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**TOPIC: Public Education and Communication**

**Towards a Robust and Resilient Mechanism  
for the Distribution of Information  
During an Asteroid Mitigation Event**

**Rudolf Albrecht<sup>(1)</sup>, W. Wayt Gibbs<sup>(2)</sup>, Lea K. Nagel<sup>(1)</sup>, and Christian Koeberl<sup>(4)</sup>**

*Austrian Space Forum, Etrichgasse 18, A-6020 Innsbruck, Austria,  
+43 664 875 5655, rudolf.albrecht@gmail.com, lea.k.nagel@gmail.com*

*<sup>(2)</sup>Intellectual Ventures, 3150 139<sup>th</sup> Ave SE, Bellevue, WA 98005 U.S.A., +1 425 283  
4751, waytg@intven.com*

*<sup>(3)</sup>University of Vienna, Department of Lithospheric Research, Althanstrasse 14, A-  
1090 Vienna, Austria +43 1 4277 53110, christian.koeberl@univie.ac.at*

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### **ABSTRACT**

The highly uneven efficacy of scientific communication about COVID-19—and its suppression or distortion by political leaders and pressure groups in some regions—led to a great many unnecessary deaths. Widely held assumptions about the persuasive power of high-quality information produced by the scientific community were upended as misinformation, fatigue, and normalization of high levels of morbidity undermined public perceptions of risk and compliance with protective measures. Implications of lessons from the pandemic response for planetary defense were reported at PDC2021 and later published in full (Nagel et. al., 2022).

One particularly apt lesson is that people seek reassurance when confronted with an unfamiliar danger. Warning of a likely major impact event would be unprecedented in human history, and as such would pose an even greater communications challenge than a once-in-a-century pandemic or any more common kind of natural disaster. The social and economic disruptions caused by unmanaged or mismanaged communications from trusted authorities regarding the impact threat and its possible mitigation could be catastrophic (Albrecht and Dore, 2021).

In this paper, we consider criteria for an authoritative body that could serve as a lead voice for global scientific communications about a planetary defense threat as it evolves. Among these criteria are the speed and integrity of internal processes for evaluating results from scientific analyses; real and perceived independence from political interference; freedom from profit-making or other ulterior motives; and demonstrated skill in creating, evaluating, and then disseminating effective messages that are tailored to the needs of different groups, including government decision makers, opinion leaders of various kinds, and the public at large.

Using these criteria, we then evaluate the suitability of a range of organizations for this role, including those such as the International Asteroid Warning Network (IAWN) that already participate in planetary defense activities and planning, or others that could do so if provided with necessary expertise and resources. We weigh strengths and weaknesses in this particular capacity of national governments and space agencies, national and international astronomical societies, and international organizations, such as the United Nations or the International Astronomical Union (IAU).

Our analysis finds that an international organization, in particular the IAU, may be especially well suited to perform the role of a trusted global information leader for asteroid events. Though the IAWN is not yet widely known among national leaders and the general public, it offers capacity that could be complementary to the IAU's Office of Astronomical Outreach. We explore the range of upgrades to this office that would be required for it to meet all of the criteria we identify and to fill that communication role effectively, in close coordination with governments, space agencies, mass media, and other partners.

#### References:

Nagel, Lea.K., Albrecht, R., and Koeberl, C., 2022, Planetary defense: The communication challenge—Lessons from the COVID-19 pandemic, in Koeberl, C., Claeys, P., and Montanari, A., eds., From the Guajira Desert to the Apennines, and from Mediterranean Microplates to the Mexican Killer Asteroid: Honoring the Career of Walter Alvarez: Geological Society of America Special Paper 557, p. 519–526, [https://doi.org/10.1130/2022.2557\(24\)](https://doi.org/10.1130/2022.2557(24)).

Albrecht, R., Dore, M., 2021. Towards Plans for Mitigating Possible Socio-economic Effects due to a Physical Impact of an Asteroid on Earth, Planetary Defense Conference 2021, <https://az659834.vo.msecnd.net/eventsairwesteuprod/production-atpi-public/695a5479f74b460cace9258621a5a2b2>

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**Comments:** *Preference is oral presentation, poster if no other possibility*  
*Alternative session: Disaster management*