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- **Proceedings of the 1st International Conference on Sustainable Development, Sustainable Chemical Industry, Pollution, Hazards and Environment (SDSCIPHE '12)**
- **Proceedings of the 1st International Conference on Health Science and Biomedical Systems (HSBS '12)**

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Plenary Lecture 1

Transformation, Innovation and Adaptation for Sustainability in Tourism – Case Study: Turinn Cluster



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Abstract: Motto: “Drawing cluster boundaries is often a matter of degree, and involves a creative process informed by understanding the most important linkages and complementarities across industries and institutions to competition”. (Porter, M. E. (1998) Clusters and the new economics of competitiveness. Harvard Business)

The present stage of evolution of the human society is characterized by an unprecedented development of tourism, materialized in the inclusion of new and new regions in its range of capitalization. Therefore, not without reason, some researchers consider tourism as the most dynamic world industry of the 21-st century, which we have just entered only a decade ago. The first condition to develop leisure activities is the existence of attractive resources, the “raw material” which, by means of adequate planning, may become a proper supply. Apart from the attractions, an importance that should not be neglected is held by the position of the country compared to the general orientation of international tourism flows, the size of the domestic tourism market, the stage of economic and social development, the specialized infrastructure, the tradition of tourism activities , implementation of cluster policy, etc.

Sustainable development is a global and long-term challenge. Sustainability for tourism as for other industries has three independent aspects: economic, socio-cultural and environmental. Sustainable development implies permanence, which means that sustainable tourism requires the optimal use of resources (including biological diversity), minimizing the negative economic, socio-cultural and ecological impact, maximizing benefits of local communities, national economies and conservation of nature. As a consequence, sustainability also refers to the management structures needed to meet these goals.

The goal of achieving sustainable tourism should be subordinated to national and regional plans of economic and social development. Actions may cover for economic goals (income growth, diversification and integration of activities, control, development potentiating and zoning), social goals (poverty and income distribution inequality improvement, indigenous socio-cultural heritage protection, participation and involvement of local communities) or environmental goals (protection of tourism functions, conservation and sustainable use of biodiversity). Some experts prefer to speak about sustainable tourism development rather than sustainable tourism, the first referring to all aspects of development, and the second to some aspects and components of tourism – such as long distance air transport that may easily not be sustainable under current technologies, even using the best practices. With respecting and promoting the principles of sustainable development, tourism is a means of protection, conservation and capitalization of the cultural, historical, architectural and folklore potential of countries. Among the global competition for markets, the chances of the economic success of one country or one region are based on the specialisation of the offer and the focus on the development effort of key-fields, where there are competitive advantages, resources and competences. In this context, the innovative clusters in tourism are a successful solution because they offer a combination of entrepreneurial dynamism, intense connections between companies and institutions, which hold top knowledge, respectively pro-active synergies between the main actors of innovation(Fallon, P. and Schofield, P. (2009)and Mazilu, M.,2010) At the level of the European Union, the innovative clusters are considered the “engine” of the economic development and innovation, these representing a very good frame for the development of business, for the collaboration between companies, universities, research institutions, suppliers, clients and competitors located in the same geographical area (local, regional, national, cross-national). In recent years there has been a growing interest in the role of location in the global economy. Some have argued that globalization is rendering the significance of location for economic activity increasingly irrelevant (O'Brien, 1992; Cairncross, 1997; Gray, 1998). Others, however, espouse the opposite view, that globalization is actually increasing rather than reducing the importance of location, that it is promoting greater regional economic distinctiveness, and that regional economies rather than national economies are now the salient foci of wealth creation and world trade (Ohmae, 1995; Coyle, 1997, 2001; Krugman, 1997; Storper, 1997; Porter, 1998a; Scott, 1998, 2001; Fujita et al.,

2000, Ron Martin & Peter Sunley,2003,Mazilu,M,2010). The innovative clusters in tourism, must not act only regionally, (ex .Turinn- Cluster, in Mehedinti County) but they must look for excellence where it is possible, and on an international level there are few that work alone. The public institutions must be opened to the granting of the necessary support for the innovative clusters.

Brief Biography of the Speaker: Mirela Elena Mazilu is professor of the University of Craiova, University Centre of Drobeta Turnu Severin, Drobeta Turnu Severin town, Romania. She has many national and international researches naming 11 books which were published as a single author; 4 university manuals especially in tourism; over 167 articles which were published in the volumes of the national and international Congresses, symposiums, conferences and seminars and also in prestigious magazines with CNCSIS range and over 194 participations to scientific events. Also, she published over 44 articles in international magazines in different fields such as: Sustainable tourism,European integration, ecology, environment protection, tourism and 46 articles in national journals CNCSIS,etc. She has 18 articles published in International Journals of specialty with ISI range and 2 in Naun Journal. Her papers are cited in International Data Bases (42).With multiple preoccupations in the field of tourism, organizer of 2 Euro-regional fairs of tourism(with participation Mondial Travel Organization) and 3 International Conferences(2004,2006,2009) and in the 4th Conference organized the Special Session "Sustainable Tourism" in collaboration with WSEAS, Plenary Lecturer in Conference :Economy, Management and Transformation 2010 (EMT' 2010) organized by WSEAS, Chairman in many national and international conferences, reviewer in 4 Journals of Tourism, coordinator of over 20 research grants, member of doctoral commissions, winner of many diplomas of excellence on tourism and prizes for the researches made in tourism, member of many national(16) and international(22) tourism organizations (Aiest,CIRET,TIES,SUSTAINABLE TOURISM,TTRA,REZOTOUR, SOUTHEASTERN EUROPE MOUNTAIN RESEARCH NETWORK, CEDIMES ,etc.). Also member of Editorial boards of national and international journals on tourism, President of 2 NGO, in Tourism.

Plenary Lecture 2

Inventing the Future through Green Management and Innovation



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Abstract: The dawn of the twenty-first century, sustainable business development is coming of age. Leading global corporations are embracing sustainable business development as a strategic framework for integrating their business enterprises, creating innovative solutions to the complex needs and requirements of the business environment, and thinking strategically about leading change. Sustainable outcomes are those that balance the performance objectives of the present with needs and expectations of the future. “Green” innovation, management and leadership integrates the full spectrum of social, economic, quality, environmental, market, technological, business excellence, and management responsibilities and realities into a global corporate management system, organizational development, organizational structure, organizational and innovation processes and whole responsibilities from top to down. With these aspects we could talk about “greenovate” organizational development. Integrated system approach integrates the requirements of sustainable green development and environmental excellence with other business requirements. Consequently, following a holistic approach to competitiveness, it is of utmost importance to consider all the relevant factors of competitiveness. These factors could be subdivided into systemic and enterprise thinking, visionary green management and leadership, green production processes management, product and technological innovation, sustainable management and business/environmental excellence. Moreover, competitiveness is the basis for successful company performance as well as for a future better quality of life. Inventing the future through green management and innovation requiring systems thinking and integrated system approach to sustainable management.

Brief Biography of the Speaker: Dr. Davorin Kralj completed his undergraduate studies at the University of Maribor, Faculty of Chemistry and Chemical Engineering (1987) and post-graduate study at the University of Maribor- Faculty of Organizational Sciences, in the area of Integral Quality Management (1991) and also post-graduate master’ study program Management and Organization - MBA at Faculty for Economics and Business in Maribor (2008). In 2009 he holds a Ph.D. in the field of Chemistry and Chemical Engineering. In 2006 he started his second doctoral study program at the Faculty of Economics in Ljubljana. His main teaching and research areas include organizational sciences, environmental management and sustainable development. He has authored or co-authored various scientific papers and environmental patents. He has been awarded numerous certificates and awards. In 2008, he has been distinguished with the silver award during the China Association of Inventions and IFIA International Federation of Inventors’ Associations, the silver award during the International Jury of IENA 2008 and award of the Best Eco Inventor during the WIPO World Intellectual Property Organization.

Plenary Lecture 3

Strategies of Automotive Powertrain Development for Diminishing Local and Global Environmental Impacts



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Abstract: This research paper presents an overview of strategies for developing automotive powertrains focused on emission controlling related to motor vehicles and road traffic to diminish local and global pollution. Individual mobility and modern freight transport means, well-being, quality of life, freedom, social and cultural inclusion are influenced by the quality of transport. The mobility of tomorrow will be more efficient: environment-friendly, quieter, safer and it will use clean resources. Highly efficient, innovative powertrain technologies and alternative fuels will play a central role in this respect. Effective powertrain scenarios must meet multiple objectives, such as:

- Preservation or increase of power train's energetic parameters;
- Drastic reduction of chemical pollutants and noise emissions;
- Reduction of CO₂ emissions in order to diminish the impact on climate changes;
- Providing security of fuel supply;
- Developing an effective sustainable mobility policy.

Developing a strategic balance between different power train technologies: ICEs vs. Hybrid vs. Electric Vehicle. Starting from the fact that conventional fuels based on petroleum will continue to be in the front of line of mobility in the coming years, due to the main properties consisting in the extremely high energy density, ensuring large distances covered by using a relatively small volume of fuel, the simplest scenario remains to develop more efficient combustion engine technology. Other scenarios providing the introduction of electric vehicles on the market will encompass: hybrids (micro, mild, full and plugin hybrid electric vehicle – PHEV), range extender electric vehicles (REEV), battery electric vehicles (BEV) and fuel cell vehicles (FCV). As an alternative solution, the hydrogen-powered vehicles able to be a contribution to climate's protection can be mentioned. Using hydrogen technologies is necessary to establish a balance between ICEs and FCV, taking into account the advantages and disadvantage of both solutions.

The security of fuel's supply and the reduction of chemical pollution. It can be obtained by using alternative fuels. Such alternative fuels can be: methane (NGV); LPG; biofuels as methyl or ethyl esters (biodiesels), biogases (digester gas, wood gas, gas from biomass gasification, ...), alcohols from biomass (methanol, ethanol, ...), vegetable oils, animal fats, etc., or even hydrogen.

The decrease of the net greenhouse gas emissions (CO₂) can be obtained using active technologies determining the decreasing of fuel consumption or changing the fuel's nature and characteristics. Biofuels constitute a central pillar of sustainable mobility. They have the advantage of not requiring essentially new engines or a new infrastructure, since they can be added to fossil fuels in a controlled form.

Define a conclusive mobility concept. The decision-makers should ensure the sustainable transport policy for economic growth and efficient environmental protection by adopting the appropriate measures, such as: excellent transport routes; intelligent traffic systems (particularly, real-time traffic information, dynamic parking space management, fleet management systems and powertrain assistance systems, ICT in logistics).

Brief Biography of the Speaker: Corneliu Cofaru is a full Professor at the Automotive and Engine Department within the Mechanical Engineering Faculty from Transilvania University of Brasov, Romania. His area of expertise is the environmental aspects of internal combustion engines. He authored or co-authored over 240 scientific papers published in reviewed journals or presented at international conferences organized by FISITA, EAEC, SIAR, WSEAS etc. He wrote as author and co-author 26 books. Two of these are written in English and are entitled: "Materials-Energy Sustainable Development" published in 2002 and „Transport and Environmental Engineering” published at the Transilvania University Publishing House in 2007. He had the opportunity to manage international projects in Tempus and Leonardo da Vinci frame and he is a member of Romanian society of automotive engineers.

Plenary Lecture 4

New building materials by eco-sustainable recycling of industrial waste



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Abstract: The amount of natural materials used to manufacture building materials is limited and the costs of obtaining them are increasing. Regarding this, it was a continuous concern to find alternative materials for buildings, and industrial waste is one of such category.

In the south of Romania there are many areas where were deposited large amounts of industrial waste coming from coal, oil and natural gas extraction, metallurgical companies and energy industry. These landfills are sources of environmental pollution and they are also a danger to population health and a threat to flora and fauna from surrounding areas.

University "Constantin Brancusi" from Targu-Jiu is the coordinator of the ECOWASTES LIFE+ project, whose aim is to demonstrate that the recycling of waste from energy industry (coal combustion waste), petroleum extraction (drilling mud) and metallurgy (steelmaking slag) is a technically feasible alternative, taking into account that:

- Coal combustion waste (ash and slag) can replace up to 30-50% of natural quartz sand used in the process of ceramics,
- Drilling fluids waste (sintered material) can replace about 25% of clay used for classical bricks
- Metallurgical slag can replace about 50% of necessary CaO.

By using the different types of industrial wastes mentioned above, the following results are expected: fabrication of new building materials, reducing landfills and preserving important mineral resources.

Brief Biography of the Speaker: Mihai CRUCERU, born on 02.07.1967 in Targu-Jiu, Romania, graduated from Installations for Buildings Faculty, Technical University of Civil Engineering Bucharest (1991), where he obtained also his PhD (1998). He worked for one year as HVAC engineer and he joined in 1992 the Energy Department from University "Constantin Brancusi" from Targu-Jiu where he is now professor of Heat Transfer and Energy Management. He was Dean, Head of Department for Education Quality, and now he is Vice-Rector for Education. His research is focused on Heat and mass transfer, Thermal equipment design and Energy efficiency. He is Energy auditor and Thermal equipment and fluid systems expert. He was involved, as director or researcher, in 18 national and international research projects. He published 11 books and more than 110 articles in relevant journals and conference proceedings.

Plenary Lecture 5

Factor identification of Romanian physician migration. Comparative analysis



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Abstract: The way in which working, or having a job in today's society is seen tells a lot about it, and about the people it includes. Generally speaking, Romanians, but also people from other countries see work as a defining component. Exactly from that need to work and live a decent life it has been observed that the physician migration phenomenon in Romania has escalated, with remarkable performance from the number of people involved, from their results and methods of migration. The present study, which are based to the comparative analysis, it propose to identify the reasons of the physician emigration and to find the modality to stop that.

Brief Biography of the Speaker: Mihaela Hnatiuc is a lecturer at Constanta Maritime University, Romania, Faculty of Naval Electromechanically, Department of Electronics and Telecommunication. She graduated "Gh. Asachi" Technical University of Iasi, Faculty of Telecommunications and Electronics, Romania, in 1995. Mihaela is PhD in electronics. Their research competences are in microcontrollers, adaptive system, statistics. During the PhD thesis, Mihaela has many stages in France. She is author of 2 books and 30 papers published in journals, conferences and book chapter and 1 patent in France, member in 5 researches projects, manager of 2 international grants and the organiser member of 7 conferences. She presented in plenary session at WEASES 2010, Constanta. Mihaela is a member in postdoctoral program at the Bioethics Faculty of Medicine and Pharmacy University, Iasi, where she studies the ethics policies health.

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