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Introduction. Research in planetary collisions intersects with many topical areas, including planetary science, geological sciences, meteoritics, materials science and engineering, high energy density science, and planetary defense and exploration programs. As a result, technical information and data related to impact processes are distributed across many sub-disciplines that support a wide range of basic and applied science programs. This community landscape can lead to specialized silos between sub-disciplines but it can also create situations where information or tools lack their original context, which can lead to misconceptions. We have established a **Planetary Impacts Community Wiki** to aid dissemination of knowledge and to facilitate new research initiatives that rely upon the domain of expertise encompassed by collisional processes. The wiki is hosted at https://impacts.wiki.

Project Goals. The wiki is an international public resource that supports research and college-to-post-graduate education in planetary impact processes by encouraging collaboration and sharing of knowledge and skills. The goals of the project are to:

- Foster sharing and curation of community knowledge
- Connect community members and identify membership expertise
- Foster community initiatives for new research and building strategic capabilities
- Foster community initiatives for inclusion, training, and dissemination of knowledge

The content scope includes data and techniques based on experimental, computational, field, remote sensing, and/or sample-based research.

Community Challenges and Opportunities. A substantial body of knowledge in collisional processes was collected before the development of digital data standards and online repositories. Some data are difficult to access because of limited visibility, print-only formats, and/or the need for library or personal subscriptions. In the field of collisional processes, new studies deposit data in many different digital information repositories (e.g., Zenodo, Dataverse, DRYAD, and institutional or journal-based repositories) and in different formats, which continues to present barriers to finding and collating information.

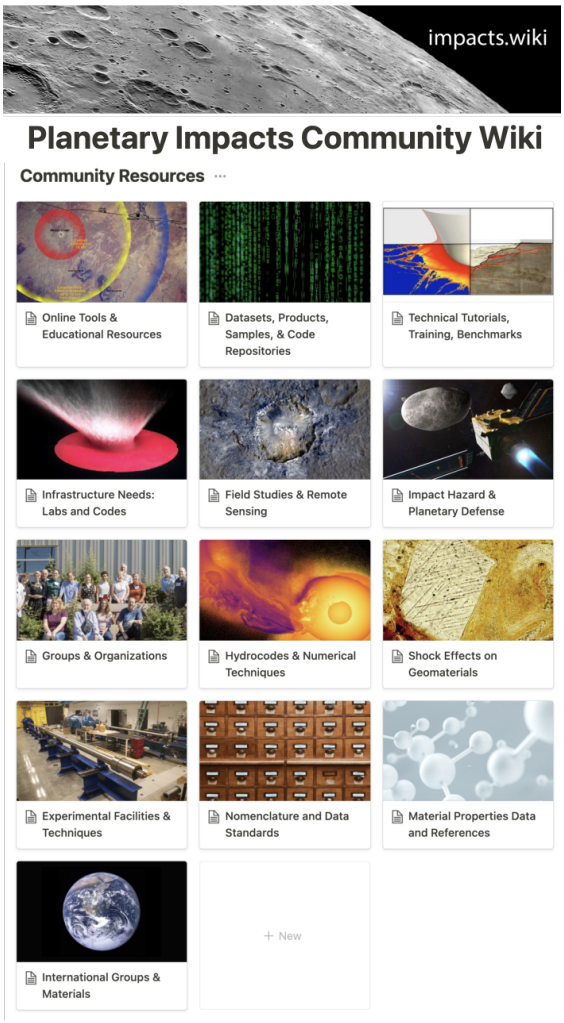

Figure 1: Overview of the community resources in the impacts wiki.

A major service of the project is to aid finding existing knowledge and tools by organizing topical resources in a searchable wiki that is curated by experts in the field. The wiki is hosted using the Notion platform. In Notion, the wiki content can be maintained by a community of

expert curators. In addition, new content or corrections can be submitted by a web form.

As the data collection matures, the community will be able to identify and address issues related to poor access to specific data sets and possible loss of historical data or capabilities. At present, the wiki is curated by volunteers, but we expect that funding will be required to support specific community initiatives, such as digitizing data currently in print or film.

Supporting Open Science. NASA has recently updated its policies on open access to science [1] in response to the US White House Office of Science and Technology Policy Memo *Ensuring Free, Immediate, and Equitable Access to Federally Funded Research* [2]. To comply with these and a growing body of international open science policies (e.g., https://openscience.eu/policies), we must develop data format standards and topical repositories. The wiki project seeks to support these efforts by promoting community-based discussions for data reporting conventions and development of topically linked collections of data and tools.

NASA has declared 2023 the Year of Open Science as part of the Transform to Open Science (TOPS) mission. Thus, it is timely to have community discussions about open science practices in our field and funding opportunities related to the TOPS program. Bringing the broad planetary impacts community together to discuss and reach agreement about how we can transform our workflows, models, experiments, and samples analyses will increase the benefits we receive from more open science.

Enhancing Community Interactions and Inclusivity Research related to impact processes is presented at several major conference venues and topical workshops, leading to a distributed community of scientists. The wiki includes a voluntary directory where researchers may indicate their areas of expertise to enable new research connections.

Open science and public educational tools and materials also support improving diversity and inclusivity by reducing the barriers to participation. The wiki is a world-wide resource includes links to materials in multiple languages.

Expanding Education and Community Training. The wiki also seeks to promote development and sharing of educational materials, research tools, and training programs to maintain the health of the research community. For example, we can develop training programs to help onboard new users of the NASA Ames Vertical Gun Range and NASA Johnson Space Center Experimental Impact Laboratory and other experimental facilities (impacts.wiki/facilities). Similarly, we can collect lectures and training examples for numerical techniques (impacts.wiki/codes).

With an increasing portfolio of techniques and tools, there is a need to develop strong introductory materials in each topic to aid training of new researchers, enable stronger multi-disciplinary collaborations, and understanding of historical data sets. A shared resource such as a wiki also reduces the number of times that materials must be reinvented by different people with similar needs.

Strategic Initiatives. We hope that the wiki project will also promote new collaborations that develop initiatives in response to community needs and guidance from strategic planning such as the Planetary Decadal Study [3]. For example, the Decadal Study emphasizes the importance of a strong planetary defense program and the associated research activities that support understanding the impact hazard and its mitigation.

The topical area of impact processes has also supported a wide range of spacecraft and human exploration missions. Our research communities should identify future needs to maintain and grow strength in these activities.

Community feedback and discussions. This is a grass-roots initiative that began with discussions at the 2022 LPSC. We submit this contribution to the 2023 meeting for feedback on the ideas presented here and in the wiki for refinement of our efforts and coordinating new initiatives. The spirit of this project is similar to the goals of the OpenPlanetary organization, which seeks to support the planetary science community by enabling open scientific, technical and educational resources, tools and data [4]. The OpenPlanetary Slack workspace is available for asynchronous discussions amongst our planetary impacts community: openplanetary.slack.com.

The community is invited to become users, contributors, and/or curators of the wiki. We plan to organize community discussions on these topics at the LPSC and other related meetings, and asynchronously, over the course of the year.

Acknowledgments. We acknowledge and appreciate the many community members who have provided input and feedback on the wiki project and its contents.

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