

Annual Report 2025

Pavel Koten

1. Composition

Organizing Committee Members:

- **President:** Pavel Koten (Czech Republic)
- **Vice-President:** Juraj Tóth (Slovakia)
- **Advisor:** Margaret Campbell-Brown (Canada)
- Peter Brown (Canada)
- Althea Moorhead (United States)
- John Plane (United Kingdom)
- Aswin Sekhar (France)
- Apostolos Christou (United Kingdom)

2. Meetings

The triennial conference of Commission F1 (Meteoroids) was held on 7–11 July 2025 in Perth. The Scientific Organising Committee (SOC) was formed from members of the Commission F1 Organising Committee and was further expanded to include several experts representing different areas of meteor science. The SOC prepared the list of conference topics and selected the invited speakers. In addition, the SOC arranged an agreement with the journal *Icarus* to publish a special issue serving as the conference proceedings. Three guest editors for this issue were appointed from among the members of the F1 Organising Committee.

Meteoroids 2025

7-11 July 2025

Perth, Australia

The conference covered a broad range of scientific topics of meteoroid research

78 on-site, 7 on-line participants

<https://meteoroids2025.gfo.rocks/>

Several members of Commission F1 were also involved in organising the International Meteor Conference, held in September 2025 in Belgium. This conference is traditionally attended by both amateur and professional astronomers. Members of Commission F1 furthermore organised a dedicated session at the Europlanet Science Congress, which took place in September 2025 in Helsinki.

International Meteor Conference 2025

18-21 September 2025

Soest, The Netherlands

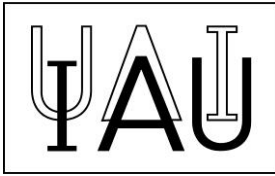
<https://imc2025.imo.net/>

Europlanet Science Congress/Division for Planetary Science joint meeting

7-12 September 2025

Helsinki, Finland

<https://www.epsc-dps2025.eu/>



Commission F1 Meteors, Meteorites and Interplanetary Dust

3. Other activities

Meteoroids SOC program meeting

15 May 2025

On-line

Meeting of the Scientific Organizing Committee of the Meteoroids 2025 conference

12 participants

Invited talks, conference program, lecture format...

Commission F1 business meeting

10 July 2025

Business meeting held during Meteoroids 2025 conference

~30 participants

Commission F1 report, next Meteoroids conference 2028, Working Group report, discussion

Working Group on Meteor Shower Nomenclature

An IAU Working Group established under Commission F1 continues to actively address issues related to its mandate. In 2025, the Working Group discussed topics including the mixing of northern and southern meteor shower solutions, duplicate shower identifications, and new candidates for established status. Further details are provided in the Working Group report.

4. Summary of state of the field within the remit of your Division/Commission/Working Group and its evolution over the reporting period

In 2025, members of Commission F1 published a number of papers covering various topics in meteor science. Of particular note was a result with significant relevance across other Division F Commissions and considerable public interest: the observation of the predicted Earth impact of the small asteroid 2023 CX1 and the subsequent recovery of the Saint-Pierre-le-Viger meteorites in Normandy, published in *Nature Astronomy* (1). Another important scientific result reported in 2025 addressed the origin of meteorites in the asteroid belt. A comprehensive analysis of observed meteorite falls demonstrated that meteorites reaching Earth originate predominantly from a limited number of major collisional families rather than from a uniform sampling of the asteroid belt, effectively outlining a first “geologic map” of meteorite source regions and providing new constraints on the dynamical evolution of small bodies in the Solar System (2).

(1) Egal A. et al. (2025): *Nature Astronomy*, Volume 9, Issue 11, pp. 1624-1637

(2) Jenniskens P. and Devillepoix H. A. R. (2025): *Meteoritics & Planetary Science*, Volume 60, Issue 4, pp. 928-973, 46 pp.

5. Other achievements or highlights

The commission counts 154 members.

6. Challenges encountered and recommendations to the IAU