

**[MIE 2013] Doctoral conference in  
Mathematics, Informatics and Education  
19-20 September 2013**

Venue:

*Sofia University, Rectorat, Conference Hall (North wing, fl. 2)*

**Preliminary Conference Program**

***19 September 2013***

08:45-9:15 Registration

09:15-09:30 Opening

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**Session 1 - Mathematics**

*Moderator: Maroussia Bojkova*

09:30-10:30 *Crump-Mode-Jagers Branching Processes: Application for Population Projections*, Plamen Trayanov and Maroussia Slavchova-Bojkova

10:00-10:30 *Using Classification Methods to Predict Market Demand for Products with Short Sales History*, Nina Daskalova and Dragoslav Dragiev

10:30-11:00 *EM Algorithms for MLE of Correlated Probit Models*, Denitsa Grigorova and Ralitzia Gueorguieva

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*11:00-11:30 Coffee break*

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**Session 2 - Mathematics**

*Moderator: Maroussia Bojkova*

11:30-12:00 *On a Poisson negative binomial process*, Krasimira Kostadinova

12:00-12:30 *Modelling of the amount of chlorophyll-a, which is contained in the phytoplankton population by branching process*, Antoanela Terzieva

12:30-13:00 *The Lichnerowicz and Obata type results on a quaternionic contact manifold*, Alexander Petkov

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*13:00-14:00 Lunch*

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### **Session 3 – Technology Enhanced Learning**

*Moderator: Pencho Mihnev*

14:00-14:30 *Lost in letters,*  
Temenuzhka Zafirova-Macheva

14:30-15:00 *Computer Technologies for Accessible Education,*  
Temenuzhka Zafirova-Malcheva and Pavel Boytchev

15:00-15:30 *Mobile Technologies in Learning,*  
Lyubomir Serafimov

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*15:30-16:00 Coffee break*

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### **Session 4 – Technology Enhanced Learning**

*Moderator: Pencho Mihnev*

16:00-16:30 *Overview of emerging ubiquitous learning technologies in the context of learning theories,* Albena Antonova

16:30-17:00 *Knowledge management in NABOO,* Mila Dragomirova

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## ***20 September 2013***

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### **Session 5 – Informatics**

*Moderator: Ivan Koychev*

09:00-09:30 *Recommendations in social networks: an extra feature or an essential need,*  
Milen Chechev and Ivan Koychev

09:30-10:00 *Increasing the level of PNG compression of grayscale natural images by applying noise-reduction filters,* Veselina Vetova

10:00-10:30 *Read Optimization Based on Column-Oriented DBMS,*  
Hristo Kyurkchiev and Kalinka Kaloyanova

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10:30-11:00 Coffee break

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### **Session 6 – Informatics**

*Moderator: Ivan Koychev*

11:00-11:30 *Denoising of Metagenomic Data from High-Throughput Sequencing,*  
Milko Krachunov

11:30-12:00 *NoSQL solutions to handle big data,*  
Emanuela Mitreva and Kalinka Kaloyanova

12:00-12:30 *Cloud Computing - Security Concerns and Countermeasures,*  
Radoslav Ivanov

12:30-13:00 *Comparative analysis of brain data clustering,*  
Sergey Milanov, Olga Georgieva and Petia Georgieva

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*13:00-14:00 Lunch*

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**Session 7 – Informatics**

*Moderator: Krassen Stefanov*

*14:00-14:30 Extending a BPMN Engine with Evaluation Metrics for KPIs,*

*Kristiyan Shahinyan and Evgeniy Krastev*

*14:30-15:00 Users and Internet Of Things for WellBeing (Smart Health Cardio Belt),*

*Eugenia Kovatcheva, Atanas Georgiev, Mirolyuba Madjarova, Roumen Nikolov  
and Alexander Chikalanov*

*15:00-15:30 Research of Success Factors for Start-up Companies,*

*Boyan Yankov*

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*15:30-16:00 Coffee break*

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**Session 8 – Informatics**

*Moderator: Krassen Stefanov*

*16:00-16:30 A different way to access virtual private networks,*

*Zornitsa Yakova*

*16:30-17:00 Introduction of enterprise resource planning at Bulged,*

*Nikifor Ionkov*

*17:00-17:30 Closing*

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