Dear IAWN Steering Committee,

Armagh Observatory works jointly with the 1m C2PU Omicron telescope at the Côte d'Azur Observatory (OCA) at the Site de Calern in Caussols, France (MPC Code R87) to characterize NEOs through polarimetry. Equipped with a two-beam, three-band CCD polarimeter (DiPOL-UF), the C2PU facility at Calern collects polarimetry measurements in the V, B, and R passbands. As part of our collaboration with OCA, Armagh Observatory actively contributes to the collection of NEO polarimetry data. This data populates the Calern Asteroid Polarimetric Survey (CAPS) which currently includes more than 300 polarisation measurements of approximately 50 NEOs. Armagh Observatory also shares data with the NEOPOPS project and utilizes it for independent research.

Armagh Observatory contributes polarimetry data collected by C2PU to ESA's NEO Physical Observations and Properties Simulation (NEOPOPS) project. The NEOPOPS mission is to improve knowledge on the physical characterization of NEOs with an emphasis on international organisation and collaboration. As the NEOPOPs network releases information regarding NEOs of interest (including potentially hazardous objects), observers from Armagh Observatory utilize the C2PU facilities to supply polarimetry measurements to further characterize the target. Polarimetry investigations can lead to estimates on albedo (and therefore diameter when combined with photometry), as well as surface regolith properties of the target. Thus, our work with NEOPOPS aligns well with IAWN's mission to efficiently coordinate accurate NEO research and follow-up activity.

These activities are the most recent in a long tradition of Armagh Observatory's participation in the study of the solar system, in particular the polarimetric characterisation of the small objects in our solar neighbourhood, thanks to time obtained through competitive proposals at various large telescopes, in particular the VLT.

Considering Armagh Observatory's ongoing work to perform follow-up observations and characterize NEOs, please consider this letter as our expression of intent to join the International Asteroid Warning Network. On behalf of Armagh Observatory, I have read and understood the Statement of Intent, and we accept the responsibilities outlined therein. We look forward to your response and thank you for your consideration.

Best,

Emily Frank, PhD Candidate

Armagh Observatory

9-Mar-2014

Statement of Intent
for Participation in
the International Asteroid Warning Network

The intent of the International Asteroid Warning Network (IAWN) is to establish a worldwide effort to detect, track, and physically characterize near-Earth objects (NEOs) to determine those that are potential impact threats to Earth. This network is comprised of a partnership of scientific institutions, observatories, and other interested parties performing observations, orbit computation, modeling, and other scientific research related to the impact potential and effects of asteroids. IAWN endeavors to foster a shared understanding of the NEO hazard and optimize the scientific return on these small celestial bodies. Herein, this statement provides guidance and operational principles for the partners in this network. This partnership is organized consistent with the concept developed within the United Nations (UN) Committee on the Peaceful Uses of Outer Space (COPUOS).

Participation

Participation in the IAWN is entirely voluntary and each participant's activities are funded through their own resources. The IAWN can be supported by survey telescope operations; critical follow-up observations; orbit computation and hazard analysis; observations to characterize specific NEOs; data distribution, processing, and/or archiving; or other analysis and infrastructure contributions. New facilities and capabilities may contribute to the IAWN as they come online and are integrated into the network.

As a condition of participating in the IAWN, the partners accept the existing set of coordination roles amongst the various existing NEO network facilities and agree to a policy of free and open exchange of all data submitted to the network. Distribution of data submitted to the network may be limited for a short period during processing while these data are ingested, correlated and verified.

As conceived, the IAWN may be expanded and enhanced with the identification of new partners and the availability of new capabilities for NEO detection, follow-up, and characterization observations, together with the methods to analyze these data products. As current survey and follow-up capabilities are limited, global coordination and distribution of effort is highly desired.

Operational Principles

The overall needs, goals, and objectives of the IAWN are to:

- Maintain, support, and enhance existing ground-based observation facilities that currently perform discovery and physical characterization of NEOs;

- Develop international rapid all-sky search capacity, geared towards discovering small, imminent impactors;

- Build ground-based facilities to globally survey larger areas of sky to fainter magnitudes;

- Develop a well-positioned space-based infrared survey to discover objects much faster than the current rate; and

- Establish an international communication policy and procedures regarding close approaches and impact risks.

To execute the objectives above, the functions of the IAWN are to:

1. Discover, monitor, and characterize potentially hazardous NEOs using optical and radar facilities and other assets based in the northern and southern hemispheres and in space;
2. Provide and maintain an international clearing house for the receipt, acknowledgement, and processing of all NEO astrometric observations and orbits to provide a global NEO database;
3. Serve as the international focal point for accurate information on the NEO population and any hazards they pose to the Earth;
4. Compute precision orbit determination of specific NEOs that pose a threat with the Earth and provide appropriate warning and evaluation of that threat;
5. Provide a portal for characterization data on potentially dangerous NEOs that are of great interest;
6. Coordinate campaigns for observing potentially hazardous NEOs;
7. Support the development and use of numerical and other theoretical modeling to obtain broader understanding of object characteristics and thus to augment what can be achieved via direct observation;
8. Recommend policies regarding criteria and thresholds for notification of an emerging NEO impact threat;
9. Develop a database of potential impact consequences, depending on geography, geology, population distribution, and other related factors;
10. Assess hazard analysis results and communicate them to entities identified by partners as being responsible for the receipt of notification of an impact threat in accordance with established policies; and
11. Assist Governments in the analysis of impact consequences and in the planning of mitigation responses.

Communication Strategy and Planning

The signatories to this Statement of Intent recognize the importance of being adequately prepared for communications with a variety of audiences about NEOs, close approaches, and NEO impact risks. Participants in the IAWN recognize the need to consult with experts in science communication, risk communication, public policy analysis, and emergency management in developing messages and other content for communication with various audiences. The IAWN intends to be coordinated and prepared for communicating effectively the nature of the NEO hazard and detection of any specific impact threats with national and international political leaders, policy makers, emergency managers, and the general public. Signatories agree to coordinate with validated authoritative sources for:

- astrometric and orbital data (via the International Astronomical Union (IAU)-mandated

Minor Planet Center (MPC));
- the computation of impact probabilities (NEODyS and NASA's NEO Program Office);
- the ensuing actions aimed at improving the knowledge of the relevant NEOs (NASA's NEO Program Office and the ESA NEO Coordination Centre);

before the release of any statements to the media or public warning of the potential for impact of any specific asteroid or comet threat.

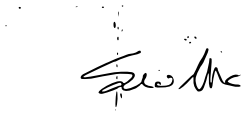
The IAWN Steering Committee

Representatives of core capabilities for the IAWN intend to form a Steering Committee to better coordinate the operation and interchange of the network, and guide its growth, enhancement and evolution. The Steering Committee intends to meet on approximately an annual basis to perform a review and provide guidance and recommendations. All partners in the IAWN are welcome to send representation to the Steering Committee meetings.

Signature:

The objectives of the IAWN can only be realized through a global multilateral partnership dedicated to a better understanding of the NEO impact hazard. Signature on this Statement of Intent serves as an expression of interest in supporting the IAWN and its objectives, but does not constitute a binding commitment.

[Signature by Official of Institute/Organization]



Prof Marc Sarzi, Head of Research, 26 January 2026