

# Curriculum Vitae

**Name:** Patrícia Martinková

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## **Educational Background:**

2003 – 2007 PhD. in Probability and Mathematical Statistics,  
Charles University in Prague, Czech Republic  
*Thesis: Reliability of Composite Dichotomous Measurements*  
1998 – 2003 MSc. in Probability, Mathematical Statistics and Econometry,  
Charles University in Prague, Czech Republic

## **Employment:**

2013 – 2014 Fulbright visiting scholar at CSSS, University of Washington, USA  
Since 2008 *Research scientist* at Institute of Computer Science, AS CR,  
2011 – 2013 *vice-head* of the department  
2007 – 2008 *Junior Scientist* at Center for Biomedical Informatics, AS CR  
2001 – 2006 *Research Assistant* at Institute of Computer Science, AS CR

## **Awards:**

2013 – 2014 Fulbright-Masaryk Fellowship  
Feb 2014 Outreach Lecturing Fund (OLF) Award, CIES  
July 2013 Best poster award (IMPS 2013, Arnhem, the Netherlands)  
May 2011 Otto Wichterle Award (Academy of Sciences of the Czech Republic)  
Sep 2006 Best student paper award (Week of Doctoral Students ICS ASCR)

## **Memberships:**

Since 2001 Czech Statistical Society (member)  
Since 2007 International Society for Clinical Biostatistics (member)

## **Selected Research Projects:**

- Since 2003     **Reliability of measurements**  
Research on reliability estimates in various models (IRT models, multilevel models, etc). Simulations on behavior of various estimates, including newly proposed estimate *logistic alpha*. Coauthored 3 articles. Research presented at IMPS and ISCB conferences.
- Since 2006     **Analysis of admission tests to Charles Univeristy, Prague**  
Analyzes of data from admission tests and study outcomes at the School of Medicine, Charles University in Prague. Co-authored 5 reports, one article and an automation of IRT analysis and item calibration using free statistical software R.
- Since 2012     **Student Assessment in Medical Education**  
Co-authored book on Student assessment in Medical Education. Delivers presentations on analysis of test quality as part of workshops for faculties at Schools of Medicine.
- Since 2010     **European Survey on Physiotherapy in MS**  
Provided consultations on design of complex questionnaire on Physical rehabilitation in multiple sclerosis. Supervised statistical analyses, co-authored presentations.
- Since 2007     **Psychometric properties of clinical tests used in MS**  
Analyzed data on set of clinical measurements and fMRI in multiple sclerosis patients, co-authored article and presentations.

## **Teaching:**

- 2002 – 2013   **Statistics in Medical Research.** Intensive courses by EuroMISE Centre. Delivered one to four 90 min. labs (statistical software Statistica and R) per year. Labs covered topics of descriptive statistics, t tests, ANOVA, correlation, regression analysis, etc.
- Spring 2004   **Statistics.** University of J. E. Purkyne, Czech Republic. Delivered five blocks of 180 min. lectures on introductory statistics.
- Spring 2004   **Statistics for Social Science.** University of J. E. Purkyne, Czech Republic. Delivered five blocks of 180 min. lectures on introductory statistics for Social Science students.
- Spring 2004   **Biostatistics - lab.** School of Natural Sciences, Charles University in Prague. Delivered series of 14 labs, 90 min each, on basic statistical methods. Course covered topics on probability, descriptive statistics, central limit theorem, t tests, X2 tests, ANOVA, correlation, linear regression, etc.

## **Other:**

- Since 2013     ELL co-representative, Sandpoint Elementary PTA  
Organizing of events for ELL families, ELL volunteering
- 2012 – 2013   Secretary of the Advisory board of ICS ASCR  
Responsible for meeting minutes, agenda, collection and distribution of meeting materials.

## Selected publications

### Books:

Štuka Č, **Martinková P**, Vejražka M, Trnka J, Komenda M. *Student Assessment in Medical Education: Construction and Analysis of Tests at Medical Schools*. [Testování při výuce medicíny. Konstrukce a analýza testů na lékařských fakultách. In Czech]. Praha: Karolinum, 2013. ISBN 9788024623696.

### Journals:

Řasová K, **Martinková P**, Vyskotová J, Šedová M. Assessment set for evaluation of clinical outcomes in multiple sclerosis - psychometric properties. *Patient Related Outcome Measures*, 3, pp. 59-70, 2012.

Štuka Č, **Martinková P**, Zvára K, Zvárová J. The prediction and probability for successful completion in medical study based on admission test and pre-admission grades. *The New Educational Review*, 28(2), pp. 138-152, 2012.

Řasová K, Kalistová H, Kučera P, Juzová O, Zimová D, Medová E, Doležil D, Jandová D, Tintěra J, Ibrahim I, Zvára K, Bičíková M, **Martinková P**. Physiotherapy as an immunoactive therapy? A pilot study. *Neuroendocrinology Letters*, 33(1), pp. 67-75, 2012.

Ibrahim I, Tintěra J, Škoch A, Jírů F, Hlušík P, **Martinková P**, Zvára K, Řasová K. Fractional anisotropy and mean diffusivity in the corpus callosum of patients with multiple sclerosis: the effect of physiotherapy. *Neuroradiology*, 53(11), pp. 917-26, 2011.

**Martinková P**, Zvára K. Reliability of Composite Dichotomous Measurements. *European Journal for Biomedical Informatics*, 6(2), pp. 14-23, 2010.

Řasová K, Brandejský P, Tintěra J, Krásenský J, Zimová D, Medová E, Herbenová A, Kalistová H, Jech R, Řasová M, Zemanová P, Zeman J, Ibrahim I, **Martinková P**, Doležil D, Jandová D. Bimanual Tandem Motor Task with Multiple Sclerosis in Functional Magnetic Resonance Imaging: Effect of Physiotherapeutic Techniques - a Pilot Study. *Česká a Slovenská neurologie a neurochirurgie*, 72(4), pp. 350-358, 2009.

**Martinková P**, Zvára K. Reliability in the Rasch Model. *Kybernetika*, 43(3), pp. 315-26, 2007.

**Martinková P**, Zvára jr. K, Zvárová J, Zvára K. The New Features of the Exam Evaluation System and Reliability of Its Fixed Tests. *Methods of Information in Medicine*, 45(2), pp. 310-315, 2006.

Řasová K, Havrdová E, Brandejský P, Zálišová M, Foubíková B, **Martinková P**. Comparison of the Influence of Different Rehabilitation Programmes on Clinical, Spirometric and Spiroergometric Parameters in Patients with Multiple Sclerosis. *Multiple Sclerosis*, 12(2), pp. 227-234, 2006.

Řasová K, Krásenský J, Havrdová E, Obenberger J, Seidel Z, Doležal O, **Rexová P**, Zálišová M. Is it Possible to Actively and Purposely make use of Plasticity and Adaptability in the

Neurorehabilitation Treatment of Multiple Sclerosis Patients? A Pilot Project. *Clinical Rehabilitation*, 19(2), pp. 170-181, 2005.

Vášková M, Mejstříková E, Kalina T, **Martinková P**, Omelka M, Trka J, Starý J, Hrušák O. Transfer of Genomics Information to Flow Cytometry: Expression of CD27 and CD44 Discriminates Subtypes of Acute Lymphoblastic Leukemia. *Leukemia*, 19(5), pp. 876-878, 2005.

## Selected presentations

**Martinková P**, Turčičová M. Generalized Reliability Used for the Comparison of Reliability Estimates in Tests with Binary Items. Presented at IMPS 2013, Arnhem, Netherlands.

Vejražka M, Štuka Č, **Martinková P**, Trnka J, Komenda M. E-assessment – modern trends. *6th International Conference of Czech and Slovak Faculties of Medicine*, pp. 11, 2012. Workshop presented at MEFANET 2012, Brno, Czech Republic.

Řasová K, **Martinková P**, Henze, T. Towards an Inventory of the Content of Physical Rehabilitation in Europe. *Lifelong Perspective: Rehabilitation for MS Patients with Complex Needs*, University of Turku, pp. 24, 2011. Presented at RIMS 2011, Turku, Finland.

Ibrahim I, Tintěra J, Škoch A, Jírů F, Hlušík P, **Martinková P**, Zvára K, Řasová K. Fractional anisotropy and mean diffusivity in the corpus callosum of patients with multiple sclerosis: the effect of physiotherapy. *Magnetic Resonance Materials in Physics, Biology and Medicine*. 24(Suppl. 1), pp. 291, 2011. Presented at ESMRMB 2011, Leipzig, Germany.

**Martinková P**, Řasová K. Statistical Analysis of Questionnaire on Physical Rehabilitation in Multiple Sclerosis. *Česká a Slovenská neurologie a neurochirurgie*, 3, pp. S340, 2010. Presented at RIMS 2010, Praha, Czech Republic.

**Martinková P**, Šedová M, Řasová K. Reliability of clinical functioning measures in patients with multiple sclerosis. *30th Annual Conference of the International Society for Clinical Biostatistics*, pp. 147, 2009. Presented at ISCB 2009, Praha, Czech Republic.

Řasová K, Kalistová H, Kučera P, Juzová O, Zimová D, Medová E, **Martinková P**, et al. Impact of neurorehabilitation on immune parameters in multiple sclerosis. *Multiple Sclerosis*. 15(Suppl. 2), pp. S146-S147, 2009. Presented at ECTRIMS, 2009, Dusseldorf, Germany.

**Martinková P**, Zvára K. Reliability of Composite Dichotomous Measurements. *29th Annual Conference of the International Society for Clinical Biostatistics*, pp. 93, 2008. Presented at ISCB 2008, Copenhagen, Denmark.

Šedová M, **Martinková P**, Gabalec L. Assessment and comparison of two questionnaires of quality of life in Crohn's disease patients. *Lifestat 2008. Statistics and Life Sciences: Perspective and Challenges*, pp.224. Presented at Lifestat, 2008, Munich, Germany.

Zvárová J, **Martinková P**, Zvára, K. Education in Biostatistics with the Support of e-learning Tools. *Lifestat 2008. Statistics and Life Sciences: Perspective and Challenges*, pp. 186. Presented at Lifestat, 2008, Munich, Germany.

Řasová K, Krásenský J, Tintěra J, Kalistová H, Zálišová M, **Martinková P**, et. al. An interhemispheric cooperation and clinical function in multiple sclerosis. *Multiple Sclerosis*. 12(Suppl), pp. S149, 2006. Presented at ECTRIMS 2006, Madrid, Spain.