

Research and Training in Astronomy Communication & Explanation

Astronomy outreach is not only about communicating knowledge—it is about creating opportunities for Awe. Through research and training, the JAPOS Public Observing Programs Working Group develops interpretation practices that connect people with the universe through meaningful experiences.

Minami-Aso Luna Observatory, Kumamoto

JAPOS Public Observing Programs Working Group

The Public Programs Working Group of the Japanese Association of Public Observatories (JAPOS) conducts research on interpretation techniques for astronomy outreach programs and provides training based on the results of this research.

What is a Public Observing Program?

Astronomy outreach explanation is not simply the transmission of astronomical knowledge. It is a set of skills that supports participants in experiencing wonder, discovery, and personal connections through observing the sky.



▲Public Observing Session with a large telescope (Photo Credits: Rikubetsu Space and Earth Science Museum)



▲Observatory staff presenting a Tanabata (Star Festival) program in a planetarium. (Photo Credits: Rena City Kanoya)

“Awe” as a Core Goal of Astronomy Communication

Astronomy outreach is not only about communicating scientific knowledge. Public observatories and planetariums also provide opportunities for people to experience Awe—a profound emotional response evoked by encounters with vastness, beauty, and phenomena that transcend everyday experience. Recent studies suggest that experiences of Awe can enhance curiosity, motivation for learning, connectedness with nature, and prosocial attitudes toward others.

The Public Programs Working Group views astronomy programs not merely as opportunities for information transfer, but as opportunities for participants to experience Awe and develop personal connections with the universe.



▲At a workshop on Awe held in February 2026 (Tokyo), participants reviewed current research, discussed its implications for astronomy outreach, and conducted a simulated public observing program to explore how experiences of Awe can be fostered among diverse audiences.



Core Principles of Astronomy Communication and Training Textbook

■From Teaching Knowledge to Facilitating Experiences

Traditional astronomy presentations often emphasize the delivery of information. Explanation focuses instead on helping participants observe, feel, think, and make meaning for themselves.

■Audience-Centered Approach

The audience's interests, experiences, and perspectives serve as the starting point. meaning for themselves.

■Interactive Communication

Explanation emphasizes dialogue and engagement rather than one-way explanations.

■Emotional Engagement

Explanation seeks to create emotional connections, including wonder, curiosity, and inspiration.

■Connecting People with the Universe

Explanation helps people develop personal connections with astronomical objects and phenomena.

Japan Public Observatory Society (JAPOS)
11th National Training Workshop
Text / Course Reader

"Toward the 100th Anniversary of Public Observatories"
Exploring the Possibilities for Public Observatories and Science Communication Techniques
Based on Our Journey So Far and the Latest Research



▲ 11th Training Textbook (2026) (JAPOS Public Observing Programs Working Group) and Download the English Edition

Research Activity: The Well-Being Effects of Public Observing



▲ Newspaper article reporting the Museum Bathing® | Observatory Therapy (Tenmondai-Yoku) study at Minami-Aso Luna Observatory (The Sankei Shimbun, 2 June 2026)

Japan is home to one of the world's largest networks of public astronomical observatories. Beyond their role in astronomy education and public engagement, public observatories are increasingly recognized as places that may contribute to human well-being.

In 2025, Professor Izumi Ogata of Kyushu Sangyo University and Yuko Mutou of Luna Observatory conducted a “Museum Bathing®” study at Minami-Aso Luna Observatory. Based on psychological and physiological measurements, the results suggest that public observing experiences can promote relaxation and support well-being.

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