

WEDNESDAY, September 11

09:00-09:40		Plenary session PS4 Chair: Andrzej ŚWIERNIAK		A	
Computer-aided breast cancer diagnosis – Andrzej OBUCHOWICZ					
09:50-11:50		Session S7a – Medical Diagnostics Chair: Andrzej OBUCHOWICZ	A	Session S7b – Process Modelling (in Polish) Chair: Piotr PRZYSTAŁKA	B
09:50-10:10		Computer-aided diagnosis for breast tumor classification using microscopic images of fine needle biopsy – M. KOWAL		Analityczne modelowanie procesów przepływu – Z. KOWALCZUK, M. TATARA	
10:10-10:30		An automatic method for cell membrane extraction in histopathology HER2 images – M. TABAKOV, S. ZARĘBA		Zastosowanie neuro-klasyfikatorów do budowy modeli diagnostycznych – J. KORNIAK, D. IMAEV	
10:30-10:50		Complex monitoring of the patient and ventricular assist device during heart assist procedure with Religa Heart TOTAL system – M. SYFERT, B. FAJDEK, P. WNUK, M. STACHURA		Synteza odpornego układu regulacji dla obiektu nieliniowego – J. BRZÓZKA	
10:50-11:10		Method of pattern detection in mammographic images – J. ŁAZAREK, P.S. SZCZEPANIAK, A. TOMCZYK		Wykorzystanie metody modelowania zagrożeń do oceny wpływu incydentów na poziom bezpieczeństwa zasobów informacyjnych w systemach teleinformatycznych – I.J. JÓŹWIAK, A. SZLESZYŃSKI	
11:10-11:30		The role and use of MicroRNA in cancer diagnosis – M. ŚWIERNIAK, A. ŚWIERNIAK		Problemy diagnozowania zaworów maszyn tkakowych – P. BIELAWSKI	
11:30-11:50		Computer-aided on-line seizure detection using Stockwell transform – G. RUTKOWSKI, K. PATAN, P. LEŚNIAK			
11:50-12:10 Coffee break					
12:10-13:50		Session S8a – Medical Diagnostics and Biometrics Chair: Krzysztof FUJAREWICZ	A	Session S8b – Applications III Chair: Michał SYFERT	B
12:10-12:30		Stateless Q-learning algorithm for training of radial basis function based neural networks in medical data classification – M. KUSY, R. ZAJDEL		Diagnostic simulators for requirement definition of diagnostic systems – M. AMAROWICZ	
12:30-12:50		Diagnosis of obesity with bioimpedance method – M. CICHOCKA, J. TUTAJ		Discovering rules for production speed prediction in fasteners manufacturing – T. MAĆZKA, T. ŻABIŃSKI, J. KLUSKA	
12:50-13:10		Multimedia database techniques for medical diagnosis processes support – A. WOSIAK, L. BYCZKOWSKA-LIPIŃSKA		On steam turbine performance improvement on the basis of off-line flow diagnostics – A. GARDZILEWICZ, M. SZYMANIAK, J. GLUCH	
13:10-13:30		Reliability and error probability for multimodal biometric system – M. SZCZEPANIK, I. JÓŹWIAK		Transformer windings diagnostics with combined frequency response analysis and vibroacoustic methods – S. BANASZAK, E. KORNATOWSKI	
13:30-13:50		A simulation model for emergency evacuation time and low-cost improvements of a hospital facility using FlexSim Healthcare. A case study – J. MIKULIK, W. CEMPEL, S. KRACIK, D. DĄBAL			
13:50-14:00 Closing ceremony					
14:00-14:45 Lunch					

PROGRAMME

11th International Conference on **DIAGNOSTICS OF PROCESSES AND SYSTEMS**



8–11 September 2013

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PROGRAMME



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SUNDAY, September 8

15:00-19:00 **Registration**

MONDAY, September 9

08:45-09:00 **Opening ceremony** **A**

Plenary session PS1 **A**
Chair: Józef KORBICZ

09:00-09:40 Safety, survivability and sliding modes – Christopher EDWARDS

09:45-10:25 Active fault detection and control – Miroslav ŠIMANDL

10:25-10:45 **Coffee break**

Session S1a – Fault Detection and Isolation I **A**
Chair: Horst SCHULTE

10:45-11:05 Robust residual generator design for systems with distributed time delay – D. KROKAVEC, A. FILASOVA

11:05-11:25 Study of fault isolability: Case of unknown model of the system with fault influence – J. KOŚCIELNY, M. SYFERT, K. ROSTEK

11:25-11:45 Robust H-infinity sensor fault diagnosis with neural network – M. LUZAR, M. WITCZAK, C. AUBRUN

11:45-12:05 Multiple fault isolation algorithm based on binary diagnostic matrix – M. BARTYŚ

12:05-12:25 Takagi-Sugeno sliding mode observer with a weighted switching action and application to fault diagnosis for wind turbines – S. GEORG, H. SCHULTE

Session S2a – Fault Detection and Isolation II **A**
Chair: Abdel AITOUCHE

12:30-12:50 Fault residual functions make use of linear quadratic control performances – D. KROKAVEC, A. FILASOVA, P. LISCINSKY

12:50-13:10 Robust fault detection using zonotope-based GMDH neural network – M. MRUGALSKI

13:10-13:30 Diagnosis of actuator parameter faults in wind turbines using a Takagi-Sugeno sliding mode observer – S. GEORG, H. SCHULTE

13:30-13:50 Structural diagnostics of composite beams using optimally selected fractional B-spline wavelets – A. KATUNIN, P. PRZYSTAŁKA

13:50-14:10 The approximate location of imperfections in mixed domain using the spectral theory – M. BRZEŃK, W. MITKOWSKI

14:15-15:15 **Lunch**

Session S3a – Applications I **A**
Chair: Krzysztof PATAN

15:30-15:50 Human factors and functional safety analysis in designing the control rooms of industrial hazardous plants – K. KOSMOWSKI

15:50-16:10 ADFIT – A tool for parameter estimation using adjoint sensitivity analysis – K. ŁAKOMIEC, K. FUJAREWICZ

16:10-16:30 Prediction of quality properties for the continuous optimization of refinery crude distillation unit – I. LUKEC

16:30-16:50 Micro milling machine – Chosen aspects of supervisory and diagnostic systems – B. BROEL-PLATER, K. JAROSZEWSKI, P. DWORAK

16:50-17:10 Neural network simulator's application to reference performance determination of turbine blading in the heat-flow diagnostics – A. BUTTERWECK, J. GŁUCH

17:10-17:30 FDI/FTC applied to wind turbines – A review – J. CALADO, P. SILVA

17:30-17:50

19:00-23:00 **Gala dinner**

TUESDAY, September 10

Plenary session PS2 **A**
Chair: Piotr KULCZYCKI

09:00-09:40 Diagnosis of discrete-event systems – Jan LUNZE

09:45-10:25 Bridging diagnosis from the control and AI perspectives – Louise TRAVÉ-MASSUYÉS

10:25-10:45 **Coffee break**

Session S4a – Fault Tolerant Control **A**
Chair: Christophe AUBRUN

10:45-11:05 Fault tolerant control of systems with saturations – H. NIEMANN

11:05-11:25 Passive variable-structure fault-tolerant control for an electrical 4WD vehicle subject to input saturation – X. ZHANG, V. COCQUEMOT

11:25-11:45 Efficient predictive fault-tolerant control for non-linear systems – M. WITCZAK, P. WITCZAK

11:45-12:05 Fault-tolerant control allocation using reliability measures for over-actuated system – F. BICKING, P. WEBER, D. THEILLIOL, C. AUBRUN

12:05-12:25 Robust fault-tolerant control for a multi-tank system – M. BUCIAKOWSKI, M. WITCZAK, M. LUZAR

Session S5a – Identification and Estimation **A**
Chair: Piotr SKRZYPCZYŃSKI

12:30-12:50 Parameter and delay estimation of linear continuous-time systems – J. KOZŁOWSKI, Z. KOWALCZUK

12:50-13:10 Distributed state estimation using a network of asynchronous processing nodes – Z. KOWALCZUK, M. DOMŻALSKI

13:10-13:30 Identification of systems with delays using structural sensitivity analysis – K. FUJAREWICZ

13:30-13:50 Particle filter in state vector estimation problem for power system – P. KOZIELSKI, M. LIS, J. ZIĘTKIEWICZ

13:50-14:10 Production energy estimation by means of advanced trajectory planning – A. PACZYŃSKI, A. PIECZYŃSKI, R. STETTER, P. WITCZAK, L. SEYBOLD

14:15-15:15 **Lunch**

Plenary session PS3 **A**
Chair: Henrik NIEMANN

15:30-16:10 Diagnostic requirements in multi-robot systems – Cezary ZIELIŃSKI

Poster session S6a **B**
Chairs: Ireneusz JÓZWIAK, Krzysztof BARTECKI

Session S6b – Industrial Applications (in Polish) **A**
Chair: Marcin WITCZAK

16:15-16:45 Efektywność produkcji – J. SZCHANIECKI

16:45-17:15 Programowanie robota EPSON – Ł. MAKA

TORUS® – Transmission system of fire alarms and fault signals – K. WAŚALA

Computer cursor position controlling by eye movements – F. PALUCH, D. KRYCHOWSKI, S. BUDZAN

Two-wheeled self-balancing vehicle-modus student scientific group project – D. KRYCHOWSKI, T. CETNEROWSKI, F. PALUCH, R. WYŻGOLIK

Animatronic hand controlled by data glove – G. GAŁAŻKA, B. KNAPFEL, A. PRZYBYSZ, K. ZAK

Autonomization of two-wheeled inverted pendulum robot – Kinect-based obstacle detection and avoidance system – D. DRESZER, K. GNACIK, P. KALETA, O. SZYMAŃSKA

Badania nad autonomiczną platformą mobilną MobilCam – M. BYLIŃSKI, M. NOCOŃ, T. KORZYŃCIEC, J. KALA, A. PIERNIKARCZYK, M. BESLER, G. SZAFRAŃSKI

Interactive education of engineers in the field of fault diagnosis and fault-tolerant control – W. MOCZULSKI, P. PRZYSTAŁKA, D. WACHLA, W. PANFIL

Tracker - projekt anteny kierunkowej śledzącej bezzałogowe obiekty latające – W. BRYCHCY, B. DUDZIŃSKI, P. KĘDZIOR, Ł. SZCZURÓWSKI, R. CZYBA

Zastosowanie elementów sztucznej inteligencji do realizacji inteligentnego budynku muzeum – PIECZYŃSKI, P. BINDER

Sieciowe sterowanie robotem przemysłowym KUKA KR3 sprzężonego z systemem wizyjnym oraz systemem rozpoznawania mowy – J. MACHNIK, M. GRYCMAN, M. KONIECZNY

TEWI platform – P. LIPIŃSKI, K. ŚWIŃSKI

Urządzenie do badań niższych warstw atmosfery ziemskiej przystosowane do pracy w trudnych warunkach – B. BARAŃSKI, M. BORKOWSKI, A. BULSKI, M. DROST, M. GÓRALSKI, R. LEBEK, B. MICHALCZYK, K. MIKOSZ, K. OSMENDA, M. PAWLKOWSKI, M. SUROWIEC, J. TURULA

Statistical measures of TKEO energy waveform in detection of tooth break in gearbox – A. GAŁĘZIA, S. RADKOWSKI

Application of data fusion for needs of diagnosing of welding process – M. FIDALI, W. JAMROZIK

Przegląd miar do statystycznej predykcji defektów oprogramowania w procesie testowania – J. GRUBER, I. JÓZWIAK, P. MITKA

19:00-23:00 **Outdoor dinner**