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**MEANS OF EDUCATION ABOUT THE IMPACT HAZARD – EVALUATION AND SUGGESTIONS**  
**TALKING ‘PLANETARY DEFENSE’ IN SCHOOLS, MEDIA AND MUSEUMS**

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**ABSTRACT**

Meteorite impacts are a key topic within certain areas of national and international scientific activities. Members of NASA, ESA, B612 foundation and others are represented in the “planetary defense community”. Common goals are understanding the impact threat, developing defense mechanisms, and communication and education about the impact hazard. Especially education about planetary defense is a complex project as a wide range of materials and tools are offered. This presentation is concerned with three aspects of the topic:

- High-level evaluation of different means of education about the impact hazard
- Focus on education in school curricula and in museums
- Suggestions for next steps for the planetary defense community

The high-level evaluation includes sample coverage of media, internet sources, curricula and museums as means of education. The evaluation covers key dimensions according to potential and actual outreach, quality of delivered information, accessibility, costs and educational impact.

Additionally, the Ries Crater Museum Nördlingen is highlighted as best-practice example for local education about the impact hazard. Since opening in 1990 the museum has welcomed over one million visitors. The Ries Crater Museum is a special museum focused on the impact which formed the Nördlinger Ries:

- Room A illustrates the geographical position of the crater and displays a topographical model. In addition to its collection of meteorites, Room B provides an overview of different shapes of impact craters. Room C describes the geological situation prior to the impact and explains the impact process with the help of a video of a NASA experiment to produce artificial impact craters. In Room D a film describes the Ries impact. Room E is devoted to the period after the impact. Room F offers an overview of different old theories of the Ries Crater and also addresses the role of collision catastrophes in the creation and development of life on Earth.
- The highlight of the Museum is an original sample from the moon collected by the Apollo 16 mission in 1972. The permanent loan from NASA is a donation to the Museum to express NASA's appreciation for the field training of the Apollo 14 and 17 astronauts in 1970.
- In addition to the permanent exhibition the museum presents a special annual exhibition addressing relevant topics.
- Over the past 25 years the Museum has hosted several conferences and is a contact point of impact researchers worldwide. The Museum maintains excellent relationships with organizations related to museum topics, including NASA, ESA, DLR.
- Every year the Museum, the ZERIN (Center for Ries Crater and Impact Research Nördlingen) and the association "Friends of the Ries Crater Museum" organize a series of public lectures.

The Ries Crater Museum is a unique site where heaven really did meet earth - here theoretical information is enriched by practical experiences.

In summary, suggestions for next steps for the planetary defense community focus on the sustainable education of a wider audience about planetary defense and suggestions for organizational changes for the planetary defense community with regards to educational outreach.

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