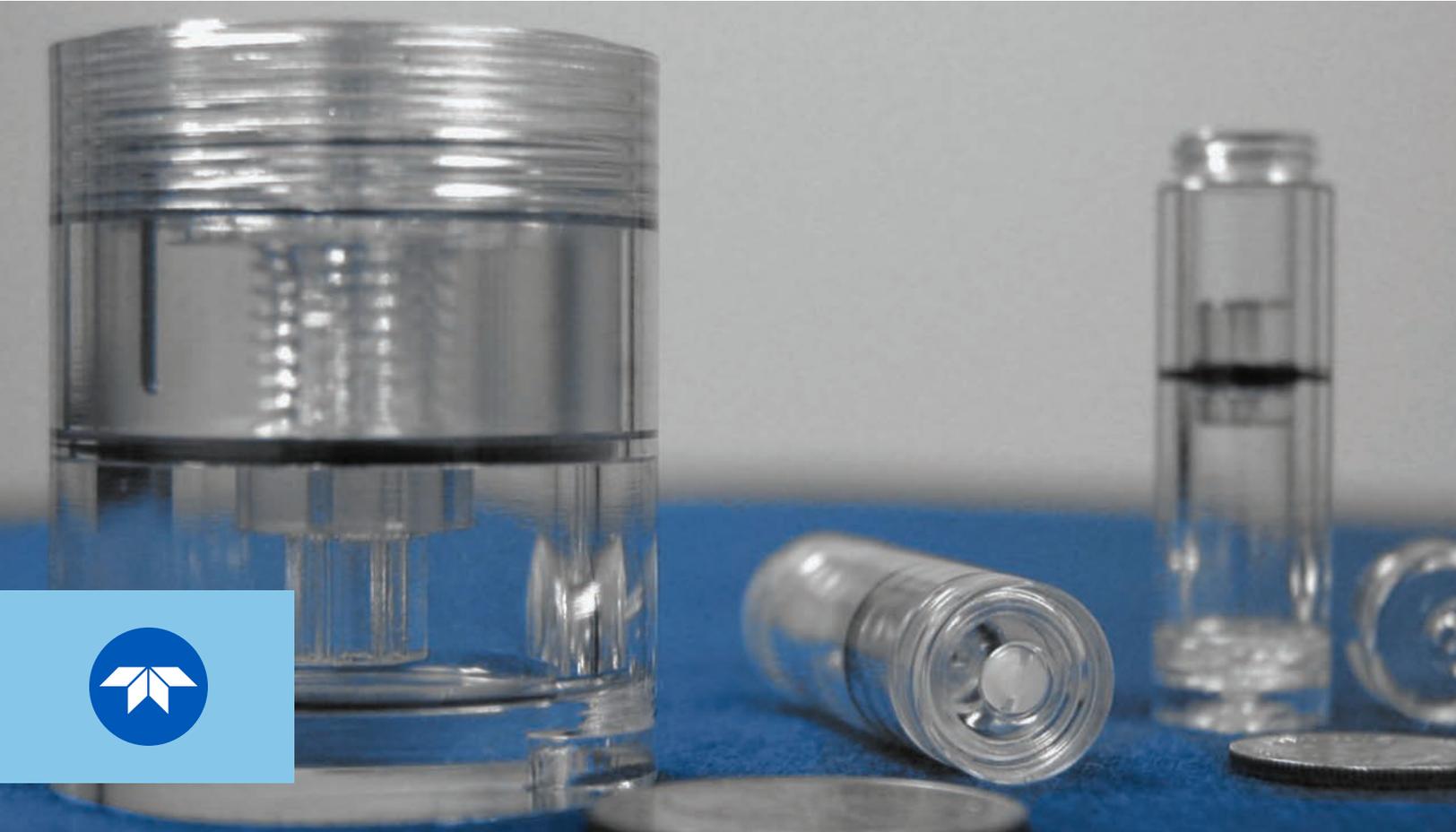


TELEDYNE NCP TEAM



EXTRAORDINARY PROTEIN CRYSTALS

About CASIS

The Center for the Advancement of Science in Space (CASIS) was selected by NASA in July 2011 to maximize use of the International Space Station (ISS) U.S. National Laboratory through 2020. CASIS is dedicated to supporting and accelerating innovations and new discoveries that will enhance the health and well-being of people and our planet. For more information, visit www.iss-casis.org.

About the ISS National Laboratory

In 2005, Congress designated the U.S. portion of the ISS as the nation's newest national laboratory, with a goal to maximize its use for:

- Improving life on Earth
- Promoting collaboration among diverse users
- Advancing STEM education

The ISS as a Unique Laboratory in Low Earth Orbit (LEO)

This unique laboratory environment is available for use by other U.S. government agencies, academic and private institutions. The ISS provides access to its permanent constant, steady-state microgravity (i.e., near Zero-g) environment. It also provides a vantage point in LEO to offer an unobstructed view of the earth and atmospheric weather events and also provides experiments that look to deep space a clearer, unobstructed view. Finally, it provides varied environments of space (e.g., wide thermal variations: cold temps when not facing the sun, hotter temps when facing the sun, and quiescent / steady state environments, with minimal disturbances, for experiments located internal to the ISS.

About the Microgravity Molecular Crystal Growth (MMCG) Program:

Microgravity has been used for more than 30 years to improve outcomes of crystal analyses through production of higher quality and larger crystals. To examine the readiness and requirements of this marketplace for a more commercial approach to crystallization on the ISS, CASIS held a workshop in October 2015 with subject matter experts from across

the field of crystallography. The workshop outlined the basic science requirements for a long-term crystallization program onboard the ISS National Lab, including:

- Accessibility and timing
- Flight and ground resources
- Education
- Funding

CASIS is harnessing the information gained from the workshop and the ongoing support of this group to implement an ISS National Lab program for repetitive, low-cost crystallization in microgravity. The program, known as the CASIS MMCG Program, provides a platform for discovery to users across many disciplines, including:

- commercial,
- other government agencies,
- academia, and
- private research.

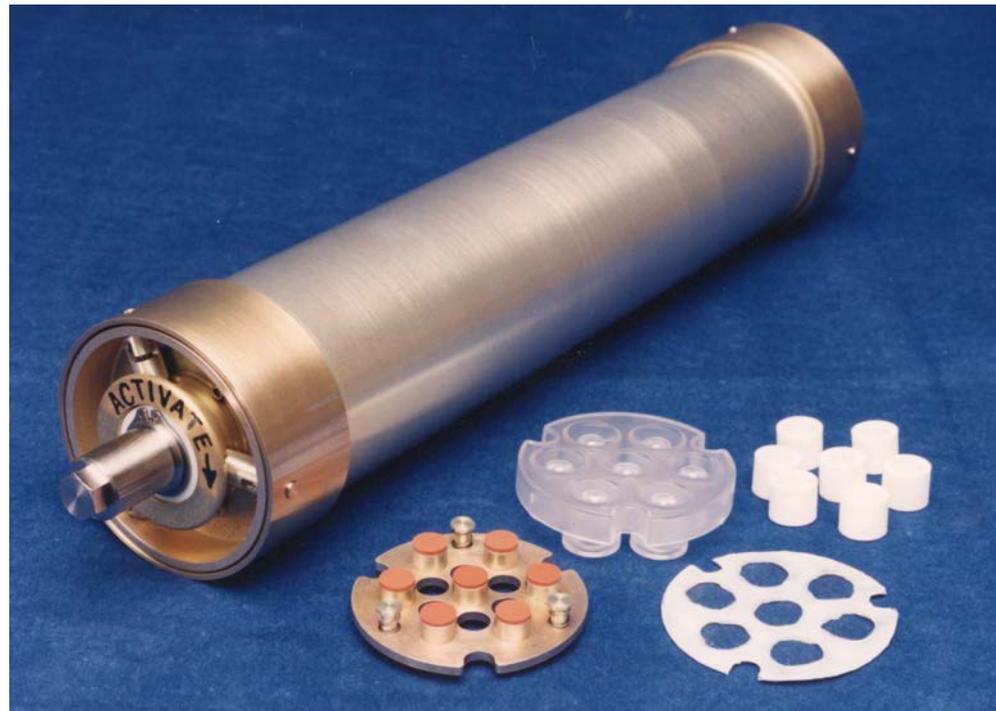
The Benefits of the Teledyne - New Century Pharmaceuticals (NCP) Team

- The Teledyne-NCP team brings a comprehensive understanding and day-to-day working knowledge of ISS integration

and operations processes as it relates to microgravity molecular crystallization missions.

- Teledyne and NCP have significant ISS payload experience that includes access to some of the industries most respected commercial investigators to assist us as we transition from purely Government work to a Commercial Approach. The TBE-NCP team have access to and can collaborate with:
 - The University of Georgia (UGA)
 - Southeast Regional Collaborative Access Team (SER-CAT)
- The Teledyne-NCP team can integrate any PCG hardware directed by CASIS.

Our team has extensive experience with both Enhanced Diffusion controlled Crystallization Apparatus for Microgravity (EDCAM) and Protein Crystallization Apparatus for Microgravity (PCAM). These hardware items have successfully produced extraordinary protein crystals for investigators in the past and will certainly do the same for future ISS missions.





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