

# Doc. Ing. Libor Váša, Ph.D.

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## CURRENT EMPLOYMENT (SINCE APRIL 2015)

Senior researcher, University of West Bohemia, Department of Computer Science and Engineering, Centre of Computer Graphics and Visualisation. Vice-Dean for Study and Pedagogical Affairs since March 2021.

## PREVIOUS EMPLOYMENT

February 2012 – March 2015

Research assistant, TU-Chemnitz, Professorship Computer Graphics and Visualization. Working on the topic of compressing surface models, animations and motion capture data and evaluation of the visual effects of lossy compression (full time).

May 2006 – January 2012

Research assistant, University of West Bohemia, Department of Computer Science and Engineering, Centre of Computer Graphics and Visualisation. Working on the topic of compressing surface models and animations with constant connectivity and evaluation of the visual effects of lossy compression of such data.

## EDUCATION

2014

Habilitation at University of West Bohemia, thesis entitled "*Lossy compression of mesh geometry*"

2004-2008

- Ph.D. studies at University of West Bohemia, Pilsen, Czech Republic, doctoral programme Computer Science and Engineering, supervisor prof. ing. Václav Skala, CSc.
- received Ph.D. for the thesis entitled "*Methods for size reduction of dynamic meshes*"

February 2006 – April 2006

Internship at First Numerics Ltd. in Cardiff, UK, part of the Leonardo programme. Working on 2D and 3D visualisation tools for plotting spatio-temporal datasets

September 2003 – January 2004

Erasmus exchange student at University of Bath, UK

1999-2004

- MSc. studies at University of West Bohemia, Faculty of Applied Sciences, Department of Computer Science and Engineering, specialisation Computer Graphics.
- graduated with honours, diploma thesis entitled "*Resolution improvement of digitized images*"

## PUBLICATIONS

- H-Index (WoS): 11
- Author or co-author of 27 journal publications (15x first author) in the following journals:
  - o D1: IEEE Transactions on Visualization and Computer Graphics(3x), IEEE Transactions on Multimedia (1x)
  - o Q1: Computer Graphics Forum (13x),
  - o Q3: Graphical Models (2x), The Visual Computer (3x), Computers & Graphics (1x)
  - o Q4: Computer Animation And Virtual Worlds (1x)
  - o Scopus: Computer Aided Design and Applications (1x), Computer-Aided Design (1x)
- Author or co-author of 16 conference contributions

## PROJECT WORK EXPERIENCE

- GAČR 20-02154S Representation and processing methods for three dimensional dynamic shapes (principal investigator)
- TAČR FW03010025 Therapeutic rehabilitation robot controlled by brain signals

- LC-CPG: Centre of Computer graphics (MŠMT LC-06008)
- 3DTV:Network of Excellence, project EU FP6, Grant 511568
- INTUITION - Network of Excellence on Virtual Reality aNd VirTual Environments ApplIcaTIOns for Future Workspaces, FP6-2003-IST-2, Grant 507248-2
- Extraction of manufacturing-relevant primary and secondary form elements from 3D-data of sheet metal parts for feature based method planning (DFG Project GZ: BR 1185/9-2)
- Development of Algorithms for Computer Graphics and CAD/CAM systems (MŠMT LH12181)
- Virtual Research-Educational Center of Computer Graphics and Visualization (MŠMT 2C06002)
- Industry funded research project with Intel Israel Ltd. (details under NDA)
- Industry funded research project with PDM Technology Europe, s r. o. (2x)

#### SKILLS

- English language – active, Cambridge Advanced Examination (CAE) certificate
- German language – active (Level C1)
- programming: C, C++, C#, Java, DirectX, OpenGL
- working knowledge of computer graphics and visualisation algorithms
- specialised knowledge of polygon mesh processing algorithms
- experience with conducting user studies focused on perception
- experience with developing modular visualization environment MVE-2 (team leader)

#### REVIEWER FOR SCIENTIFIC JOURNALS

IEEE Transactions on Visualization and Computer Graphics, The Visual Computer, Computer Graphics Forum, Computer Animation and Virtual Worlds, Computers & Graphics, Graphical Models, Journal of Graphics Tools, Signal processing: Image Communication Journal, IEEE Transactions on Circuits and Systems for Video Technology, 58 reviews in total

#### MAJOR PUBLICATIONS SINCE 2016

- Dvořák,J., Káčereková,Z., Vaněček,P., Váša,L.: Priority-based encoding of triangle mesh connectivity for a known geometry, Computer Graphics Forum, 2022.
- Hruda,L., Kolingerová,I., Váša,L.: Robust, fast and flexible symmetry plane detection based on differentiable symmetry measure, The Visual Computer, vol. 38, 2022.
- Arvanitis,G.: Zacharaki,E., Váša,L., Moustakas,K.: Broad-to-Narrow Registration and Identification of 3D Objects in Partially Scanned and Cluttered Point Clouds, IEEE Transactions on Multimedia, vol. 24, 2021.
- Váša,L., Dvořák,J.: Error propagation control in Laplacian mesh compression, Computer Graphics Forum, Vol. 37(5), pp. 61-70, 2018.
- Lavoué,G., Larabi,Ch., Váša,L.: On the Efficiency of Image Metrics for Evaluating the Visual Quality of 3D Models, IEEE Transactions on Computer Graphics and Visualization, Vol. 22(8), 2016.

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