

## Personal data

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 Nationality Czech  
 Date of birth 13 March 1975  
 Gender Male



## Work experience

Period and position **2019 – now, vice-rector for research and development**  
 Responsibility Coordinating research, development, innovation and transfer of knowledge  
 Employer University of West Bohemia, Univerzitní 8, 301 00 Plzeň, Czech Republic, <http://www.zcu.cz/en>  
 Branch of activity Management

Period and position **2019 – now, visiting professor**  
 Responsibility Guaranting subject Introduction to numerical modelling, leading students, research and development  
 Employer Tianjin University of Science and Technology  
 13<sup>th</sup> St, Binhai Xinqu, Tianjin, China, 300457, <http://www.tust.edu.cn>  
 Branch of activity Mechanics, biomechanics

Period and position **2016 – now, vice president for education**  
 Responsibility Supporting students of all levels of education in the field of mobility, responsibility for student programs and student activities  
 Employer International Federation of Automotive Engineering Societies FISITA  
 29, M11 Business Link, Stansted, CM24 8GF, UK, <http://www.fisita.com>  
 Branch of activity Management

Period and position **2008 – now, advisory board chair** Techmania Science Center o.p.s.  
 Responsibility Supervising the operation, economy and focus of the company focused on non-formal education  
 Employer Techmania Science Center o.p.s., U Planetária 2969/1, 301 00 Plzeň, Czech Republic  
<http://www.techmania.cz>  
 Branch of activity Management

Period and position **2000 – now, lecturer, senior researcher, associate professor**  
 Responsibility R&D projects investigation  
 Guaranting subjects Modelling by MATLAB 1 and Modelling by MATLAB 2  
 Lecturing subjects Mechanics 1 and Theoretical Mechanics  
 Tutoring bachelor, master and doctoral thesis, tutoring foreign students  
 Employer University of West Bohemia, Faculty of Applied Sciences, Departments of Mechanics  
 Univerzitní 8, 301 00 Plzeň, Czech Republic, <http://www.kme.zcu.cz>  
 Branch of activity Mechanics, biomechanics

Period and position **2015 – 2019, director**  
 Responsibility Centre management, finance, HR, PR, IPR  
 Employer University of West Bohemia, New Technologies – Research Centre  
 Univerzitní 8, 301 00 Plzeň, Czech Republic, <http://ntc.zcu.cz/en>  
 Branch of activity Management

Period and position	<b>2013 – 2015, vice director for external relations</b>
Responsibility	Coordinating propagation, public relations
Employer	University of West Bohemia, New Technologies – Research Centre, Univerzitní 8, 301 00 Plzeň, Czech Republic, <a href="http://ntc.zcu.cz/en">http://ntc.zcu.cz/en</a>
Branch of activity	Propagation and PR
Period and position	<b>2011 – 2015, head of department Human body modelling and monitoring</b>
Responsibility	Department strategy, HR, financing, IPR, project management, R&D
Employer	University of West Bohemia, New Technologies – Research Centre, Univerzitní 8, 301 00 Plzeň, Czech Republic, <a href="http://ntc.zcu.cz/en">http://ntc.zcu.cz/en</a>
Branch of activity	Biomechanics focused on virtual human body models
Period and position	<b>2011 – 2015, executive director, OP RDI CENTEM</b>
Responsibility	Department strategy, HR, financing, IPR, projects, PR
Employer	University of West Bohemia, New Technologies – Research Centre, Univerzitní 8, 301 00 Plzeň, Czech Republic, <a href="http://ntc.zcu.cz/en">http://ntc.zcu.cz/en</a>
Branch of activity	Management, HR, financial resources, IPR
Period and position	<b>2004 – 2010, project manager</b>
Responsibility	Project management and R&D, financial controlling, HR, IPR
Employer	University of West Bohemia, Univerzitní 8, 301 00 Plzeň, Czech Republic, <a href="http://ntc.zcu.cz/en">http://ntc.zcu.cz/en</a>
Branch of activity	Biomechanics, project management, R&D

## Education and training

Period and expertise	<b>October 2014, H2020 project proposal development</b>
Skills	Project proposal development, financial and scientific management, reporting
Organisation	Europa Media PSC, Graphisoft Park building A, 7. Záhony street, H-1031 Budapest, Hungary
Period and expertise	<b>October 2014, Assoc. Prof. in mechanics</b>
Skills	Biomechanics, human body modelling, scaling human models
Organisation	University of West Bohemia, Faculty of Applied Sciences Univerzitní 8, 301 00 Plzeň, Czech Republic
Period and expertise	<b>October 2011 – May 2012, Technology Transfer Manager – Junior / Senior</b>
Skills	Transfer of Knowledge, IPR, business companies
Organisation	OP VK „Knowledge and technology Transfer – Extending European Education Model „Technology Transfer Manager“ to Other Regions in the Czech Republic“ (CZ1.07/2.4.00/17.0005); accredited by the Consortium EUKTS
Period and expertise	<b>October 2008, FP7 Financial and Project Manager</b>
Skills	FP7 projects development, financial and scientific controlling, reporting and audit preparation
Organisation	Europa Media PSC, Graphisoft Park building A, 7. Záhony street, H-1031 Budapest, Hungary
Period and expertise	<b>September 1998 – June 2002, Ph.D. in applied mechanics</b>
Skills	Biomechanics, multi-body mechanics, nonlinear continuum mechanics, SPH
Organisation	University of West Bohemia, Faculty of Applied Sciences, Department of Mechanics Univerzitní 8, 301 00 Plzeň, Czech Republic
Level	Ph.D.
Period	<b>July 1997 – September 1997, industrial internship</b>
Skills	Development of biomechanical human body model ROBBY based on ARB
Organisation	ESI Group, Parc d’Affaires Silic, 99, rue des Solets, BP80112, 94513 Rungis CEDEX, France

Level	Industrial internship
Period	<b>September 1996 – January 1997, academic fellowship</b>
Skills	Dynamics of mechanical systems, partial differential equations, finite element analysis, thermodynamics, curves and surfaces
Organisation	University of Hull, Cottingham Road, Hull, UK HU6 7RX, Great Britain
Level	ERASMUS stage
Period and expertise	<b>September 1993 – June 1998, Master in Mathematical and Physical Engineering</b>
Skills	Applied mathematics, applied mechanics, computer oriented mechanics
Organisation	University of West Bohemia, Faculty of Applied Sciences, Department of Mechanics Univerzitní 8, 301 00 Plzeň, Czech Republic
Level	Ing. (MSc.)

### Languages

Mother tongue	Czech
Other languages	
Self-evaluation	
English	
German	
Russian	
French	
Arabic	

Czech

Comprehension		Speaking		Writing
Hearing	Reading	Interaction	Speaking	Writing
C2	C2	C2	C2	C2
B2	B2	B1	B1	B2
B1	B2	A2	A2	B1
A1	A2	A1	A1	A1
A1	A1	A1	A1	A1

### Other experience

#### Vice Chair of Czech Automotive Society

National professional society, <http://www.cas-sae.cz/en>

#### Vice Chair of Czech Society for Biomechanics

National professional society, <http://www.csbiomech.cz/index.php/en>

#### Secretary of Pilsen Branch of Czech Society for Mechanics

National professional society, <https://www.csm.cz/en>

#### Member of Technical Committee for Biomechanical Engineering of International Federation for the Promotion of Mechanism and Machine Science

International federation, <http://www.iftomm.net>

#### Research & Development Working Group Member at Ministry of Industry and Trade

<http://www.mpo.cz>

#### Member of the board in the field “Special technology and material engineering” of the doctoral study programme “Mechanical Engineering”

Faculty of Mechanical Engineering of the University of West Bohemia, <http://www.fst.zcu.cz/en>

#### Member of the board in the field “Applied mechanics” of the doctoral study programme Applied sciences and informatics

Faculty of Applied Sciences of the University of West Bohemia, <http://www.fav.zcu.cz/en>

#### Member of the commission of the doctoral study programme “Physiology and Pathological Physiology”

Faculty of Medicine in Pilsen of the Charles University, <http://www.lf3.cuni.cz/3LFEN-1.html>

#### Ballistic section member by Scientific Board

Criminalistics Institute in Prague, <https://www.policie.cz/kriminalisticky-ustav-praha.aspx>

	<p><b>Member of thematic group ERC, MSC actions and Future and emerging technologies</b>  <a href="http://www.tc.cz/en">http://www.tc.cz/en</a></p> <p><b>Member of working group TNK 755 for autonomous driving by Czech Standardization Agency,</b> <a href="http://www.agentura-cas.cz/?language=en">http://www.agentura-cas.cz/?language=en</a></p> <p><b>Member of Editorial board member of International Journal of Vehicle Safety</b>  <a href="https://www.inderscience.com/jhome.php?jcode=ijvs">https://www.inderscience.com/jhome.php?jcode=ijvs</a></p> <p><b>Member of Editorial board member of International Journal of Automotive Innovation</b>  <a href="https://www.springer.com/engineering/mechanical+engineering/journal/42154">https://www.springer.com/engineering/mechanical+engineering/journal/42154</a></p>
<b>Organisation skills</b>	Organisation skills, leadership, HR and project management expertise, active approach towards new problems, responsibility for taken decisions
<b>Technical skills</b>	Mechanics, biomechanics, impact biomechanics, multi-body systems finite element method, smoothed particle hydrodynamics
<b>Computer skills</b>	Windows including common software installation and manipulation Microsoft Office, Open Office, GIMP, LaTeX, MATLAB, PAM-CRASH, LS-DYNA
<b>Art skills</b>	Ability to evaluate product design Stylistic skills
<b>Other skills</b>	Travelling, photography, new technologies Driving license for motorcycles, personal cars and tractors
<b>National projects</b>	<p>Application of modern technologies in medicine and industry, AMTMI (2018 – 2022, Ministry of Education, Youth and Sports of the Czech Republic project no. CZ.02.1.01/0.0/0.0/17_048/0007280, project leader for New Technologies – Research Centre)</p> <p>Supporting and Information Center for International Cooperation in the Pilsen Region, Ministry of Education, Youth and Sports of the Czech Republic project no. INTER-INFORM LT117002, team member)</p> <p>FISITA Council and Committees Membership, FIS-CZ2 (2016 – 2017, Ministry of Education, Youth and Sports of the Czech Republic project no. INGO II LG15020, project leader)</p> <p>Development of Vehicle Active Bonnet System Regarding Variability of Population and Implementing Biomechanical Model Human Body (2014 – 2017, Technology Agency of the Czech Republic project no. TA04030689, project leader for partner University of West Bohemia)</p> <p>FISITA Council and Education Committee Membership, FIS-CZ (2012 – 2014, Ministry of Education, Youth and Sports of the Czech Republic project no. INGO II LG12005, project leader)</p> <p>Regional Contact Organization – West Bohemia, RKO-ZČ (2011 – 2014, Ministry of Education, Youth and Sports of the Czech Republic project no. EUPRO II LE11004, project leader)</p> <p>Regional Contact Organization – West Bohemia, RKO-ZČ (2007 – 2010, Ministry of Education, Youth and Sports of the Czech Republic project no. EUPRO OK 474, team member)</p> <p>Scalable human models for increasing traffic safety (2011 – 2013, Technology Agency of the Czech Republic project no. TA01031628, project leader for partner University of West Bohemia)</p> <p>Increasing passive safety of vulnerable road users in Czech population (2009 – 2010, Ministry of Transportation of the Czech Republic project no. CG911-044-150, project leader)</p> <p>Application of design mechanics and biomechanics for increasing passengers' passive safety and comfort (2004 – 2008, Ministry of Industry and Trade of the Czech Republic project no. FT/TA-024, team member)</p>
<b>International projects</b>	Scientific and technical innovations for safer Powered Two Wheelers (PTW), Safe2Wheelers (2015 – 2019, COST Action TU1407, vice-chair)

## Chosen publications

- Motorcycle Rider Integrated Safety, MOTORIST (2014 – 2018, FP7 People project no. 608092, project leader for beneficiary University of West Bohemia)
- Development of a Finite Element Model of the Human Thorax and Upper Extremities, THOMO (2009 – 2012, FP7 project no. 218643, project leader for partner University of West Bohemia)
- Motorcycle and Motorcyclist Safety, MYMOSA (2006 – 2010, FP6 Marie Curie project no. MRTN-CT-2006-035965, project leader for partner University of West Bohemia)
- Safety In Motion, SIM (2006 – 2009, FP6 STREP project no. FP6-031348, project leader for partner University of West Bohemia)
- Advanced Protective Systems, APROSYS (2005 – 2009, FP6 Integrated Project no. FP6-PLT-506503, project leader for partner University of West Bohemia)
- Advanced Passive Safety Network, APSN (2004 – 2008, FP6 Network of Excellence project no. TNE3-CT-2003-506257, project leader for partner University of West Bohemia)
- Bońkowski T., Hyncik L., Lv W.: Numerical Assessment of Motorcyclist Accident. Journal of the Society of Automotive Engineers Malaysia 3(2), pp. 210-217, 2019.
- Lv, W., Hyncik, L., and Bonkowski, T., "Rider Stature Influence to Injury Risk in Motorcycle Rear Impact to Car," SAE Technical Paper 2019-01-1436, 2019, doi:[10.4271/2019-01-1436](https://doi.org/10.4271/2019-01-1436).
- Hynčík, L., Bońkowski, T., Lyu, W., "Development of a simple motorcyclist helmet finite element model," Int. J. Vehicle Safety, Vol. 10, Nos. 3/4, 2018, doi:[10.1504/IJVS.2018.097720](https://doi.org/10.1504/IJVS.2018.097720).
- Vychytil, J., Špička, J., Hynčík, L., Mañas, J. et al., "Novel Approach in Vehicle Front-End Modeling for Numerical Analyses of Pedestrian Impact Scenarios," SAE Technical Paper 2017-01-1451, 2017, doi:[10.4271/2017-01-1451](https://doi.org/10.4271/2017-01-1451).
- Lindstedt L., Vychytil J., Dziejwonski T., Hynčík L. Numerical tests of the virtual human model response under dynamic load conditions defined in federal aviation regulation part 23.562 and 25.562 – preliminary study. Archive of Mechanical Engineering, LXIII (4), 2016, doi: [10.1515/meceng-2016-0029](https://doi.org/10.1515/meceng-2016-0029).
- Vychytil, J., Hynčík, L., Mañas, J., Pavlata, P. et al., "Prediction of Injury Risk in Pedestrian Accidents Using Virtual Human Model VIRTHUMAN: Real Case and Parametric Study," SAE Technical Paper 2016-01-1511, 2016, doi: [10.4271/2016-01-1511](https://doi.org/10.4271/2016-01-1511).
- Hynčík, L., Špička, J., Mañas, J., Vychytil, J., "Stature Based Approach towards Vehicle Safety," SAE Technical Paper 2015-26-0209, 2015, doi: [10.4271/2015-26-0209](https://doi.org/10.4271/2015-26-0209).
- Hynčík L.: Interaction of flowing liquid with deformable boundary by coupling SPH to FE. Proceedings of the 6th International Conference on Mechanics and Materials in Design. Editors: J.F. Silva Gomes & S.A. Meguid, P. Delgada. Azores, 26-30 July 2015.
- Hynčík L., Mañas J., Špička J., Spirk S. et al. (2014) Development of 6 Years Old Child Virtual Model by Automatic Scaling. SAE Technical Paper 2014-01-2028, doi: [10.4271/2014-01-2028](https://doi.org/10.4271/2014-01-2028).
- Jansová M., Kališ B., Lobovský L., Hynčík L., Karbanová J., Rušavý Z. (2014) The role of thumb and index finger placement in manual perineal protection. International Urogynecology Journal, doi: [10.1007/s00192-014-2425-7](https://doi.org/10.1007/s00192-014-2425-7).
- Valdmanová L., Krčmář M., Krofta L., Hynčík L., Jansová M., Grohregin K., Feyereisl J. (2014) Distribution of levator ani muscle stress depending on initial position and rotation of fetal head. Neurourology and urodynamics 33(6):1048-1050.
- Hynčík L., Čechová H., Kovář L., Bláha P. (2013) On Scaling Virtual Human Models. SAE Technical Paper 2013-01-0074, doi: [10.4271/2013-01-0074](https://doi.org/10.4271/2013-01-0074).
- Hynčík L., Čechová H., Mañas J., Kovanda J. (2011) Towards improved protection of vulnerable road users. Transactions on Transport Sciences 4 (1), pp. 1-10.
- Ondoková L., Hynčík L. (2011) Abdominal Finite Element Model for Traffic Accidents Injury Analysis. Transactions on Transport Sciences 3 (4), pp. 169-178.

## Chosen citations

- Číhalová L., Hynčík L. (2008) Human body finite element model as instrument for improvement of passive safety. *Transactions on Transport Sciences* 1 (3), pp. 109-116.
- Hynčík L., Kocková H., Kovanda J., Krejčí P. (2008) On modelling of pedestrian impact. *Engineering Mechanics* 15 (1), pp. 43-55.
- Talaia P., Moreno D., Hajžman M., Hynčík L. (2008) A 3D model of a human for powered two-wheeler vehicles. *Proceedings of ISMA 2008* 1-8, pp. 2229-2238.
- Fodstad, K., Staff, A.C., Laine, K. (2016) Episiotomy preferences, indication, and classification - A survey among Nordic doctors. *Acta Obstetrica et Gynecologica Scandinavica*, 95 (5), pp. 587-595.
- Auriault, F., Behr, M., Thollon, L. (2016) Development of a gravid uterus model for the study of road accidents involving pregnant women. *Journal of Biomechanical Engineering*, 138 (1).
- Kuchumov, A.G., Gilev, V., Popov, V., Samartsev, V., Gavrilov, V. (2014) Non-newtonian flow of pathological bile in the biliary system: Experimental investigation and CFD simulations. *Korea Australia Rheology Journal*, 26 (1), pp. 81-90.
- Pérès, J., Thollon, L., Delotte, J., Tillier, Y., Brunet, C., Kayvantash, K., Behr, M. (2014) Material properties of the placenta under dynamic loading conditions. *Computer Methods in Biomechanics and Biomedical Engineering*, 17 (9), pp. 958-964.
- Kooijman, J.D.G., Schwab, A.L. (2013) A review on bicycle and motorcycle rider control with a perspective on handling qualities. *Vehicle System Dynamics*, 51 (11), pp. 1722-1764.
- Mattei, L., Di Puccio, F., Piccigallo, B., Ciulli, E. (2011) Lubrication and wear modelling of artificial hip joints: A review. *Tribology International*, 44 (5), pp. 532-549.
- Kent, R. (2008) Frontal thoracic response to dynamic loading: The role of superficial tissues, viscera and the rib cage. *International Journal of Crashworthiness*, 13 (3), pp. 289-300.
- Kent, R., Murakami, D., Kobayashi, S. (2005) Frontal thoracic response to dynamic loading: The role of superficial tissues, viscera, and the rib cage. *International Research Council on the Biomechanics of Impact - 2005 International IRCOBI Conference on the Biomechanics of Impact, Proceedings*, pp. 355-365.
- Comas-Cardona, S., Groenenboom, P., Binetruy, C., Krawczak, P. (2005) A generic mixed FE-SPH method to address hydro-mechanical coupling in liquid composite moulding processes. *Composites Part A: Applied Science and Manufacturing*, 36 (7), pp. 1004-1010.
- Haug, E., Choi, H.-Y., Robin, S., Beaugonin, M. (2004) Human Models for Crash and Impact Simulation. *Handbook of Numerical Analysis*, 12, pp. 231-452.
- Kent, R., Crandall, J., Butcher, J., Morris, R. (2001) Sled system requirements for the analysis of side impact thoracic injury criteria and occupant protection. *SAE Technical Papers*.

## Chosen output

- Hynčík L. (2015) SPHCOFEM. Software for coupling fluid with a boundary based on smoothed particle hydrodynamics.
- Čechová H., Kleisner V., Hynčík L., Kovář L. (2013) Software for scaling human model in VE. Authorized software implemented in commercial computational environment.
- Hynčík L., Čechová H. (2012) Device for head acceleration measurement. Function sample.