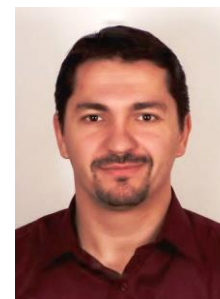


CURRICULUM VITAE



Personal information

First name/Surname **Jan ROHAC**
Address Marikova 187/1, Prague 16200, Czech Republic
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E-mail xrohac@fel.cvut.cz
Nationality Czech
Date of birth 09/09/1975
Gender Male

Work experience

Dates 02/2015 –
Occupation or position held Associate professor at the field Measurement and Instrumentation
Main activities and responsibilities Lecturer, researcher, supervisor of student individual/Bachelor/Master projects
Member of final state examination committee, a leader of the Navigation group at Dept. of Measurement
Name and address of employer CTU in Prague, FEE, Dept. of Measurement, Technicka 2, 166 27 Prague, Czech Republic
Type of business or sector Education, Research/University

Dates 09/2004 – 01/2014
Occupation or position held Assistant professor
Main activities and responsibilities Lecturer, researcher, supervisor of student individual/Bachelor/Master projects
Name and address of employer CTU in Prague, FEE, Dept. of Measurement, Technicka 2, 166 27 Prague, Czech Republic
Type of business or sector Education, Research/University

Dates 05/2004 – 08/2004
Occupation or position held Technician
Main activities and responsibilities Researcher, supervisor of student individual projects
Name and address of employer CTU in Prague, FEE, Dept. of Measurement, Technicka 2, 166 27 Prague, Czech Republic
Type of business or sector Education/University

International experience

Dates 09/2001 – 04/2002
Occupation or position held Research associate
Main activities and responsibilities Research in the topic: Design of a tracking system using a high-speed image sensor in a non-destructive mode
Name and address of employer Shizuoka University, Research Institute of Electronics, Hamamatsu, Japan
Type of business or sector Research/University

Education and training

Dates 03/2000 – 10/2005
Title of qualification awarded Doctor of Philosophy, PhD.
Principal subjects/occupational skills covered Measurement and Instrumentation (Electrical Engineering)
Thesis Title: 'Precision increasing of the inertial navigation unit using low-cost sensors',
Skills: Measurement techniques and instrumentation, avionics, inertial navigation and its aiding systems (GPS, magnetometers etc.), signal and data processing, system modeling, Kalman filtering
Name and type of organisation providing education and training CTU in Prague, Faculty of Electrical Engineering, Technicka 2, 166 27 Prague, Czech Republic

Dates 06/2008
Principal subjects/occupational skills covered 1 week course: Applied Kalman Filtering
Random processes review, state-space modeling, Kalman filtering and its implementation, application of GPS navigation, data fusion and examples of aided systems
Name and type of organisation providing education and training Dr. Patrick Hwang (Rockwell Collins), Mr. Michael Vaujin (Raytheon), NavtechGPS

Dates	06/2007
Principal subjects/occupational skills covered	1 week course: Application of Kalman Filtering to GPS, INS, & Navigation Random processes review, state-space modeling, Kalman filtering and its implementation, application of GPS navigation, data fusion and examples of aided systems
Name and type of organisation providing education and training	Mohinder S. Grewal, PhD, PE, Kalman Filtering Consultant Associates
Dates	09/1994 – 02/2000
Title of qualification awarded	Ing. (= MSc.)
Principal subjects/occupational skills covered	Thesis Title: 'A control unit of the engine F-124 start-up procedure', Aircraft information and control instrumentation, systems' design
Name and type of organisation providing education and training	CTU in Prague, Faculty of Electrical Engineering, Technicka 2, 166 27 Prague, Czech Republic

Personal skills and competences

Language(s)	Mother tongue: Czech				Other: English					
Self-assessment	Understanding				Speaking				Writing	
European level	Listening		Reading		Spoken interaction		Spoken production			
English	C1	Proficient user	C1	Proficient user	B2	Independent User	C1	Proficient user	C1	Proficient user

Organisational skills and competences	<ul style="list-style-type: none"> Experience in a team management - a supervisor of the Navigation group at the Dept. of Measurement (4 PhD. students + 3 master degree students) Experience in a project management (> 10 research and education projects funded by the government agencies and industry + 1 funded by ESF) Experience in an organization management - Deputy Head of the Czech Aeronautical Society Representative of the CTU in the PEGASUS Network Focal point of the CTU in Airbus-PEGASUS intership program Lecturer of courses under regulation JAR-66, module 5, 13, 15 (the courses intended for airman-technicians) – recognized by CIVIL AVIATION AUTHORITY of the Czech Republic. Lecturer of student courses: Aircraft and Spacecraft Instrumentation, Avionics
Field of expertise	<ul style="list-style-type: none"> Test and measurement systems, system modeling and simulation, measurement methods for electrical and non-electrical quantities, embedded systems. Avionics, inertial navigation systems and sensors, and methods of data/signal processing, data validation and verification, data fusion.
Computer skills	Matlab, LabWindows/CVI, OrCAD/Altium, C/C++, web design (HTML, PHP, MySQL), MS Office.
Publication activities	<ul style="list-style-type: none"> More than 30 scientific publication (12 in Peer-reviewed journals), 20 times cited (WoS) or 71 times cited (Google Scholar) – H-index=3 Author of 2 Utility designs and 1 Patent, author of 17 Functional designs
Most important ones in last 3 years	<ul style="list-style-type: none"> Alam, M. - Roháč, J.: Adaptive Data Filtering of Inertial Sensors with Variable Bandwidth. Sensors - Open Access Journal [online]. 2015, vol. 15, no. 2, p. 3282-3298. ISSN 1424-8220. Ďaďo, S. - Roubíček, T. - Roháč, J.: Methods of Evaluation of Output Signals from Resonance Accelerometers. Sensors and Transducers. 2014, vol. 177, no. 8, p. 286-293. ISSN 1726-5479. Nováček, P. - Roháč, J. - Šimánek, J. - Ripka, P.: Metal Detector Signal Imprints of Detected Objects. IEEE Transactions on Magnetics. 2013, vol. 49, no. 1, p. 69-72. ISSN 0018-9464. Roháč, J. - Ďaďo, S.: Impact of Environmental Vibration on Inertial Sensors' Output. Sensors and Transducers. 2013, vol. 24, p. 19-27. ISSN 1726-5479. Šipoš, M. - Pačes, P. - Roháč, J. - Nováček, P.: Analyses of Triaxial Accelerometer Calibration Algorithms. IEEE Sensors Journal. 2012, vol. 12, no. 5, p. 1157-1165. ISSN 1530-437X. Roháč, J. - Šipoš, M.: Measurement Unit of an Artificial Horizon. Utility design, Industrial Property Office, 23268. 2012-01-16. (in Czech). Roháč, J. - Ďaďo, S. - Škvarek, J.: Inertial Measurement Unit of a Navigation System. Patent, Industrial Property Office, 304237. 2013-12-04. (in Czech). Roháč, J. - Nováček, P. - Šimánek, J. - Šipoš, M.: Autonomous System for Attitude Measurement. Utility design, Industrial Property Office, 26785. 2014-04-14. (in Czech). Nováček, P. - Roháč, J. - Ripka, P.: Complex Markers for a Mine Detector. IEEE Transactions on Magnetics. 2012, vol. 48, no. 4, p. 1489-1492. ISSN 0018-9464.

Record of Scientific Outcomes and Activities in 2010-2015

Publication
Impact Factor Journal
Alam, M. - Roháč, J.: Adaptive Data Filtering of Inertial Sensors with Variable Bandwidth. <i>Sensors - Open Access Journal</i> [online]. 2015, vol. 15, no. 2, p. 3282-3298. ISSN 1424-8220. (IF: 2.048)
Nováček, P. - Roháč, J. - Šimánek, J. - Ripka, P.: Metal Detector Signal Imprints of Detected Objects. <i>IEEE Transactions on Magnetics</i> . 2013, vol. 49, no. 1, p. 69-72. ISSN 0018-9464. (IF: 1.363)
Šipoš, M. - Pačes, P. - Roháč, J. - Nováček, P.: Analyses of Triaxial Accelerometer Calibration Algorithms. <i>IEEE Sensors Journal</i> . 2012, vol. 12, no. 5, p. 1157-1165. ISSN 1530-437X. (IF: 1.520)
Šipoš, M. - Roháč, J. - Nováček, P.: Improvement of Electronic Compass Accuracy Based on Magnetometer and Accelerometer Calibration. <i>Acta Physica Polonica A</i> . 2012, vol. 121, no. 4, p. 945-949. ISSN 0587-4246. (IF: 0.235)
Šipoš, M. - Roháč, J. - Nováček, P.: Analyses of Electronic Inclinator Data for Tri-axial Accelerometer's Initial Alignment. <i>Przegląd Elektrotechniczny</i> . 2012, vol. 88, no. 01a, p. 286-290. ISSN 0033-2097. (IF: 0.244)
Nováček, P. - Roháč, J. - Ripka, P.: Complex Markers for a Mine Detector. <i>IEEE Transactions on Magnetics</i> . 2012, vol. 48, no. 4, p. 1489-1492. ISSN 0018-9464. (IF: 1.363)
Šipoš, M. - Roháč, J. - Nováček, P.: Improvement of Electronic Compass Accuracy Based on Magnetometer and Accelerometer Calibration. <i>Przegląd Elektrotechniczny</i> . 2011, . ISSN 0033-2097. (IF: 0.244)
Reinštein, M. - Roháč, J. - Šipoš, M.: Algorithms for Heading Determination using Inertial Sensors. <i>Przegląd Elektrotechniczny</i> . 2010, vol. 86, no. 9, p. 243-246. ISSN 0033-2097. (IF: 0.242)
Reinštein, M. - Šipoš, M. - Roháč, J.: Error Analyses of Attitude and Heading Reference Systems. <i>Przegląd Elektrotechniczny</i> . 2009, vol. 85, no. 8, p. 114-118. ISSN 0033-2097. (IF: 0.196)
Peer-reviewed Journal
Ďaďo, S. - Roubíček, T. - Roháč, J.: Methods of Evaluation of Output Signals from Resonance Accelerometers. <i>Sensors and Transducers</i> . 2014, vol. 177, no. 8, p. 286-293. ISSN 1726-5479.
Roháč, J. - Ďaďo, S.: Environmental Vibration Impact on Inertial Sensors' Output. In: <i>Sensors & Transducers</i> . 2012, In Press. ISSN 1726-5479.
Roháč, J. - Řeřábek, M. - Hudec, R.: Multi-Functional Star Tracker - Future Perspectives. <i>Acta Polytechnica</i> . 2011, vol. 51, no. 6, p. 61-64. ISSN 1210-2709.
International Conference Proceedings
Nováček, P. - Ripka, P. - Roháč, J.: Metal Detector Signal Imprints of Detected Objects. In <i>EMSA 2012 - Book of Abstracts</i> . Praha: CTU Publishing House, 2012, p. 62. ISBN 978-80-01-05078-1.
Roháč, J. - Šipoš, M. - Šimánek, J. - Tereň, O.: Inertial Reference Unit in a Directional Gyro Mode of Operation. In <i>IEEE SENSORS 2012 - Proceedings</i> [CD-ROM]. Piscataway: IEEE Service Center, 2012, p. 1356-1359. ISBN 978-1-4577-1765-9
Roháč, J. - Reinštein, M. - Draxler, K.: Data Processing of Inertial Sensors in Strong-Vibration Environment. In <i>IDAACS'2011 - Proceedings of the 6th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems</i> [CD-ROM]. Prague: IEEE, THEY, CTU, 2011, p. 71-75. ISBN 978-1-4577-1424-5
Šipoš, M. - Roháč, J.: Improvement of Electronic Compass Accuracy Based on Magnetometer and Accelerometer Calibration. In <i>SPM 2011 - X Symposium of Magnetic Measurements</i> . Czestochowa Branch: Polish Society of Theoretical and Applied Electrical Engineering, 2011, p. 33.
Nováček, P. - Ripka, P. - Roháč, J. - Paroulek, L.: Explosive Remnants of Wars Differentiation. In <i>SPM 2011 - X Symposium of Magnetic Measurements</i> . Czestochowa Branch: Polish Society of Theoretical and Applied Electrical Engineering, 2011, p. 28.
Roháč, J. - Šipoš, M.: Sensors and Data Processing Methods Used in Navigation Systems. In <i>Proceedings of the International Scientific Conference Modern Safety Technologies in Transportation</i> . Košice: SUPREMA Ltd., 2011, p. 342-348. ISBN 978-80-970772-0-4.
Roháč, J.: Artificial Horizon without Kalman Filter Applied. In <i>ICMT'11 International Conference on Military Technologies 2011</i> [CD-ROM]. Brno: Univerzita obrany, 2011, p. 679-684. ISBN 978-80-7231-788-2.
Šipoš, M. - Roháč, J.: Usage of Electrolytic Tilt Sensor for Initial Alignment of Tri-axial Accelerometer. In <i>ICMT'11 International Conference on Military Technologies 2011</i> [CD-ROM]. Brno: Univerzita obrany, 2011, p. 685-691. ISBN 978-80-7231-788-2.
Draxler, K. - Pačes, P. - Roháč, J. - Fetr, M.: Use of Differential Air Pressure Sensor for Barometric Difference Altitude and Vertical Speed Measurement. In <i>ICMT'11 International Conference on Military Technologies 2011</i> [CD-ROM]. Brno: Univerzita obrany, 2011, p. 605-610. ISBN 978-80-7231-788-2.
Nováček, P. - Ripka, P. - Roháč, J. - Paroulek, L.: Explosive Remnants of Wars Differentiation. In <i>SPM 2011 - X Symposium of Magnetic Measurements</i> . Czestochowa Branch: Polish Society of Theoretical and Applied Electrical Engineering, 2011, p. 28.

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Ripka, P. - Nováček, P. - Reinštein, M. - Roháč, J.: Position Sensing System for Eddy-current Mine Imager. In EUROSENSORS XXIV - Proceedings [CD-ROM]. Linz: Elsevier BV, 2010, p. 276-279. ISSN 1877-7058.
National Conference Proceedings
Šipoš, M. - Šimánek, J. - Nováček, P. - Popelka, J. - Roháč, J.: Modular Navigation System for Unmanned Aerial Vehicles. In ICMT'13 - Proceedings of the International Conference on Military Technologies. Brno: Univerzita obrany, 2013, p.1-10. ISBN 978-80-7231-917-6.
Roháč, J.: Modern Inertial Sensors in Navigation Systems. In MDS PSL 2013 - 13. mezinárodní vědecká konference. Brno: Univerzita obrany, Fakulta vojenských technologií, 2013, p. 3-14. ISBN 978-80-7231-946-6.
Šipoš, M. - Roháč, J.: Comparison of Electrolytic Tilt Modules for Attitude Correction. In MDS 2012 - Měření, diagnostika, spolehlivost palubních soustav letadel. Brno: Univerzita obrany, Fakulta vojenských technologií, 2012, p. 1-14. ISBN 978-80-7231-894-0.
Nováček, P. - Šipoš, M. - Popelka, J. - Šimánek, J. - Roháč, J.: Modular Navigation System for Unmanned Aerial Vehicles - Flight Data Monitoring and Recording. In MDS 2012 - Měření, diagnostika, spolehlivost palubních soustav letadel [CD-ROM]. Brno: Univerzita obrany, Fakulta vojenských technologií, 2012, p. 157-163. ISBN 978-80-7231-894-0.
Roháč, J. - Šipoš, M. - Nováček, P. - Pačes, P. - Reinštein, M.: Modular System for Attitude and Position Estimation. In Workshop 2011 [CD-ROM]. Praha: České vysoké učení technické v Praze, 2011,
Roháč, J. - Šipoš, M.: Practical Usage of Allan Variance in Inertial Sensor Parameters Estimation and Modeling. In New Trends in Civil Aviation 2011. Praha: České vysoké učení technické v Praze, Fakulta dopravní, Ústav řídicí techniky a telematiky, 2011, p. 107-112. ISBN 978-80-01-04893-1.
Roháč, J. - Šipoš, M.: Sensors and Data Processing Methods Used in Navigation Systems. In Proceedings of the International Scientific Conference Modern Safety Technologies in Transportation. Košice: SUPREMA Ltd., 2011, p. 342-348. ISBN 978-80-970772-0-4.
Šipoš, M. - Roháč, J. - Stach, M.: System for Vibration Testing. In MDS - Měření, diagnostika, spolehlivost palubních soustav letadel 2011 - Sborník příspěvků z 11.mezinárodní vědecké konference. Brno: Univerzita obrany, Fakulta vojenských technologií, 2011, p. 213-225. ISBN 978-80-7231-828-5.
Nováček, P. - Roháč, J.: Inertial Sensors Utilization in Humanitarian Demining. In MDS - Měření, diagnostika, spolehlivost palubních soustav letadel 2011 - Sborník příspěvků z 11.mezinárodní vědecké konference. Brno: Univerzita obrany, Fakulta vojenských technologií, 2011, s. 138-144. ISBN 978-80-7231-828-5. (in Czech).
Roháč, J. - Šipoš, M. - Nováček, P.: Azimuth Determination Based on Magnetometer Measurements. In MDS - Měření, diagnostika, spolehlivost palubních soustav letadel 2011 - Sborník příspěvků z 11.mezinárodní vědecké konference. Brno: Univerzita obrany, Fakulta vojenských technologií, 2011, p. 11-17. ISBN 978-80-7231-828-5.
Šipoš, M. - Roháč, J.: Usage of Electrolytic Tilt Sensor for Initial Alignment of Tri-axial Accelerometer. In ICMT'11 International Conference on Military Technologies 2011 [CD-ROM]. Brno: Univerzita obrany, 2011, p. 685-691. ISBN 978-80-7231-788-2.
Roháč, J.: Artificial Horizon without Kalman Filter Applied. In ICMT'11 International Conference on Military Technologies 2011 [CD-ROM]. Brno: Univerzita obrany, 2011, p. 679-684. ISBN 978-80-7231-788-2.
Draxler, K. - Pačes, P. - Roháč, J. - Fetr, M.: Use of Differential Air Pressure Sensor for Barometric Difference Altitude and Vertical Speed Measurement. In ICMT'11 International Conference on Military Technologies 2011 [CD-ROM]. Brno: Univerzita obrany, 2011, p. 605-610. ISBN 978-80-7231-788-2.
Nováček, P. - Roháč, J.: GPS Based Attitude Estimation. In 2nd Conference for Unmanned Aerial Systems [CD-ROM]. Praha: FSI ČVUT, 2010, ISBN 978-80-86059-53-2.
Roháč, J.: Navigation Data Denoising. In MDS - Měření, diagnostika, spolehlivost palubních soustav letadel 2010. Brno: Univerzita obrany, 2010, p. 133-140. ISBN 978-80-7231-741-7
Šipoš, M. - Roháč, J.: Calibration of Tri-axial Angular Rate Sensors. In MDS - Měření, diagnostika, spolehlivost palubních soustav letadel 2010. Brno: Univerzita obrany, 2010, p. 148-152. ISBN 978-80-7231-741-7.
Šipoš, M. - Roháč, J.: Integration of Low-cost Inertial Navigation Unit with Secondary Navigation Systems. In Workshop 2010 [CD-ROM]. Praha: České vysoké učení technické v Praze, 2010, p. 146-147. ISBN 978-80-01-04513-8.
Nováček, P. - Roháč, J.: GPS Based Attitude Estimation. In 2nd Conference for Unmanned Aerial Systems. Praha: FSI ČVUT, 2010, p. 1-8. ISBN 978-80-86059-53-2.
Roháč, J.: Aided Navigation Systems for UAVs. In 2nd Conference for Unmanned Aerial Systems. Praha: FSI ČVUT, 2010, . ISBN 978-80-86059-53-2.

Design
Functional Utility
Roháč, J. - Šipoš, M. - Šimánek, J. - Bílý, M.: Navigation unit of mapping radio-locator with use of tactical-grade technology. 2014.
Šipoš, M. - Nováček, P. - Bílý, M. - Šimánek, J. - Roháč, J.: Miniature Inertial Navigation System. 2014.
Koudelka, L. - Roháč, J. - Šipoš, M.: SD logger of data from CAN and RS232 bus.2014.
Hubáček, P. - Veselý, J. - Škvarek, J. - Roháč, J.: VHF Part of the Synthetic Aperture Radar. 2013.
Sosnovec, T. - Roháč, J.: Demonstrator of a ultra-light aircraft fuel system. 2012.
Roháč, J. - Šipoš, M. - Šimánek, J. - Papaj, J. - Bílý, M.: Navigation Unit. 2012.
Nováček, P. - Popelka, J. - Roháč, J.: Dual distance sensor with CANaerospace interface. 2011.
Popelka, J. - Roháč, J. - Pačes, P. - Čenský, T. - Papaj, J.: Module for Aerometric Values Computing on UAV. 2011.
Nováček, P. - Šipoš, M. - Levora, T. - Roháč, J. - Papaj, J.: Flight Data Recorder - SD logger. 2011.
Šipoš, M. - Roháč, J. - Popelka, J. - Pačes, P. - Papaj, J.: Module with an electronic inclinometer for non-magnetic calibration platform tilt measurements. 2011.
Roháč, J. - Gazdík, Petr - Pačes, P.: Artificial Horizon Unit. 2010.
Patent, Utility Design
Roháč, J. - Nováček, P. - Šimánek, J. - Šipoš, M.: Autonomous System for Attitude Measurement. Utility design, Industrial Property Office, 26785. 2014-04-14.
Roháč, J. - Ďaďo, S. - Škvarek, J.: Inertial Measurement Unit of a Navigation System. Patent, Industrial Property Office, 304237. 2013-12-04.
Roháč, J. - Šipoš, M.: Measurement Unit of an Artificial Horizon. Utility design, Industrial Property Office, 23268. 2012-01-16.
List of Managed Projects
Research projects
TA02011092 - Research and development of technologies for radiolocation mapping and navigation systems, the grant of the Technology Agency of the Czech Republic (2012-2014)
VG20122015076 - The survey points range-finding system utilization for perimeter security (screen), the grant of the Ministry of the Interior of the Czech Republic (2012-2015)
Internal CTU grant SGS10/288/OHK3/3T/13: Modular system for attitude and position estimation, (2010-2012)
Internal CTU grant SGS13/144/OHK3/2T/13: Modern methods in development of inertial navigation systems, (2013-2014)
Educational Projects
Project of the JPD3 program: CZ.04.3.07/3.1.01.3/3305 - Education Advancement of Airborne Information and Control Instrumentation (2006-2008)