



Tomáš Čechák (* 26. 10. 1948)

Education, Scientific and Pedagogical Degrees:

MSc.(Ing.) 1971, Czech Technical University in Prague, Faculty of Nuclear Sciences and Physical Engineering (FNSPE)

Ph.D.(CSc.) 1981 Czech Technical University in Prague, FNSPE

Assoc. Prof. (Doc.) 1994 Czech Technical University in Prague, FNSPE

Professor 2005 Czech Technical University in Prague, FNSPE

Professional Positions:

1971-1972 Research Fellow FNSPE, CTU

1972-1975 Ph.D. Student FNSPE, CTU

1975-1992 Research Assistant, Department of Dosimetry and Application of Ionizing Radiation, FNSPE, CTU

1992 –present Head of Department of Dosimetry and Application of Ionizing Radiation, FNSPE, CTU

1994 Associate Professor

2005 Professor of Experimental Physics

Educational activities:

Lecturer at the Faculty of Nuclear Science and Physical Engineering, CTU in Prague

Courses on: “Mathematical Methods in Dosimetry” (1980 -89)

Courses on: “Dosimetry of Ionizing Radiation” (1991- 92)

Courses on: “Mathematical Methods and Computer Technique in Dosimetry” (1993 - 97)

Courses on: “Application of Ionizing radiation in Science and Technique” (1993

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Courses on: “Nuclear Technology Devices” (1993 -)

Lecturer at the Faculty of Mechanical Engineering, CTU in Prague (1993 - 1997)

Courses on: “Radiation protection” (1993 -)

Supervisor of Ph. D. students and M. S. diploma theses

Head of Council for Ph.D. Studies. Specialization: Experimental nuclear physics.

Publications:

Author or co-author of 67 scientific papers in scientific journals and 55 papers in conference proceedings. Co-author of 6 patents

Other activities:

Member of Professional Board of Proton Therapy Center (2012 –)

Member of Scientific Board of Institute of Dosimetry AS CR (1993 – 95)

Member of Scientific Board of FNSPE, CTU in Prague (1993 –)

Member of Scientific Board of State Institute of Nuclear Safety (2003 –)

Member of Scientific Board of Institute of Biomedical Engineering, CTU in Prague (2003 –)

Member of International Radiation Physical Society

Member of Executive Committee of Czech Society for Radiation Protection

Member of EURADOS (European Radiation Dosimetric Group) (2003 -)

Member of NATO/CCMS Committee: Cross-Border Environmental Problems Emanating from Defence –Related Installations and Activities, (1995-98)

Member of Organising/Programme Committee of four international conferences: European Conference on Protection against Radon at Home and at Work, 1997 Prague, 8th International Symposium on Radiation Physics, 2000 Prague, LUMDETR, 2003, 5th European Conference on Luminescent Detectors and Transformers of Ionizing radiation, 2003 Prague, European Conference on Protection against Radon at Home and at Work, 2004 Prague

Reviewer for project proposals for GA CR

Research profile:

1. Research into application of ionizing radiation in geology and industry, X-ray fluorescent analysis, dosimetry
2. Study of polymer gel Dosimeters for Radiosurgery
3. Technology innovation in co-operation with various institutions in application of ionizing radiation in coal industry and geology
4. Project DIRAC– DImeson Relativistic Atomic Complex in CERN. Measurement of the π^+ π^- Atom Lifetime.

Selected Publications:

1. Novotný, J.jr. - Spěváček, V. - Hrbáček, J. - Judas, L. - Novotný, J. - et al.: Measurement of Relative Dose Distributions in Stereotactic Radiosurgery by the Polymer-Gel Dosimeter. *Journal of Radiosurgery*. 2004, vol. 2004, no. 5, p. 225-235. ISSN 1096-4053.
2. Hrbáček, J. - Spěváček, V. - Novotný, J.jr. - Čechák, T.: A Comparative Study of four Polymer Gel Dosimeters. *Journal of Physics G: Nuclear and Particle Physics*. 2004, vol. Conference, no. 3, p. 150-154. ISSN 0954-3899.
3. Adeva, B. - Čechák, T. - Gerndt, J. - Klusoň, J.: First Measurement of the π^+ π^- Atom Lifetime. *Physics Letters B*. 2005, vol. 612, no. 1-2, p. 50-60. ISSN 0370-2693.
4. Novotný, J.jr. - Novotný, J. - Liščár, R. - Spěváček, V. - Hrbáček, J. - et al.: Assessment of the Accuracy in Ophthalmic Radiosurgery. *Journal of Radiosurgery*. 2006, vol. 2006, no. 6, p. 71-85. ISSN 1096-4053.
5. Thinová, L. - Čechák, T. - Klusoň, J. - Trojek, T.: Use of Gamma Spectrometry Method for Environmental Monitoring in the Area of NPP. *Journal of Physics: Conference Series* [online]. 2006, vol. 41, no. 1, p. 569-572. Internet: www. Journal of Physics. ISSN 1742-6596.
6. Čechák, T. - Leonhardt, J.: Radioisotope Sources. In Handbook of X-Ray Fluorescence Analysis. **1**, (2006): 54-65
7. Čechák, T. - Hložek, M. - Musílek, L. - Trojek, T.: X-Ray Fluorescence as a Tool for Investigating Archaeological Finds. *Nuclear Instruments and Methods in Physics Research, Section A, Accelerators, Spectrometers, Detectors and Associated Equipment*. 2007, vol. 580, no. 5, p. 717-720. ISSN 0168-9002.
8. Trojek, T. - Čechák, T. - Musílek, L.: Techniques for Depth Heterogeneity Identification in X-Ray Fluorescence. *Nuclear Instruments and Methods in Physics Research, Section B, Beam Interactions with Materials and Atoms*. 2007, vol. 263, no. 4, p. 76-78. ISSN 0168-583X.
9. Čechák, T. - Hložek, M. - Musílek, L. - Trojek, T.: X-Ray Fluorescence in Investigations of Archaeological Finds. *Nuclear Instruments and Methods in Physics Research, Section B, Beam Interactions with Materials and Atoms*. 2007, vol. 263, no. 4, p. 54-57. ISSN 0168-583X.
10. Trojek, T. - Čechák, T.: Use of MCNP Code in Energy Dispersive X-Ray Fluorescence. *Nuclear Instruments and Methods in Physics Research, Section B, Beam Interactions with Materials and Atoms*. 2007, vol. 263, no. 4, p. 72-75. ISSN 0168-583X.
11. Průša, P. - Čechák, T. - Mareš, J. - Nikl, M. - Beitlerová, A. - et al.: The Alpha-Particle Excited Scintillation Response of the Liquid Phase Epitaxy Grown LuAG:Ce thin Films. *Applied Physics Letters*. 2008, vol. 92, no. 041903, p. 94-102. ISSN 0003-6951.
12. Čechák, T. - Moučka, L. - Jiránek, M. - Froňka, A. - Thinová, L.: Investigation and Remediation of Houses Affected by Radon Phenomena Connected with Earlier

Exploration of Silver and Uranium Ore. *Radiation Protection Dosimetry*. 2008, vol. 2008, no. 130, p. 64-67. ISSN 0144-8420.

13. Trojek, T. - Čechák, T. - Musílek, L.: K(alfa)/K(beta) Ratio of Fluorescence X-rays as an Information Source on the Depth Distribution of Iron in Low Matrix. *Analytical Sciences*. 2008, vol. 24, no. 7, p. 851-854. ISSN 0910-6340.
14. Adeva, B. - Afanasyev, L. - Allkofer, Y. - Amsler, C. - Čechák, T. - et al.: Evidence for piK-atoms with DIRAC. *Physics Letters B*. 2009, vol. 674, no. 2009, p. 11-16. ISSN 0370-2693.
15. Thinová, L. - Matolín, M. - Ploc, O. - Čechák, T.: Radiation sources in the environment near NPP Temelin. *Applied Radiation and Isotopes*. 2010, vol. 68, no. 4-5, p. 848-853. ISSN 0969-8043.
16. Klusoň, J. - Čechák, T. - Hůlka, J. - Kuča, P.: An evaluation of the response of a scintillation detector for estimating the radionuclide composition of a contaminated cloud. *Applied Radiation and Isotopes*. 2010, vol. 68, no. 4-5, p. 965-966. ISSN 0969-8043.
17. Trojek, T. - Čechák, T. - Musílek, L.: Recognition of Pigment Layers in Illuminated Manuscripts by Means K(alfa)/K(beta) and L(alfa)/L(beta) Ration of Charakteristic X-rays. *Applied Radiation and Isotopes*. 2010, vol. 68, no. 4-5, p. 871-874. ISSN 0969-8043.
18. Čechák, T. - Trojek, T. - Musílek, L. - Paulusová, H.: Application of X-ray Fluorescence in Investigations of Bohemian Historical Manuscripts. *Applied Radiation and Isotopes*. 2010, vol. 68, no. 4-5, p. 875-878. ISSN 0969-8043.
19. Trojek, T. - Hložek, M. - Čechák, T. - Musílek, L.: X-ray Fluorescence Analyzer for Investigating Postmediaeval Pottery from Southern Moravia. *Applied Radiation and Isotopes*. 2010, vol. 68, no. 4-5, p. 879-883. ISSN 0969-8043.
20. Trojek, T. - Čechák, T. - Musílek, L.: Monte Carlo Simulations of Disturbing Effects in Quantitative In-situ X-ray Fluorescence Analysis and Microanalysis. *Nuclear Instruments and Methods in Physics Research, Section A, Accelerators, Spectrometers, Detectors and Associated Equipment*. 619, no. 1-3, (2010): 266-269

In Prague 19. 2. 2012

Prof. Ing. Tomáš Čechák, CSc.