

## INVITATION

### PLANETARY DEFENCE: TECHNICAL, LEGAL AND ECONOMIC ASPECTS

Evening event organised by the

#### ECSL NATIONAL POINT OF CONTACT FOR SPACE LAW AUSTRIA

**2 FEBRUARY 2017**

**19.00 - 21.30**

#### **NATURAL HISTORY MUSEUM VIENNA**

Maria-Theresien-Platz  
1010 Vienna, Austria

**Welcome by Prof Dr Christian Köberl**, Director General of the Natural History Museum Vienna

**Introductory remarks by Prof Dr Irmgard Marboe**, Head of the ECSL National Point of Contact for Space Law Austria, University of Vienna, Section for Public International Law and International Relations

#### **Presentations:**

- **How to prevent an asteroid from impacting Earth - Technical aspects of planetary defence**  
**Dr Line Drube**, Institute of Planetary Research, German Aerospace Center (DLR)
- **Avoiding the fate of the dinosaurs with the help of lawyers? - Legal aspects of planetary defence**  
**Prof Dr Frans von der Dunk**, University of Nebraska-Lincoln, College of Law
- **The role of private enterprises - Economic aspects of planetary defence**  
**Egon Döberl**, CEO ASA Astroysteme

**Discussion with the audience**

**Concluding remarks by Dr Stephan Mayer**, SSA Expert at the Austrian Research Promotion Agency (FFG)

**Buffet dinner**

## **BACKGROUND**

Every day approximately 100 tons of cosmic material reaches the Earth. Most of it in the form of dust or small rocks, which burn up as meteors in the atmosphere. Sometimes, however, larger objects, asteroids or comets, enter the Earth's atmosphere, which can cause considerable damage. The asteroid that exploded over the Russian city of Chelyabinsk in February 2013 had a diameter of only 17–20 meters, yet it produced a blast wave that damaged more than 7000 buildings and injured over 1600 persons. The impact of a larger object could thus potentially cause a serious catastrophe on Earth.

Therefore, scientists are continuously searching for so called Near-Earth Objects (NEOs), asteroids and comets, which could come dangerously close to Earth and pose a risk of causing severe damage. Moreover, scientists are working on various concepts for deflecting these objects. During the evening event, three international experts will discuss the technical, legal and economic aspects of planetary defence.

## **PRESENTATIONS**

**Dr Line Drube** from the Institute of Planetary Research at the German Aerospace Center (DLR) will give an introduction to the NEO impact threat, deflection concepts and the work done by the United Nations Space Mission Planning Advisory Group.

**Prof Dr Frans von der Dunk**, Professor of Space Law at the University of Nebraska-Lincoln, College of Law, will give an overview of the legal aspects of planetary defence. He will discuss such major issues as a responsibility to protect, liability for damage caused by planetary defence activities, institutional issues involved in global responses to NEO threats, the use of kinetic force including, as a last resort, nuclear force, and the possible involvement of the private sector in discovery and deflection activities.

**Egon Döberl**, CEO of the Austrian company ASA Astrosysteme, will speak about the economic aspects of planetary defence. Today fully robotic telescope systems can be used for the search and observation of NEOs. Mr Döberl will present the history, future and economic aspects of such telescope systems from the point of view of an entrepreneur.