGRAPHY IN SPORT SCIENCE, Book of Abstracts, 25.
- 12| Knoll, R. L., **Hillen, B.**, Wirsching, S., et al. (2020, Juni 30). *P179 A personalised internet-supported exercise and nutrition program increases Resolvin-D1 plasma levels*. 43rd European Cystic Fibrosis Conference. [https://doi.org/10.1016/S1569-1993\(20\)30514-2](https://doi.org/10.1016/S1569-1993(20)30514-2)
- 13| Andrés López, D., **Hillen, B.**, Simon, P., Schömer, E. (2020). *Deep learning based segmentation of uncovered body parts in thermal images during dynamic exercise*. I INTERNATIONAL CONGRESS ON APPLICATION OF INFRARED THERMOGRAPHY IN SPORT SCIENCE, Book of Abstracts, 25.
- 14| Andrés López, D., **Hillen, B.**, Simon, P., Schömer, E. (2020). *Thermonet: Automatic Segmentation of Blood Vessel Patterns detected by Infrared Thermography during dynamic Exercise*. 25th Annual Congress of the European College of Sports Science, Book of Abstracts.
- 15| **Hillen, B.**, Pfirrmann, D., Neuberger, E., et al. *Infrared Thermography in running and cycling exercise testing*. 25th Annual Congress of the European College of Sports Science, Book of Abstracts.
- 16| **Hillen, B.**, Pfirrmann, D., Simon, P., und Poplawska, K. E. (2019, Juni 30). *P366 A 12-week, individualised, web-based exercise intervention is feasible and effective for people with cystic fibrosis*. 42nd European Cystic Fibrosis Conference, Liverpool. [https://doi.org/10.1016/S1569-1993\(19\)30658-7](https://doi.org/10.1016/S1569-1993(19)30658-7)

- 17| **Hillen, B.**, und Abteilung Sportmedizin, Prävention und Rehabilitation Mainz. (2019, April 1). *Poster / Das Forschungsportfolio der Abteilung Sportmedizin, Prävention und Rehabilitation Mainz*. Nachwuchssymposium DGSP, Saarbrücken.
- 18| **Hillen, B.**, und Simon, P. (2019). The Temperature Surface Radiation Pattern - A non-invasive Insight into Skin Blood Flow Response to Exercise. *MEDICINE AND SCIENCE IN SPORTS AND EXERCISE*, *51*(6), 491-492. doi: [10.1249/01.mss.0000561977.27534.b2](https://doi.org/10.1249/01.mss.0000561977.27534.b2)
- 19| **Hillen, B.**, Pfirrmann, D., Poplawska, K., und Simon, P. (2017) *Leistungsdiagnostik: Modifiziertes Gehprotokoll mit Laktatdiagnostik zur optimalen Trainingssteuerung für Patienten mit CF*. 20. Deutsche Mukoviszidose Tagung, Würzburg, Würzburg.
- 20| Pfirrmann, D., **Hillen, B.**, Simon, P., und Poplawska, K. E. (2017) *Einfluss einer 12-wöchigen web-basierten Trainingsbetreuung bei Patienten mit zystischer Fibrose (CF) auf die 6-Minuten-Gehtest (6MWT)*. Published. 20. Deutsche Mukoviszidose Tagung, Würzburg.
- 21| **Hillen, B.**, Pfirrmann, D., Schlotter, S., et al. (2016) *COMMED Cystic fibrosis Online Mentoring for Microbiome, Exercise & Diet -study design & first insights*. 30th Annual North American Cystic Fibrosis Conference (NACFC), Orlando.

3| AUSGEWÄHLTE VORTRÄGE AUF FACHKONFERENZEN & AN UNIVERSITÄTEN

- 01| Hillen, B. (2024) *Guest Lecture: Radiation variation & the Perforasome: DNN-Thermography in Exercise Physiology*. Universität von Kopenhagen, Kopenhagen, Dänemark.
- 02| Hillen, B. (2024) *Guest Lecture: Thermography in Sports and Health Science*. Universität von Jyväskylä, Jyväskylä, Finnland.
- 03| Hillen, B. (2023) *Invited Talk: CF & Modulators: What will the future bring?* UK CF & Exercise Network meeting, Health Innovation Campus, Lancaster, Großbritannien.
- 04| Hillen, B. (2023) *Invited Talk: The impact of ETI treatment on cardiopulmonary exercise testing outcomes: results of a longitudinal, single centre study*. 46th European Cystic Fibrosis Conference, Wien, Österreich.
- 05| Hillen B. (2022). *The application of infrared thermography in exercise physiology*. Forthem Sports Science Webinar. Forthem alliance (EU).
- 06| Hillen, B. (2021) *Guest Lecture: The dawning of exercise radiomics*. Faculty of Physical Activity and Sports Sciences. Universität von Valencia, Valencia, Spanien.
- 07| Hillen, B. (2021) *Guest Lecture: Web-based exercise support for people with chronic internal diseases*, Universität von Valencia, Ontinyent, Spanien.
- 08| Hillen, B., (2021) *Invited Talk: PatientInnen Betreuung der Zukunft – Online-Betreuung: Der Weg zum bewegten Alltag?* Sports, Medicine and Health Summit, Hamburg.
- 09| Hillen, B. (2019) *Science Slam: Die Entdeckung der „Scheckischkeit“*. Nachwuchssymposiums der deutschen Gesellschaft für Sportmedizin, Saarbrücken.
- 10| Hillen, B. (2019) *Science Tram: Internetbasierte und sportwissenschaftliche Trainingsbetreuung für Patienten mit chronischen inneren Erkrankungen*. Mainzer Wissenschaftsallianz, Mainz.

4| AUSGEWÄHLTE BEITRÄGE IN PRINT- UND ONLINEMEDIEN

- 01| Videoreportage (2022) *Geheimnisvolle Muster – Infrarot-Thermografie für die sportmedizinische Leistungsdiagnostik*. In Medica Magazin. Medica.de. [DE](#) [ENG](#)
 - 02| Eingeladener Vortrag (2022) *Feasibility and implementation of a personalized, web based exercise intervention for people with cystic fibrosis for 1 year*. European Cystic Fibrosis Society, Exercise Working Group, Journal Club. [Youtube](#)
 - 03| Zeitungsartikel (2022) *Mehr Sport! Tipps, wie ich dem Neujahrsvorsatz treu bleibe*. Allgemeine Zeitung/VRM. [Link](#)
 - 04| Videoreportage (2021) *Wie wir jung und fit bleiben* (ab 19:40 min). Odysso, Südwest Rundfunk. Südwest Rundfunk. [Link](#)
 - 05| Zeitungsartikelreihe (2020) *Trotz Corona: Mitmachen, fit bleiben*. Allgemeine Zeitung /VRM. [Link](#)
 - 06| Online-Nachtvorlesung. (2020) *Verschleiß in Folge von Belastung*. Youtube & Allgemeine Zeitung. [Youtube](#)
 - 07| Zeitungsartikel (2020) *Warum der Rücken im Homeoffice leidet*. Allgemeine Zeitung /VRM. [Link](#)
 - 08| Zeitungsartikel. (2020) *Wichtig bei Hitze: Schon vor dem Sport viel trinken*. Allgemeine Zeitung/VRM. [Link](#)
 - 09| Videoreportage. (2019) *Optimale Trainingssteuerung für Asthmapatienten*. Volle Kanne, Zweites Deutsches Fernsehen. [Link](#)
 - 10| Videoreportage. (2014) *Sprungkrafttraining für Anfänger und Fortgeschrittene*. [Youtube](#)
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