

Petra

Abstract of poster presentation

Title: Polycyclic aromatic hydrocarbons and endocrine disruption: the role of junctional intercellular communication

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The male reproductive function in animals and humans is considered to be highly sensitive system to many chemicals and physical agents. They are especially generated by industrial or agricultural activities. Recently many worrying trends are observed in male fertility, such as decreasing sperm counts, deteriorating semen quality or increasing frequencies of malformations of testis and incidence of testicular cancer. Endocrine-disrupting chemicals (EDCs) are discussed as a possible cause of these adverse trends in male reproductive health.

There is strong evidence, in estrogen- and androgen-mediated processes, that testicular cell-to-cell communication, mediated by gap junctions (termed gap junctional intracellular communication (GJIC)), is involved in important testicular pathways. Thus, untimely inhibition of GJIC during critical stages may result in male reproductive dysfunction leading to infertility. Many chemicals known to be EDCs modulate GJIC in gonadal or non-gonadal cells. However, there is limited information on the detailed role of GJIC in adverse reproductive effects caused by specific EDCs.

Recent studies indicate that anthropogenic air pollutants can possibly impair reproduction of humans and wildlife. This study addresses the endocrine-disrupting potential of air pollution as a source of compounds that may alter male fertility. The inhibition of GJIC by PAHs and air samples was measured in testicular cells in this experiment, to determine whether PAHs may cause endocrine disruptive effects through closing gaps in junction channels.

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Helena

3D Models and Their Use for Urban Climate Modelling - Annotation

The thesis provides a general overview of methods of creation and use of 3D urban models, including urban climate applications. Practical analysis of a 3D urban model of a part of the city of Brno has been carried out. The main task of this thesis was to complete the database of the 3D building model with data needed to determinate the parameters for the study of spatial differentiation of thermal urban environments. The parameters under study describe partly built-up areas and partly natural conditions of the study area. Comparison of the acquired parameters with a land surface temperature map and computation of correlation indices is included. The thesis proved that orography is a dominating factor influencing the thermal conditions of Brno, and other characteristics are of minor importance.

Lucie

The UN Security Council Resolution 1267(1999) and Following: Obstinate Fight of the UN against
International Terrorism

(Abstract)

For the last 10 years we have witnessed a number of attacks by Al-Qaida terrorists, as well as the counter-terrorism measures used in trying to avoid them. One of the most important actors in this field, acting on the international level, is the United Nations. This organization has adopted through its body, the Security Council, many resolutions that deal with this issue.

The submitted contribution monitors UNSC resolution 1267 (1999) and subsequent resolutions related to the matter. More concretely, it is focused on the process of listing and delisting of alleged Al-Qaida terrorists. Further the paper highlights the problematic issues of the mentioned processes with regard to the right to a fair trial of every individual. Finally it shows that even after the creation of the Office of the Ombudsperson, which should ensure independence and impartiality, the processes are still not in accordance with the right to a fair trial.