

**THE THIRTEENTH WORKSHOP ON
NONSTATIONARY SYSTEMS AND THEIR
APPLICATIONS**
February 3 – 5, 2020, Gródek nad Dunajcem, Poland.

Organization of the workshop

DAY 0. Sunday, February 2, 2020. Arrival to Gródek nad Dunajcem

DAY 1. Monday, February 3, 2020.

9:20 Opening of the workshop, Jacek Leśkow, NASK, Warsaw, Poland

9:30 Morning session I. Chair: Agnieszka Wyłomańska

9:30 – 10:00 Jacek Leśkow, NASK, Warsaw, Poland

“Limitations of AI in signal processing”

10:00 – 10:30 Dominique Dehay, Universite Rennes, France

TBA

10:30 – 11:00 Antonio Napolitano, University of Parthenope, Naples, Italy

“Oscillatory almost-cyclostationary processes: Examples of analysis of real data.”

11:00 – 11:30 Coffee break.

11:30 Morning session II. Chair: Dominique Dehay

11:30 – 12:00 Andrzej Makagon, Hampton University, USA

“Tools for analysis of PARMA systems”

12:00 – 12:30 Harry Hurd, University of North Carolina, Chapel Hill, USA

“P-values in clustering”

12:30 – 13:00 Christiana Drake, University of California, Davis, USA

“Missing data patterns in cyclostationary processes”

13:00 – 14:30 Lunch break

Afternoon session I. Chair: Antonio Napolitano

14:30 – 15:00 Aldo William Medina Garay, Department of Statistics, Federal University of Pernambuco, Brazil

“First order integer valued AR processes with zero inflated self-decomposable innovations” (via skype)

15:00 – 15:30 Anna Dudek, AGH University of Science and Technology, Crakow, Poland

“Spectral density estimation for nonstationary data with nonzero mean function”

15:30 – 16:00 Ilona Urbaniak, Cracow University of Technology, Poland

“Irreversible effects of post processing low and high field MRI images and their impact on diagnosis”

16:00 – 16:30 Coffee break

16:30 Afternoon session II. Chair: Jacek Leśkow

16:30 – 17:00 Ihor Javors’kyj, Karpenko Physico-Mechanical Institute of National Academy of Sciences of Ukraine, UTP University of Sciences and Technology, Poland

“LSM covariance analysis of periodically correlated random processes for unknown non-stationarity period”

17:00 – 17:30 Pavlo Kurapov, Karpenko Physico-Mechanical Institute of National Academy of Sciences of Ukraine

“Narrowband periodically non-stationary random signals”

17:30 – 18:00 Pavlo Krot, University of Science and Technology, Poland

“The model-based diagnostics of materials processing machines under cyclic excitation and stochastic technological impacts”

DAY 2. Tuesday, February 4, 2020.

9:30 Morning session I. Chair: Andrzej Makagon

9:30 – 10:00 Agnieszka Wylomańska, Wrocław University of Science and Technology, Poland

“Subordinated processes with infinite variance”

10:00 – 10:30 Piotr Kruczek, Wrocław University of Science and Technology, Poland

“How to detect the cyclostationarity in heavy-tailed distributed signals”

10:30-11:00 Anna Michalak, Wrocław University of Science and Technology, Poland

“How to describe the linear dependence for heavy-tailed distributed data”

11:00 – 11:30 Coffee break.

11:30 Morning session II. Chair: Anna Dudek

11:30 – 12:00 Aleksandra Grzesiek, Wrocław University of Science and Technology, Poland

“Asymptotics for cross-dependence measures of multivariate non-Gaussian time series”

12:00-12:30 Prashant Giri, Indian Institute of Technology, Madras, India

“The covariation-based Yule-walker method for autoregressive time series with α - stable distribution noise” (via skype)

12:30 – 13:00 Wojciech Żuławiński, Wrocław University of Science and Technology, Poland

“How to estimate the parameters of non-Gaussian PAR models”

13:00 – 15:00 Lunch break

15:00 Afternoon session I. Chair: Radosław Zimroz

15:00 – 15:30 Katarzyna Maraj, Wrocław University of Science and Technology, Poland

“Time-averaged statistic-based methods for anomalous diffusive exponent estimation”

15:30 – 16:00 Justyna Hebda-Sobkowicz, Wrocław University of Science and Technology, Poland

“Conditional variance statistic in application to the local damage detection”

16:00-16:30 Jacek Wodecki, Wrocław University of Science and Technology, Poland

“Influence of random impulsive components on the effectiveness of cyclostationary analysis”

17:30 Special workshop dinner. Bus departing to Krynica.

18:30 Conference dinner in Krynica.

DAY 3. Wednesday, February 5 2020.

9:30 Morning session I. Chair: Agnieszka Wylomańska

9:30 – 10:00 Łukasz Bielak, KGHM Polska Miedź S.A., Poland

“How the metals’ prices forecast impact real business in mining industry”

10:00 – 10:30 Dawid Szarek, Wrocław University of Science and Technology, Poland

“ Long-term prediction of the metals' prices using non-Gaussian time-inhomogeneous stochastic process”

10:30-11:00 Oskar Knapik, Kozminski University & Elektrometal SA

“ Predicting failures in high voltage devices”

11:00-11:30 Kamila Wójcik, Jagiellonian University, Krakow, Poland

“ Wasserstein Autoencoders”

11:30 Unstructured time, round- table meeting and poster session

Posters:

Magdalena Worsa-Kozak, Wroclaw University of Science and Technology, Poland

“Introduction to Groundwater level fluctuations analysis using statistical time series modelling”

Yosra Mornissi, Safran Tech, Safran Group

“The synchronous mean for cyclo-non-stationary signals”

Rafał Burdzik, Łukasz Konieczny, Silesian University of Technology, Poland

“Research on vibration propagation of truck semi-trailer during road test”

13:00 Lunch. Closing activities. Departure to Krakow