# Curriculum Vitae

Name: Beran Jaroslav
Date of birth: 16. 7. 1954
Place of birth: Poprad
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## Education and academic degree

*Professor, Machine and Equipment Design*
Faculty of Mechanical Engineering, Technical University of Liberec, Czech Republic, 2009
*Associated professor, Machine and Equipment Design*
Faculty of Mechanical Engineering, Technical University of Liberec, Czech Republic, 1997
*Ph.D., Machine and Equipment Design*
Faculty of Textile Engineering, Technical University of Liberec, Czech Republic, 1984
*M.Sc., Construction of Machines and Equipments*
Faculty of Mechanical Engineering, Technical University of Liberec, Czech Republic, 1978

## Professional profile

*2019 – up to now: professor*
Faculty of Mechanical Engineering, Technical University of Liberec, Czech Republic,
*2000 – 2018: Head of Department of Textile Machine Design*
Faculty of Mechanical Engineering, Technical University of Liberec, Czech Republic,
*2003 – 2014: Vice dean for Research*
Faculty of Mechanical Engineering, Technical University of Liberec, Czech Republic,
*1987 – 2000: Associate professor*
Faculty of Mechanical Engineering, Technical University of Liberec, Czech Republic,
*1985 -1986: Research fellow*
Research Institute of Textile Machine, Liberec, Czech Republic.

## Selected publications

VALTERA, J., et al. Fabrication of dual-functional composite yarns with a nanofibrous envelope using high throughput AC needleless and collectorless electrospinning. *Scientific Reports.* NATURE PUBLISHING GROUP, MACMILLAN BUILDING, 4 CRINAN ST, LONDON N1 9XW, ENGLAND, 2019, vol. 9, issue February. Not numbered (10 pages). ISSN 2045-2322. IF:

BAŤKA, O., J. BERAN, and J. SKŘIVÁNEK. Analysis of Intensity Depending on the Diameter of the Ball Electrode. *NANOCON 2018 – Conference Proceedings, 10th International Conference on Nanomaterials.* Brno: TANGER Ltd., 2019. Pp. 230 – 234. ISBN 978-80-87294-89-5.

BERAN, J., and M. KONEČNÁ. Approach to Analyse Of Reaction Forces in Ring–Traveller System. *Autex Research Journal.* LODZ 90-924, POLAND: Technical University of Lodz, 2017, vol. 17, issue 3. Pp. 268 – 276. ISSN 1470-9589.

VALTERA, J., P. ŽABKA, and J. BERAN. Enhanced Central System Of The Traversing Rod For High-Performance Rotor Spinning Machines. *Autex Research Journal.* 1. ed. LODZ 90-924, POLAND: Technical University of Lodz, 2017, vol. 17, issue 1, Pp. 27 – 34. ISSN 1470-9589.

BAŤKA, O., J. BERAN, M. STRNAD, and J. SKŘIVÁNEK. Analysis and optimization of the ball shaped electrode designed for the AC-electrospinning. *NANOCON 2016 – Conference Proceedings, 8th International Conference on Nanomaterials – Research and Application.* , 2016. Pp. 358 – 361. ISBN 9788087294710.

SKŘIVÁNEK, J., et al. Design of Electrode for Coaxial Electrospinning. *NANOCON 2016 – Conference Proceedings, 8th International Conference on Nanomaterials – Research and Application.* Ostrava: TANGER Ltd., 2016. Pp. 303 – 307. ISBN 9788087294710.

BERAN, J., M. BÍLEK, J. KOMÁREK, and P. NĚMEČEK. Experimental analysis of the sewing machine. *MATEC Web of Conferences.* , 2016. Not numbered (5 pages). ISSN 2261-236X.

KOMÁREK, J., et al. Verification of the Mathematical Model of the Rod Electrode in the Electrospinning Process. *NANOCON 2015 – Conference Proceedings.* 1. ed. Ostrava, Czech Republic: TANGER Ltd., 2015. Pp. 296 – 301. ISBN 978-80-87294-63-5.

VALTERA, J., et al. Wire spinner for coaxial electrospinning. *NANOCON 2015-Conference Proceedings.* 1. ed. Ostrava, Czech Republic: TANGER Ltd., 2015. Pp. 270 – 275. ISBN 978-80-87294-63-5.

VYSLOUŽILOVÁ, L., et al. Visualisation of the electrospinning process. *Nanofibers, Applications and Related Technologies – NART 2015.* 1. ed. Liberec: Technical University of Liberec, 2015. Pp. 37 – 47. ISBN 978-80-7494-265-5.

VALTERA, J., et al. Protrusion of the rod electrode in the electrospinning process. *Journal of Nanotechnology.* 1. ed. Nasr City, Cairo 11816 Egypt: Hindawi Publishing Corporation, 2015, vol. 2015, issue 10. Pp. 1 – 8. ISSN 1687-9503.

LUKÁŠ, D., et al. Alternating Current Electrospinning Method for Preparation of Nanofibrous Materials. *Nanocon.* 1. ed. Ostrava:, 2014. Pp. 302 – 305. ISBN 978-80-87294-47-5.

VALTERA, J., et al. Design of Coaxial Needleless Electrospinning Electrode with Respect to the Distribution of Electric Field. *Applied Mechanics and Materials.* 1. ed., 2014. Pp. 394 – 399. ISSN 1660-9336.

**H-index and citation index**

H-index: 3

Citation index according ISI Web of Knowledge: 19 (number of citation till October 25, 2020)

**Patents and selected cooperation with industry over the past five years**

KOČIŠ, L., et al. Method for production of polymeric nanofibers by spinning of solution or melt of polymer in electric field, and a linear formation from polymeric nanofibers prepared by this method [patent]. Granted at 2019/10/09 as No. EP2931951.

BERAN, J., et al. A method of producing polymer nanofibres by electric or electrostatic spinning of a polymer solution or melt, a spinning electrode for this method, and a device for the

production of polymer nanofibres fitted with at least one such spinning electrode [patent]. Granted at 2019/02/27 as No. CZ 307745.

BERAN, J., and J. VALTERA. Method and device for traversing of yarn on textile machines [patent]. Granted at 2018/01/31 as No. EP2567918.

KOČIŠ, L., et al. Method for producing a polymer nanofibers by spinning a solvent solution or melt of polymer in electric field, and the linear form of the polymer nanofibers prepared by this method [patent]. Granted at 2018/07/18 as No. JP6360492B2.

KOČIŠ, L., et al. Method for production of polymeric nanofibers and linear formation from polymeric nanofibers prepared by this method [patent]. Granted at 2018/11/16 as No. RU2672630C2.

KOČIŠ, L., et al. Method for production of polymeric nanofibers by spinning of solution or melt of polymer in electric field [patent]. Granted at 2018/08/07 as No. US10041189B2.

BERAN, J., and V. KUBOVÝ. Method and device for spindle spinning or twisting [patent]. Granted at 2017/10/18 as No. 2516706.

POKORNÝ, P., et al. Method for production of polymeric nanofibers by spinning of solution or melt of polymer in electric field, and a linear formation from polymeric nanofibers prepared by this method [patent]. Granted at 2017/03/15 as No. 201380066102.

BERAN, J., J. KOPAL, and F. KAZDA. Roller for scraping hair on the surface of felt semi-finished products and a device for scraping hair on the surface of felt semi-finished products equipped with this roller [patent]. Granted at 2017/04/05 as No. 3015012.

BERAN, J., et al. A method of producing polymeric nanofibres by electrical spinning of a polymer solution or melt, a spinning electrode for this method, and a device for the production of polymeric nanofibres fitted with at least one of these spinning electrodes [patent]. Granted at 2017/05/17 as No. CZ 306772.

BERAN, J., et al. A linear fibre formation with a case of polymeric nanofibres enveloping the supporting linear formation constituting the core, the method and equipment for its production [patent]. Granted at 2016/12/07 as No. CZ 306428.

BERAN, J., J. KANIOK, and M. STRNAD. A method and a device for winding yarn on the spool on textile machines producing yarn [patent]. Granted at 2016/12/28 as No. CZ 306486.

BERAN, J., J. KANIOK, V. PROCHÁZKA, and M. KAŠPÁREK. Method of winding self-supporting bobbin and self-supporting bobbin with cheese package of lower thread for sewing machines [patent]. Granted at 2016/06/29 as No. 306120.

BERAN, J., et al. Functional sample of fulling machine. [Functional sample], Tonak a.s. 2019.

VALTERA, J., et al. Electrode with integrated delivery system for polymer solution for spinning by electric field effect. [Functional sample], Nanoprogres z.s.p.o 2018.

KOVÁŘ, Š. J. BERAN, M. KONEČNÝ and F. KAZDA. Functional sample of the combing equipment [functional sample], Tonak 2018.

BERAN, J., et al. Machine for production of linear composite material containing nanofibres [prototype], Nanoprogres z.s.p.o. 2018.

BERAN, J., et al. Technological units innovative processes of AC spinning laboratory equipment [functional sample]. Nanoprogres z.s.p.o. 2017.

BERAN, J., et al. Apparatus for preparation of nanofibrous membrane with integrated granulate [functional sample], Nanoprogres z.s.p.o. 2018.

BERAN, J., et al. Functional model of the sheeting machine [functional sample], TONAK, a.s. 2017.

BÍLEK, M., et al. Prototype of a dedicated device for folding the filter material containing nanofibres. [Prototype], Nanologix s.r.o. 2014

## Internships abroad

University of Reading, 1993 (2 month), Reading, Great Britain.
Technical University of Denmark, 1990 (4 month), Denmark
Technical University of Chemnitz, 1985 (2 month), Germany.

## Memberships in scientific boards and professional memberships

**Scientific boards**

Member of Scientific Board of Faculty of Mechanical Engineering – Technical University of Liberec, 1999- up to now

Member of Scientific Board of Faculty of Textile Engineering – Technical University of Liberec, 2000- up to now

Member of Scientific Board of Institute for Nanomaterials, Advanced Technologies and Innovation – Technical University of Liberec, 2010- up to now

**Professional memberships**

Czech society for mechanics