

# SI2019

## SMITHY OF IDEAS 2019

The International Camp-Conference

2 - 4 October 2019

Kelmes District, Lithuania  
Tourist Farmstead "Gaja"

# Book of Abstracts

ISBN: .....

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# SI2019

## SMITHY OF IDEAS 2019

The International Camp-Conference

2 - 4 October 2019

Organizers: Smithy of Ideas 2019 is organised by Lithuanian Society of Young Researchers in collaboration with the Faculty of Business management at Vilnius Gediminas technical university (VGTU), and partially sponsored by Research Council of Lithuania

Organizing Committee: Edita Voitechovič (Researcher at the Center for Physical Sciences and Technology, Lithuania), Salomėja Vanagienė (Head of the Lithuanian Society of Young Researchers), Milena Medineckiene (vice-dean for strategic partnership at the Faculty of Business management at VGTU)

Venue: Tourist Farmstead Gaja (sodybagaja.lt) Pabariukų k., Tytuvėnų apyl. sen., Kelmės District, Lithuania.

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# Welcome to Smithy of Ideas 2019!



**Salomėja Vanagiene**  
**Chairwoman of Lithuanian Society of Young Researchers**

*Smithy of Ideas (SI) is a camp-conference, which is organized by Lithuanian Society of Young Researchers (LSYR) since 2004.*

*The main goal of this camp-conference is to boost interdisciplinary connections between different researchers, experts and young scientists. Participants share their scientific experience, explain main problems of their research area, discuss about possibilities how to solve that problems and talk about future perspectives in an informal setting.*

*Previous years we have brought together Lithuanian and Latvian Young Scientist. We made a friendship to the life time. It is a formula which promote new partnerships and new ideas. It is time to yourself.*

*We hope You will find this concept valuable to yourself.*

## Program: Wednesday 2nd October

**14:00 Meeting and accommodation of the participants**

**17:30 Introduction and welcome to Smithy of Ideas 2019**

*Dr Edita Voitechovic, member of LSYSR*

**17:40 Presentation of the Lithuanian Society of Young Researchers (LSYSR)**

*Salomeja Vanagiene, LSYSR President*

**18:05 Presentation of the Faculty of Business Management VGTU**

*Dr Milena Medineckiene, Vice-dean for strategic partnership, VGTU*

**18:30 Dinner and Welcome party**

**22:00 Free and sleep time**

## Program: Thursday 3rd October

**08:00 Breakfast**

**10:00 Organic Pollutants – Remediation Approach Using Organoclays**

*Andrea C. Guhl*

**10:20 Optimal Design of Bioreactors Using a Bayesian Algorithm of Global Multi-objective Optimization**

*Linas Litvinas*

**10:50 Research and applications of artificial intelligence systems at Vilnius University**

*Linas Petkevičius*

**11:10 Coffee break**

**11:40 Securing Regional Development**

*Mohammad Chehabeddine*

**12:00 Research on the Monitoring of Smart Meters' Metrological Status**

*Vytautas Daunoras*

**12:20 Use of the Internet for Cooperation with State and Public Service Providers in Latvia**

*Kate Čipāne*

**12:40 Lunch**

**13:30 Digital Transformation: Building Disruptive Businesses**

*Viktorija Babica*

**13:50 Sustainable Management For Green Competitiveness: A Scientific Review**

*Nour Nassar*

**14:10 Gender Discourse Analysis of Modern Masculinity in Marketing Communication**

*Toms Kreicbergs*

**14:30 Coffee break**

**15:00 Excursion to Tytuvėnai church and Bernardine monastery ensemble**

- 17:00** Arrival to SI2019 venue and free time
- 17:30** **The Unadventurous Life of a „Normal“ Classroom**  
*Gintautas Katulis*
- 17:50** **How the Three Baltic Countries People Make Voluntary Savings for Retirement?**  
*Evija Dundure*
- 18:10** **Workshop: How to make social contacts?**  
*Salomeja Vanagiene, LSYR President*
- 18:50** **Free time, sauna and meeting with LSYR members**
- 19:30** **Dinner and party**
- 23:00** **Free and sleep time**

## Program: Friday 4th October

- 08:00** **Breakfast**
- 09:30** **Poster sesion**
- 10:00** **Discussion: Project collaboration**  
*Dr Milena Medineckiene, Vice-dean for strategic partnership, VGTU*
- 10:45** **Coffee break and poster sesion**
- 11:00** **Workshop: Mental health in science career**  
*Dr Aiste Dromantaite, Coach, Educational project manager at BAA Training Aviation Academy*
- 12:00** **Lunch**
- 13:00** **Concluding remarks and SI2019 ends**  
*Dr Edita Voitechovic, member of LSYR*

## POSTERS

- A** **How Can “Negative” Become “Positive”? Relationship Between Leader`s Dark Triad Traits and Work-Family Positive Spillover**  
*Tadas Vadvilavičius*
- B** **Sustainable Investment from the Management Point of View**  
*Aurelija Zonienė*
- C** **Diatom evidence on postglacial paleobasin**  
*Salomėja Vanagiėnė*
- D** **On the Way of Development of Simple and Rapid Biosensor for Wound State Analysis**  
*Edita Voitechovič*

## After IK2019: Saturday 5th October

- 11:00** **Excursion to Vilnius Old Town**  
*Salomeja Vanagiene, LSYR President*

# Organic Pollutants – Remediation Approach Using Organoclays

Andrea C. Guhl, Martin Bertau

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Pharmaceutical residues, pesticides and industrial chemicals increasingly occur in the world's water. Oceans and fresh water resources are both affected by a man-made influx of chemicals that disrupt ecosystems. Treating wastewater effluents with active carbon is costly, and does not remove all pollutants. Preparing clays, an inexpensive resource into organoclays, a material class with the potential to scrub these pollutants from effluents, is a route for solving this problem. A lot of research is still needed to understand organoclays, find the right modification for removing contaminant classes, and develop an inexpensive modification procedure. This material class potentially offers a recycling strategy as well. One of the challenges of this field is the combination of knowledge from Materials Science, Engineering, Mineralogy and Chemical Technology. While organoclays have been discovered a long time ago, their mechanism of action is still poorly understood. This subject desperately needs the expertise of chemists (organic pollutants and their interaction with organic molecules which are used to modify clay into organoclay), mineralogists (clay crystallography and analysis of the material), Materials Scientists (behaviour of the novel materials during application and regeneration) and Engineers (building devices for cleaning water using this material). As all environmental challenges, this also taps into the effects of organic pollutants on ecosystems (and thereby biology), legal issues (legal limits for organic pollutants) and societal questions (distribution of additional cost).



## **Andrea C. Guhl: Short Biography**

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Andrea C. Guhl was born in Berlin, Germany, and obtained a B.Sc. Hons. in Geological Sciences from University of Leeds, West Yorkshire, England. A keen spirit on all things earth science related, she returned to Germany for an M.Sc. in Geological Sciences at the Technical University Bergakademie, Freiberg. The strong resource and sustainability focus, in conjunction with the interdisciplinary nature, led her to tackle a Ph.D. project in Chemical Technology. Initially working with the natural material Alginite and studying the mechanisms in clay-rich materials on organic pollutant removal, the focus has now shifted to laboratory modified clay material for persistent organic pollutant remediation in aquatic media. Targeted modification of clay minerals lead to tailor-made materials for specific pollution contexts, such as fluorosurfactants, pharmaceuticals, industrial chemicals or antimicrobial agents. This work spans not only from chemistry to geology (mineral-based chemical modification) but also to engineering (development for application of new materials).

# Optimal Design of Bioreactors Using a Bayesian Algorithm of Global Multi-Objective Optimization

Linās Litvinas<sup>1</sup>, Antanas Žilinskas<sup>2</sup>

<sup>1</sup>Vilnius University, Institute of Computer Science | <sup>2</sup>Vilnius University, Institute of Data Science and Digital Technologies

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Multi-objective optimization tools provide a mechanism to obtain a certain number of trade-off solutions, known as Pareto-optimal solutions. Establishing an efficient approach to find a set of solutions with good trade-off among different objectives has a great practical significance, as these allow engineers to gain insight into the key characteristics of potentially good configurations before moving on to more detailed simulations and pilot commercial tests. An algorithm for non-convex multi-objective optimization implementing ideas of Bayesian approach to global optimization is proposed. The proposed algorithm is a generalization of the recently proposed modification of the P-algorithm aimed at non-convex single-objective optimization problems. The computational challenges of known implementations of Bayesian algorithms are circumvented using a specially developed statistical model of the aimed objective functions. The performance of the proposed algorithm is demonstrated by applications to the optimal design of bioreactors. The approach is applied to the multi-objective optimization of a batch stirred tank bioreactor based on spherical catalyst microreactors. The following three objectives were optimized: the reactor operation time and the substrate and enzyme amounts.



## Linās Litvinas: Short Biography

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Dr. Linas Litvinas is an Assistant Professor at Vilnius University, Faculty of Mathematics and Informatics. His research interests include multi-objective optimization, mathematical modelling of biochemical systems, artificial neural networks.

### Main publications:

- L. Litvinas et al. *Application of two phase multi-objective optimization to design of biosensors utilizing cyclic substrate conversion. Proceedings 31st European conference on modelling and simulation / edited by Zita Zoltay Paprika, Péter Horák ... [et al.]. Budapest: ECMS, 2017. ISBN: 9780993244049. p. 469-474.*
- R. Baronas et al. *Optimal design of amperometric biosensors applying multi-objective optimization and decision visualization. Electrochimica Acta, 2016, 211, p. 586–594, ISSN: 0013-4686.*
- L. Litvinas, R. Baronas. *The influence of the diffusion module to determination of two substrate concentrations by artificial neural network. Computational science and techniques, 2015, T. 3, nr. 2, p. 445-453 eISSN 2029-9966.*

# Research and applications of artificial intelligence systems at Vilnius University

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Research in artificial intelligence solutions exploded in recent years. In Vilnius University various research topics evolved and multiple researches was done. The experiences and challenges in creating and deploying artificial intelligence solutions to medical, business and various computer vision domains especially to public sector are presented. The research involves: the model which was deployed Children's hospital, Vilnius University Hospital Santaros Klinikos to recognize and predict bone age; The research and challenges on creating Lithuanian's sign language recognition system; Raw text of keywords and description classification; as well as medical image reconstruction tasks. The challenges with GDPR compliance, data collection and challenges to deploy systems to use in everyday live as well as the vision of Lithuania Artificial Intelligence Strategy is discussed.



## **Linus Petkevičius: Short Biography**

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Linus Petkevičius is a PhD student at Institute of Computer Science of Vilnius University. He graduated Statistics MS in Vilnius University in 2015. His research interests are mainly focused on research on artificial intelligence and creation of intelligence algorithms. Currently he serves as a board member of Artificial Intelligence Association of Lithuania. The main domain of research interests is image analysis and signal processing. In such he teach the Deep learning course in Vilnius University. In free time he also like to travel and have interest in basketball.

# Securing Regional Development

Mohammad Chehabeddine, Manuela Tvaronaviciene

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Regional Development is linked to Sustainability and also, Development is linked to Security, both nationally and globally. The expanded view of Security has opened the discussion of new technologies introduced non-traditional threats that become vulnerable to regional security and thereby to regional development. Five broad types of situations or premises that constitute a security in which threats overlap and interact, those new threats warrant new security paradigms that traditional international relations ignored so far. The purpose of this research is to analyse and study the impact of these new threats to security and how they affect regional development. Protection to the digital ecosystem and critical infrastructure from threats could be by implementing the security program of Governance, Risk, and Compliance (GRC), however, awareness, preparedness, and resilience of societies with the international community are as key preconditions of further secure and sustainable economic development and general well-being. Case studies of new technologies that threaten global societies economically and socially.

*Keywords: Critical Infrastructure, Cyber Security, Digital Ecosystem, Regional Development, SDGs (Sustainable Development Goals), New Technologies, STEM (Science, Technology, and Engineering, and Mathematics), Sustainable Development, Trans-state threats. JEL Classification: D83, O18, Q56.*



## **Mohammad Chehabeddine: Short Biography**

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Education : Received bachelor degree in electronics engineering from Beirut Arab University- Lebanon, Master of Business Administration from Modern University of Business and Science- Lebanon, Project Management Professional Certified from PMI, and PH.D. student in Business Management (dissertation: Ecosystem Management for secure Regional Development), Work Experience: managing Critical Facilities such as International Airport, Malls, Royal Palaces for more than 15 years. Currently facilities manager of King Khaled International Airport in Riyadh –Saudi Arabia, Previously operation manager service in Carrier Air-Conditioning International company.

# Research on the Monitoring of Smart Meters' Metrological Status

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The growing quantity of distributed electrical smart revenue and sub-accounting meters interconnected through the advanced measurement infrastructure are important characteristics of the developing modern smart electrical grids. The demand for the metrological reliability of measurement devices can not be underestimated. It is not only essential for keeping the right energy consumption billing, but also offers the electricity consumer with their power consumption budget (submetering, home automation, etc.) that allows the energy consumption behaviour to be changed towards improved energy efficiency. A method to remotely estimate energy meters errors or the adjustment gain is introduced. The estimated adjustment gain is designed to correct the readings of wattmeter. Such type of adjustment of certified instruments in the field is currently not permitted by legal metrology regulations. The suggested adjustment could, however, be relevant in fields such as personal or industrial subaccounting, home automation, etc. If it is possible to specify the achievable uncertainty, the method could be suggested for calibration or verification of a wattmeter. Implementing such a sort of calibration becomes feasible when a remote and a reference wattmeter are connected to the same electrical grid and are fitted with a channel for data communication. The primary concept of the technique is based on a temporary injection of the extra load at the remote device location and the acquisition by both reference and remote devices of synchronized energy readings. The readings acquired are then analysed to obtain the remote wattmeter's adjustment gain.



## **Vytautas Daunoras: Short Biography**

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Vytautas Daunoras received the B.S. degree in electronics engineering and the M.S. degree in electronics engineering from the Kaunas University of Technology, Kaunas, Lithuania, in 2014 and 2016, respectively, where he is currently pursuing the Ph.D. degree with the Department of Electronic Engineering. His current research interests include electrical measurements, designing electronic instrumentation, and embedded systems for measurement instrumentation.

# Use of the Internet for Cooperation with State and Public Service Providers in Latvia

Kate Čipāne

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Within the recent development of internet technology state and public service providers have to improve digital solutions to provide services more efficiently and effectively, to understand their citizens better and also achieve better outcomes as well as to commercialize public services and possibly develop new sources of revenue. Despite the widespread availability of high-speed internet in Latvia, state and public service providers still face various challenges and inhabitants avoid using the internet in interaction with state and public service providers.

The purpose of the study is to analyse main aims of the Internet usage of the population in cooperation with state and public administration institutions by gender, age group, region and occupation.

Research methods used in preparation of the paper: scientific publication and previous conducted research results analysis and analysis of data provided by Central Statistical Bureau of Latvia. Data are analysed using indicators of descriptive statistics (indicators of central tendency or location – arithmetic mean, mode, median), indicators of variability (indicators of dispersion – range, standard deviation and standard error of mean), cross-tabulations for regions in Latvia, for age groups, for gender and for occupation. The results of analysis have indicated regions, age groups and occupations of inhabitants who cooperate with state or public service providers via internet most actively and what are the main challenges for decision makers.



## **Kate Čipāne: Short Biography**

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Kate Čipāne has a master's degree in business administration with specialization in marketing management, now on her way to doctor's degree (has applied for doctoral studies – results will be on October 1, 2019), has participated in two local and five international conferences and has published six scientific papers on topics related to the Internet, modern technology, internet marketing, social inclusion, public administration and local and regional development. Working as a scientific assistant at the National Research Program "Latvian Heritage and Future Challenges for the Sustainability of the State" project "Challenges for the Latvian State and Society and the Solutions in International Context (IBTERFRAME-LV)" and marketing specialist in a private company, has participated in research projects "Consumer Behavior on Purchases in Internet" in 2018 and "Identifying the Best Online Store in Latvia" in 2019 conducted by company iMarketings.lv, University of Latvia and the Latvian Chamber of Commerce and Industry.

# Digital Transformation: Building Disruptive Businesses

Viktorija Babica, Deniss Sceulovs

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The fourth industrial revolution has provoked alterations in the business environment by the spread of disruptive technologies. Over the past decade, there have been distinct technology shifts in business process management (BPM). Digital business transformation enables business processes simplification and optimization, provides opportunities to improve human resource management, thereby increasing a company's competitiveness and productivity. The present article reveals arisen trends of digital business transformation, provided opportunities and raised challenges, emerging effects of digitalisation on the existing business models and strategies.

The study is determined by the increasing dissemination of the concept of digitalization of business processes in the world leading companies. At present, digitalization opportunities in Latvian companies are not widely used. The present paper aims to define terms of digitalization and digital transformation, identify drivers of digital business transformation, analyse the best practises of implementation disruptive technologies in BPM and assess performance change indicators.



## **Viktorija Babica: Short Biography**

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Viktorija Babica is a first year PhD student of the study program “Management Science and Economics” at Riga Technical University, a Junior Accountant at Bureau Veritas Latvia, LTD, and a founder of a children’s entertainment company ConTigo, LTD. Previously has successfully defended her Bachelor’s thesis “Service Enterprise Development Project” and Master’s Thesis “Development of Guidelines for Evaluation of Public Procurement of Innovation”. The focus of the Bachelor’s thesis was circular economy, recycling and sustainable production. Viktorija holds classes in E-commerce, conducts researches on business process digitalization and develops her own company, which organizes international summer camps for youth. In the frames of the Master’s thesis Viktorija has developed a framework for the evaluation of innovation proposals for public tenders. Viktorija has studied International Business in Barcelona University in the frames of her Erasmus+ studies, she has taken part in several Erasmus+ Youth Exchanges and Training Courses.

Viktorija’s main study field is digitalization, entrepreneurship and innovation.

# Sustainable Management For Green Competitiveness: A Scientific Review

Nour Nassar, Manuela Tvaronavičienė

*Department of Business Technology and Entrepreneurship, Vilnius Gediminas Technical University*

*Saulėtekio al. 11, Vilnius, Lithuania.*

We cannot use the same old mentality interpreting competitiveness because the world is changing rapidly; therefore a new way of thinking must be parallel to cover all the sustainability aspects: people, economic and environment.

Starting from this point, the main goal of this study is to have a general knowledge of the drivers of green competitiveness which is the modern version of the traditional competitiveness concept.

The purpose of this study is to examine the concept of green competitiveness taking in consideration different interpretations of scientists.

In this study, the analysis of green competitiveness will be grounded by a previous scientific literature review to determine the most important factors that affect the organization's performance.

*Keywords: Green competitive advantage, Green competitiveness, sustainability, sustainable management. JEL Classification: M1, M16, D8, D83.*



## **Nour Nassar: Short Biography**

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**Education :** I have Received my bachelor degree in business administration from saint- joseph University- Lebanon, and later on a Master degree of Business Administration from Sagesse University - Lebanon. I am currently perusing my Phd degree in business management at VGTU University \_Lithuania (my dissertation topic is: sustainable management for green competitiveness).

**Work Experience:** I am a banker, employed in BLOM Bank one of the top banks in my country Lebanon and in the middle east region. I have been working in the banking field since 2010.

My current position is customer service representative in one of BLOM bank branches in Lebanon.

# Gender Discourse Analysis of Modern Masculinity in Marketing Communication

## Toms Kreicbergs

*Riga Technical University, Faculty of Engineering Economics and Management  
Kalnciema street 6, Riga, Latvia*

Marketing communication depicting men is becoming more inclusive and men are being portrayed in new ways that could be characterized as modern masculinity. Nevertheless, this depiction of modern masculinity is still causing a rather heated debate about the gender on the internet about the commercials. According to the literature review, traditional masculinity, among other things, is associated with power, dominance, bravery, sense of patriotism, decisiveness, heterosexuality, display of strength, and the role of a breadwinner (R. Connel, 2014) (M. Kimmel, 1996). While modern masculinity, which was the subject of this research, is associated with open mind, being sensitive, a display of fashion, progress, forward- thinking, culture, and being brave enough to be whoever a man wants and be (B. Branchik et al., 2012) (L. Oswald, 2007). The object of this research was gender discourse of modern masculinity in three specific commercials that depict modern masculinity at the core of the commercials. The commercials chosen for this research were Bonobos ad “Evolve the definition”, Dove Men Care ad “Calls for dads” and Lynx ad “Is it ok for guys”. The aim of this research was to analyze specifically the gender discourse that was noticeable in the YouTube comment sections of these ads. The main result of the research was that the gender discourse of modern masculinity in marketing communication is a heated debate including a lot of negotiations about which gender is more oppressed and which gender is under a larger scrutiny in the society.

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- 4) Oswald L., (2007), *Psychoanalysis and advertising: Positioning the consumer in advertising discourse*. The University of Illinois, Urbana-Champaign, IL, pp. 35-38



## **Toms Kreicbergs: Short Biography**

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Toms Kreicbergs has two Bachelor degrees and a Masters degree from The University of Southern Denmark in marketing, business administration and brand management and marketing communication. He has worked as a marketing manager in international companies based in Denmark and as a marketing strategist for the leading advertising agency in Latvia, the ad agency DDB. Now he is working as a full time teacher at Riga Technical University teaching marketing, corporate social responsibility, consumer behavior and other subjects. He is also doing his PhD at Riga Technical University and researching masculinity in advertising.

# The Unadventurous Life of a „Normal“ Classroom

Gintautas Katulis

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Despite a reasonable body of research on outdoor adventure education (Hattie et al., 1997), there is still a gap in the theoretical framework and applicability of outdoor adventures. There is limited clarity on certain aspects of practice, such as duration, types of activities and possible outcomes. Currently, the strongest explanation of outdoor adventure appears to be based on positive psychology (Houge Mackenzie, Son & Hollenhorst, 2014), following the idea, that it should focus on and nourish participants' strengths by providing challenging tasks in a supportive environment. Programs based on outdoor adventure can improve confidence, self-efficacy, locus of control, problem-solving skills and strengthen group cohesion (Hattie et al., 1997).

Nevertheless, despite a vast understanding on the importance of group dynamics in outdoor adventure education, there is limited research on how outdoor adventure works with a school class. A school classroom suggests a different dynamic as the group stays together after the intervention has occurred. A systematic review revealed only nine articles on the effects of outdoor adventure on a classroom. Thus, there is a need for more research to understand the possible outcomes of outdoor adventure based interventions.

## *References:*

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- 2) Hattie, J., et al (1997). *Review of educational research*, 67(1), 43-87.



## **Gintautas Katulis: Short Biography**

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Gintautas Katulis. I currently have three main points of interest which interact together. I work as psychologist with youth experiencing difficulties, I am a trainer in experiential learning with students, teachers and communities, and I am a PhD student at Mykolas Romeris university where I delve deeper in learning more about experiential learning. Before stepping into psychology I sought an acting career, finding later how much the two are related which inspired me to experiment with using experiential learning to combine theatrical experiences to help teenagers discover their potential.

# How Can “Negative” Become “Positive”? Relationship Between Leader`s Dark Triad Traits and Work-Family Positive Spillover

Tadas Vadvilavičius, Aurelija Stelmokienė  
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Work and family are the main aspects of a person`s life that raise specific requirements for him/ her (1). Quite often, these requirements are incompatible and cause stress for a person who finds it hard to fulfill all of them. Especially high incompatibility between work-family requirements are noticed among leaders. So, we can hear a lot of information about work and family conflict leaders experience in their daily life activities. However, the newest research invites to pay attention to positive work-family relationship. Some of the researchers have already confirmed that positive work-family spillover could be beneficial both for leader and organization, e.g. better psychological well-being, and higher motivation, productivity (2). It was also noticed that positive personality traits, e.g. conscientiousness, proactivity, had impact on higher compatibility between family and work requirements. However, the question remains if “dark” personality traits of a leader, e.g. Machiavellianism, narcissism, and psychopathy (3) could have positive impact on work-family spillover. It is known that people who possess “dark” personality traits tend to manipulate and exploit others to gain personal needs, are able to get out of different uncomfortable situations (3).

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*Acknowledgments: The research was funded by the European Social Fund in accordance with measure No. 09.3.3-LMT-K-712 “Development of Scientific Competence of Researchers, Other Researchers, Students through Practical Scientific Activity”.*



## Tadas Vadvilavičius: Short Biography

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Tadas Vadvilavičius is 2nd-year Organisational psychology student at Vytautas Magnus University. Tadas is also a member of 2 non-government organizations: Lithuanian Psychology Students Association and Lithuanian Youth Union „Žingsnis“. His research interests are leadership assessment and Dark triad personality.

# How the Three Baltic Countries People Make Voluntary Savings for Retirement?

Evija Dundure

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The research analyses the three Baltic countries – Latvia, Lithuania and Estonia, people willingness to take responsibility for their income after retirement. It outlines the common and the differences between the people’s financial habits and existing legislative frameworks to promote formation of private pension funds. It rises the research question on importance of the role of voluntary savings in each country as well as gives recommendations for further voluntary savings advancement. Research methods used are analysis of scientific publications, acts of legislation and previous conducted research, analysis of statistical data on development of voluntary pension fund contributions in Latvia and comparison with Lithuania and Estonia.



## **Evija Dundure: Short Biography**

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Evija Dundure is starting doctoral studies at University of Latvia, Faculty of Business, Management and Economics from October 1, 2019 and working on a dissertation on topic - Voluntary savings for pension system sustainability. The results of research have been approved by several scientific conferences and scientific publications. She has the Degree of Executive Master of Business Administration from Stockholm School of Economics in Riga and master’s degree in Social Sciences in Management from University of Latvia. Evija Dundure is scientific assistant at the University of Latvia National Research Program “Latvian Heritage and Future Challenges for National Sustainability” Project “Latvian State and Society Challenges and Their Solutions in International Context (INTERFRAME-LV)”. In professional life Evija Dundure has been working for international corporations in insurance field with the engagement in company structures foundation in Latvia, executive and operational management, sales and marketing formation.

# Sustainable Investment from the Management Point of View

Aurelija Zonienė

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Shifting societal understanding of sustainability can be tied to a company's long-term growth potential. This reflects the organization's approach to sustainable investment and its management. Mostly, sustainable investment is based by economics theories and there exists no clear consensus regarding sustainable investment justification by management theories.

The purpose of the research was to justify sustainable investment by two management theories: Sustainable goal setting theory (modern theory) and Stakeholder theory (classical theory).

It is believed that an organization with conscious sustainable goals and sustainable image has successfully position in the market. The role of stakeholders is very important in decision making, maintaining a balance between the value of capital and ethics in order to be competitiveness in the market. What is more, a smooth sustainable investment is possible when stakeholders cooperate rather than compete with each other.

It was found that Sustainable goal setting theory and Stakeholder theory are related, overlapping and equally important in sustainable investment.



## **Aurelija Zonienė: Short Biography**

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I'm a second year PhD student of Management, assistant in the Management department at Klaipėda University, since 2010 I'm lecturer in the Finance and accounting department at Klaipėda state University of applied sciences. Subjects taught: Basics of finance, Financial analysis, Business ethics and social responsibility. My doctoral research investigates sustainable investment management from the company point of view. I have international teaching experience in such countries as Portugal and France, internship in Germany as well. My scientific interests focus on sustainable investment, sustainable organisation, sustainable development, financial analysis.

The motto of my life: who – if not you, when – if not now.

# Diatom evidence on postglacial paleobasin

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Diatoms are algae that live in houses made of glass. They are the only organism on the planet with cell walls composed of transparent, opaline silica. Diatom cell walls are ornamented by intricate and striking patterns of silica. Diatoms are eukaryotes, one of the Heterokont algae. Estimates of the number of diatom species range from 20,000 - 2 million. Scientists are discovering new species every year. Such species diversity indicates the adaptation of diatoms to different environments and climates. Fossil evidence suggests that diatoms originated during or before the early Jurassic period, which was about 150 to 200 million years ago. Most of the species exist nowadays. It helps us to understand what kind of environmental live different diatom species. So by the species composition we can restored past environmental conditions.

Diatom need water and based on the hypothesis that the fate of the lakes is a swamp, studies have been undertaken on the Čepkeliai wetland. It is one of the largest wetland complexes in Europe, the Čepkeliai wetland (54o00`N; 24o30`E) consists of raised bogs (5858 ha), lowland sedge bogs, black alder swamps, dry Cladinosocallunosa forest, bog islands and lakes stretching across the border area of Lithuania and Belarus. The altitude of the complex varies from 128.5 to about 134.4 m a.s.l., forming a slightly undulating plain (Bitinas, 2012).

## References:

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## Salomeja Vanagienė: Short Biography

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I am Salomėja Vanagienė. I acquired Geography bachelor and Master of Physical Geography. Also qualified as a Geography teacher and Tourism Manager. Now I am PhD student in Nature Research Centre (Ecology and Environmental research). Research object - Diatom.

I participate in various public organizations: Lithuanian Society of Young Researchers (LSYR), Lithuanian Scientific Society (LSS), EURODOC (Project officer). My interest is very wide, but if concretized it will be: project, local and international collaborations, cooperation in projects, research, life in the common sense and of course friendship`s.

# On the Way of Development of Simple and Rapid Biosensor for Wound State Analysis

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The number of people suffering because of non-healing wounds is growing rapidly and the wound care is a multibillion-euro worldwide problem. Whereby, there is a need of fast, accurate and cost-efficient wound monitoring system. Based on previous researches, we propose healing and chronic wound markers, which could represent a state of the wound. For initial research step, we develop SPR based renewable biosensor, which detected wound markers in pM-range and can be a basis for the development of multisensor platform for wound exudate analysis.

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## **Edita Voitechovič: Short Biography**

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Edita graduated from Vilnius University (Chemistry department) in 2008. She received her PhD in biochemistry from Vilnius University (Institute of Biochemistry) in 2013 for the thesis devoted to amperometric biosensors on the basis of pyrroloquinoline quinone dependent enzymes and carbonaceous materials. She was a PostDoc researcher at the Chemistry Department of Saint-Petersburg State University (SPbGU, Russia) and at Institute of Microelectronics of Barcelona (IMB-CNM, CSIC, Spain). Currently she is a senior scientist at the Center for Physical Sciences and Technology (FTMC, Lithuania). Her main interest involves biosensors and bio-supporting multisensor systems.

# NOTES





