Knowledge Discovery Interest Group

Closing Session — IVOA InterOp Nov 2026

Chair: Yihan Tao (NAOC / China-VO)

Vice-Chair: André Schaaff (CDS)

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KDIG Session — Closing Recap

Sunday 8 November 2026

SIX TALKS

Bruce Berriman · KOkuA — natural-language ADQL with layered validation and human approval.

Kuang Mao · Multimodal FM — proposes versioned embeddings as data products for cross-modal astronomical search and scientific question answering.

Dave Morris · AI attribution — agent identity, annotated commits and human approval still leave credit and copyright open.

Dave Morris · AI alternatives — a containerised harness with cloud-hosted open-weight models reduces costs and vendor dependence.

Florian Cabot · VIRUP — voice + LLM control and an agent-agnostic MCP server broaden access for users and external agents.

André Schaaff · Bots or Agents — treat agents as new VO users: richer descriptions, sustainable access, provenance.

Discussion — emerging directions

Experiment first: build prototypes, share failures and identify common requirements before considering IVOA-specific MCP standardisation.

IVOA as a forum: share implementation experience and consider an IVOA Note as practices mature.

Documentation and discovery: clear documentation helps agents; orrery.science provides a directory of astronomy MCP servers and skills.

TAKEAWAY

- AI is moving from generating answers to participating in scientific workflows; reliable use requires validation, provenance and human oversight.
- Experiment and share evidence now; let common requirements guide future IVOA-specific standardisation.

Outlook & Roadmap

PROPOSED NEXT STEPS

Collect implementations and failure cases

Mark each as deployed, prototype or planned; cover both MCP and non-MCP approaches, and record what broke.

Compare service descriptions and validation approaches

Compare metadata, units, UCDs, examples and errors. Distinguish executable queries from queries that match scientific intent.

Share findings at the next InterOp

Report implementations, failure cases and common requirements; assess whether an IVOA Note is warranted.

JOIN THE DISCUSSION

Contribute a working example, a failure case, or a service-description/provenance sample.

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