CURRICULUM VITAE

Prof. Aleš Procházka

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Employment: University of Chemistry and Technology, Faculty of Chemical Engineering
Department of Computing and Control Engineering (DCCE)
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Degrees: 2000 Professor in Technical Cybernetics (Czech Technical University (CTU), Prague)
1990 Assoc. Prof. in Automatic Control Systems (Institute of Chemical Technology (ICT), Prague)
1983 PhD in Technical Cybernetics (Institute of Chemical Technology, Prague)
1971 M.Sc. in Technical Cybernetics (Czech Technical University, Faculty of Electrical Engineering)

Educational Activities: Lectures in Digital signal and image processing, Computational Intelligence, Mathematical methods in engineering

Research: Digital signal and image processing, time and frequency domain signal analysis, wavelet transform, segmentation, feature extraction, classification and prediction, digital filters, signal decomposition and reconstruction, application in biomedical image processing and environmental signal analysis

Activities:

Head of Digital Signal and Image Processing Research Group, ICT DCCE & CTU CIIRC Prague
Vice-dean for external relations and information technologies, ICT Prague (1997-2010)
Head of the Department of Computing and Control Engineering (1997-2003, 2008-2012)
Member of Scientific Boards of the Faculty of Chemical Engineering ICT Prague (1996-), Faculty of Food Technology ICT Prague (1991-2000), Czech Technical University Prague (2000-2006), Faculty of Electrical Engineering CTU Prague (2000-2006, 2010-2011)
Member of Research Boards of the study programme „Technical Cybernetics“ of the ICT (1992-) and Czech Technical University (Faculty of Electrical Eng., Faculty of Mechanical Eng.) and Research Boards of „Measuring Engineering“ (1996-), „Theoretical Electrical Engineering“ (1995-) and „Electrotechnics and Informatics“ (2007-) of the Fac. of Electrical Eng. CTU Prague
Member of Examination Boards of „Information and Control Eng.“ (1990-) and „Applied Information Eng.“ of the ICT Prague and „Measuring Engineering“, „Technical Cybernetics“ and „Theoretical Electrical Engineering“ of the CTU Prague (1992-)
Member of international scientific societies: IEEE (senior member, Signal Processing Society, Computer Society, Computational Intelligence Society), IET (Institute of Engineering and Technology), EURASIP (European Association for Signal and Image Processing)

Grants:

- Grant No.201/94/0130 „New Approach to Neural Networks in Digital Signal Processing for Application in System Identification and Modelling”, GA ČR 1994-1996
- Grant No 0804/2 „Software Tools of Modern Methods of Signal Processing”, FRVŠ, 1994
- Grant No PR96152 „Organization of International Conference ECSAP-97”, MŠMT, 1996
- Grant No 23-96002-331 „Tools of Digital Signal Processing Methods”, Fond rozvoje VŠ, 1996
- Grant No 639/2001 „Information Technologies in Remote Signal and Image Processing”, FRVŠ 2001
- Grant No 444/2010 „The New Approach IT using virtualization and distributed processing”, FRVŠ 2010

Selected Papers:

[1] Procházka A., Kašparová M., Yadollahi M., Vyšata O., Grajciarová J.: **Multi-Camera Systems Use for Dental Arch Shape Measurement,** *SPRINGER: The Visual Computer*, *31:1501-1509, 2015*
[2] Yadollahi M., Procházka A., Kašparová M., Vyšata O.: **The Use of Combined Illumination in Segmentation of Orthodontic Bodies,** *SPRINGER: Signal, Image and Video Processing, 9:243-250,2015*
[3] Procházka A., Vyšata O., Vališ M., Ťupa O., Schatz M., Mařík V.: **Use of Image and Depth Sensors of the Microsoft Kinect for the Detection of Gait Disorders,** *Neural Computing and Applications, 26:1621-1629, 2015*
[4] Procházka A., Vyšata O., Vališ M., Ťupa O., Schätz M., Mařík V.: **Bayesian Classification and Analysis of Gait Disorders Using Image and Depth Sensors of Microsoft Kinect,** *Digital Signal Processing, (47)12:169-177, 2015*
[5] Yadollahi M., Procházka A., Kašparová M., Vyšata O., Mařík V.: **Separation of overlapping dental arch objects using digital records of illuminated plaster casts,** *BioMedical Engineering OnLine* **14**:67, pp. 1-15**,** 2015
[6] Ťupa O., Procházka A., Vyšata O., Schätz M., Mareš J., Vališ M., Mařík V.: **Motion tracking and gait feature estimation for recognising Parkinson's disease using MS Kinect,** *BioMedical Engineering OnLine* **14**:97, pp. 1-20**,** 2015
[7] Procházka A., Schätz M., Centonze F., Kuchyňka J., Vyšata O., Vališ M.: **Extraction of Breathing Features Using MS Kinect for Sleep Stage Detection,** *SPRINGER: Signal, Image and Video Processing, SIViP, 10(7):1279-1286, 2016*
[8] Charvátová H., Procházka A., Vaseghi S., Vyšata O., Vališ M.: **GPS-based Analysis of Physical Activities Using Positioning and Heart Rate Cycling Data,** *SPRINGER: Signal, Image and Video Processing, SIViP,* pp. 1-8, *2016*
[9] Procházka A., Schätz M., Vyšata O., Vališ M.: **Microsoft Kinect Visual and Depth Sensors for Breathing and Heart Rate Analysis,** *MDPI: Sensors, 16(7), 996,* pp. 1-11*, 2016*
[10] Langari B., Vaseghi S., Prochazka A., Vaziri B., Aria F. T.: **Edge-Guided Image Gap Interpolation Using Multi-scale Transformation,** *IEEE Transaction on Image Processing, 25(9): 4394-4405*, *2016*