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Martin Pekař

Hightech & Electronics

Trainee Patent Attorney

Martin Pekař studeerde aan de Tsjechische Technische Universiteit in Praag, waar hij twee Master titels (MSc) behaalde voor zowel Biomedische Technologie als Elektrotechniek. Hij promoveerde op het gebied van Biomedische Technologie aan de Erasmus Universiteit in Rotterdam. Tussen 2013 en 2022 werkte hij als wetenschapper en senior engineer bij Philips. Sinds 2022 is hij begonnen als octrooigemachtigde in opleiding bij V.O. Patents & Trademarks.

Werkervaring

- Octrooigemachtigde in opleiding, V.O. (november 2022 – heden)
- Senior Engineer, Philips Medical Systems (2021 – 2022)
- Wetenschapper, Philips Research (2013 – 2021)
- Marie Skłodowska-Curie Fellow, Erasmus Universiteit (2013 – 2017)

Opleiding

- Masterclass in Artificial Intelligence, NCOI (2022 – 2023)
- Green Belt Design for Six Sigma Certification (2021 – 2022)
- PhD in Biomedische Technologie, Erasmus Universiteit (2013 – 2017)
- MSc in Elektrotechniek, Tsjechische Technische Universiteit in Praag (2009 – 2013)
- MSc met lof in Biomedische Technologie, Tsjechische Technische Universiteit in Praag (2009 – 2011)
- BSc met lof in Biomedische Technologie, Tsjechische Technische Universiteit in Praag (2006 – 2009)

Publicaties

- Stevens, T. S., Chennakeshava, N., de Bruijn, F. J., Pekař, M., & van Sloun, R. J. (2022, May). Accelerated Intravascular Ultrasound Imaging using Deep Reinforcement Learning. In ICASSP 2022-2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 1216-1220). IEEE.
- Chennakeshava, N., Stevens, T. S., de Bruijn, F. J., Hancock, A., Pekař, M., Eldar, Y. C., ... & van Sloun, R. J. (2022, May). Deep Proximal Unfolding For Image Recovery from Under-Sampled Channel Data in Intravascular Ultrasound. In ICASSP 2022-2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 1221-1225). IEEE.
- Pekař, M., Mihajlović, N., Belt, H., Kolen, A. F., Van Rens, J., Budzelaar, F., ... & van der Steen, A. F. (2018). Quantitative imaging performance of frequency-tunable capacitive micromachined ultrasonic transducer array designed for intracardiac application: Phantom study. *Ultrasonics*, 84, 421-429.
- Pekař, M. (2017). Agile and Bright Intracardiac Catheters. PhD thesis.
- Pekař, M., Kolen, A. F., Belt, H., van Heesch, F., Mihajlović, N., Hoefler, I. E., ... & van der Steen, A. F. (2017). Preclinical testing of frequency-tunable capacitive micromachined ultrasonic transducer probe prototypes. *Ultrasound in medicine & biology*, 43(9), 2079-2085.
- Pekař, M., van Nispen, S. H., Fey, R. H., Shulepov, S., Mihajlović, N., & Nijmeijer, H. (2017). A fluid-coupled

transmitting CMUT operated in collapse mode: Semi-analytic modeling and experiments. *Sensors and Actuators A: Physical*, 267, 474-484.

- Pekař, M., Dittmer, W. U., Mihajlović, N., van Soest, G., & de Jong, N. (2017). Frequency tuning of collapse-mode capacitive micromachined ultrasonic transducer. *Ultrasonics*, 74, 144-152.
- Pekař, M., Van Rens, J., & van der Mark, M. B. (2017). Electrifying catheters with light. *Optics Express*, 25(8), 8534-8549.
- Pekař, M., Mihajlović, N., Belt, H., Kolen, A. F., Jacobs, B., Bosch, J. G., ... & Rem-Bronneberg, D. (2016, September). Frequency-agility of collapse-mode 1-D CMUT array. In *2016 IEEE International Ultrasonics Symposium (IUS)* (pp. 1-3). IEEE.
- Van Der Mark, M. B., Van Dusschoten, A., & Pekař, M. (2015, March). All-optical power and data transfer in catheters using an efficient LED. In *Optical Fibers and Sensors for Medical Diagnostics and Treatment Applications XV* (Vol. 9317, pp. 45-56). SPIE.
- Pekař, M. (2013). Acoustic Radiation Force for Cardiac Ablation Monitoring. Master's thesis.
- Pekař, M. (2011). Diffusion model of CO2 in Avalanche. Master's thesis. Czech Technical University in Prague, the Czech Republic.
- Pekař, M. (2009). Video-Based Recording Set-Up for the Biomechanical Testing of Bone. Bachelor's thesis, University of Oulu, Finland.

Octrooien

- Presura, Cristian N., Charvát, Jindřich, and Pekař, Martin. "Detecting distance of a probe to pulp of a tooth." International Patent Application no. WO2022128831A1, 23 Jun. 2022.
- Presura, Cristian N., Charvát, Jindřich, and Pekař, Martin. "Estimating the thickness of rigid material in a tooth." International Patent Application no. WO2022129134A1, 23 Jun. 2022
- Pekař, Martin, Rmaile, Amir, Gottenbos, Bart, and Presura, Cristian N. "System for providing oral tissue treatment." International Patent Application no. WO2022058268A1. 24 Mar. 2022.
- Pekař, Martin, Mihajlovic, Nenad, and van Rens. Cornelia A. "Intravascular ultrasound device." U.S. Patent Application No. 17/422,839.
- Mihajlovic, Nenad, Pekař, Martin, Dirksen, Peter, and Hope Simpson, David. "Ultrasound transducer array, device and system." International Patent Application no. WO2019038242A1. 28 Feb. 2019.
- Pekař, Martin, and Dittmer, Wendy. "An ultrasound system with a tissue type analyzer." International Patent Application no. WO2018077962A1.
- Pekař, Martin, and van der Mark, Martinus B. "Ultrasound system and method." U.S. Patent No. 10,674,999. 9 Jun. 2020.

Nevenactiviteiten

- Marie Curie Alumni Association (2017 – heden)
- Reviewer bij *Ultrasonics* journal (2016 – 2022)

Talen

- Engels
- Nederlands
- Tsjechisch