

# Curriculum vitae: Hans-Peter Nee



Hans-Peter Nee was born in 1963 in Västerås, Sweden. He received the M.Sc., Licentiate, and Ph.D degrees in electrical engineering from the Royal Institute of Technology, Stockholm, Sweden, in 1987, 1992, and 1996, respectively. In 1999 he was appointed Professor of Power Electronics in the Department of Electrical Engineering. His interests are power electronic converters, semiconductor components, and control aspects of utility applications, like FACTS, HVDC, wind power converter systems, and variable-speed drives. At present, the two main focus areas are multilevel converters for high-power applications and high-efficiency SiC power electronics for various applications. Up to now he has supervised and examined 27 finalized doctor's projects.

Prof. Nee was awarded the Energy Prize by the Swedish State Power Board in 1991, the ICEM'94 (Paris) Verbal Prize in 1994, the Torsten Lindström Electric Power Scholarship in 1996, and the Elforsk Scholarship in 1997. He is an IEEE Fellow and has served in the board of the IEEE Sweden Section for many years and was the chairman of the board during 2002 and 2003. He is also a member of EPE and serves in the Executive Council and in the International Scientific Committee. He is also an associate editor of *IEEE Transactions on Power Electronics*, and was the Guest Editor-in-chief for the special issue on "wide bandgap power devices and their applications" in published in the same journal in May 2014.

**Total accumulated citations on January 23<sup>rd</sup> 2020: 10885**

**Citations during 2019: 1218**

**Citations during 2018: 1456**

**h-index: 49**

**i10-index: 133**

**Peer-reviewed journal publications:**

S. Heinig, K. Jacobs, K. Ilves, L. Bessegato, P. Bakas, S. Norrga, and H.-P. Nee, "Implications of Capacitor Voltage Imbalance on the Operation of the Semi-Full-Bridge Submodule," *IEEE Trans. Power Electron.*, vol. 34, no. 10, pp. 9520–9535, Oct. 2019.

H. Zhang, X. Wang, L. Harnefors, H. Gong, J.-P. Hasler, and H.-P. Nee, "SISO Transfer Functions for Stability Analysis of Grid-Connected Voltage-Source Converters," *IEEE Trans. Ind. Appl.*, vol. 55, no. 3, pp. 2931–2941, Jun./Jul. 2019.

Y. Zhang, H.-P. Nee, T. Hammam, I. Belov, P. Ranstad, and M. Bakowski, "Multiphysics Characterization of a Novel SiC Power Module," *IEEE Trans. Compon., Packag., Manuf.*, vol. 59, no. 3, pp. 489–501, Mar. 2019.

E. Velander, G. Bohlin, Å. Sandberg, T. Wiik, F. Botling, M. Lindahl, G. Zanuso, and H.-P. Nee, "An Ultralow Loss Inductorless dv/dt Filter Concept for Medium-Power Voltage Source Motor Drive Converters With SiC Devices," *IEEE Trans. Power Electron.*, vol. 33, no. 7, pp. 6072–6081, Jul. 2018.

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### **Overview papers:**

J. Rabkowski, D. Peftitsis, and H.-P. Nee, "Silicon Carbide Power Transistors – A New Era in Power Electronics is Initiated," *IEEE Industrial Electronics Magazine*, vol. 6, pp. 17–26, Jun. 2012.

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K. Jacobs, S. Heinig, B. Ciftci, S. Norrga, and H.-P. Nee, "Low Loss Submodule Cluster for Modular Multilevel Converters Suitable for Implementation with SiC MOSFETs," Proc. of 2019 IEEE Energy Conversion Congress and Exposition (ECCE), Baltimore, Sep. 29<sup>th</sup>–Oct. 3<sup>rd</sup> 2019, pp. 6790–6796.

P. Bakas, K. Ilves, S. Norrga, L. Harnefors, and H.-P. Nee, "Hybrid Alternate-Common-Arm Converter With Director Thyristors—Impact of Commutation Time on the Active-Power Capability," Proc. of 2019 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe), Genova, 2–6 Sep. 2019, pp. 1–11.

B. Ciftci, J. Gross, S. Norrga, and H.-P. Nee, "Simple Distributed Control for Modular Multilevel Converters," Proc. of 2019 21st European Conference on Power Electronics and Applications (EPE '19 ECCE Europe), Genova, 2–6 Sep. 2019, pp. 1–10.

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T. Augustin, M. Becerra Garcia, J. Magnusson, H.-P. Nee, M. Parekh, "System Design of Fast Actuator for Vacuum Interrupter in DC Applications," Proc. of 2018 28th International



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S. Heinig, K. Jacobs, K. Ilves, S. Norrga, and H.-P. Nee, “Reduction of Switching Frequency for the Semi-Full-Bridge Submodule Using Alternative Bypass States,” Proc. of 2018 20th European Conference on Power Electronics and Applications (EPE'18 ECCE Europe), Riga, 17–21 Sep. 2018, pp.1–8.

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S. Heinig, K. Jacobs, K. Ilves, S. Norrga, and H.-P. Nee, "Implications of capacitor voltage imbalance on the operation of the semi-full-bridge submodule," Proc. of 2017 19th European Conference on Power Electronics and Applications (EPE'17 ECCE Europe), Warsaw, 11–14 Sep. 2017, pp.1–10.

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