**LISA 10 Conference**
**Library and Information Services in Astronomy**

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LISA 10

# Shaping the Future of Publishing

*Uta Grothkopf & the LDIS team*

*European Southern Observatory (ESO)*

*Library, Documentation, and Information Services (LDIS) Department*

# Publishing in Astronomy and beyond

- **Sharing** is in the DNA of astronomy: Manuscripts on arXiv, observational data sharing, exchange of code and software are the norm

- **Other sciences**: Open Access (OA) movement growing. Increased impact on scholarly communication

- **Astronomy core journals**: OA publishing since 2022 (A&A, ApJ, AJ) / 2024 (MNRAS) with different OA models

- **Major publishers** (Elsevier, Springer, Wiley) rely heavily on Article Processing Charges. (APCs: access barrier shifted; enable predatory publishers -> erodes trust in science)

- **Models without author-facing charges** are gaining momentum (thanks to funders, community), but only slowly

- **Astronomy at a crossroads**:
  - Different models co-exist
  - Infrastructure, tools, approaches are evolving
  - Long-term sustainability is uncertain

# Changing Publishing Landscape — Info Overload

New publishing models

Funder requirements

Evolving Research Evaluation

Copyright & Licenses
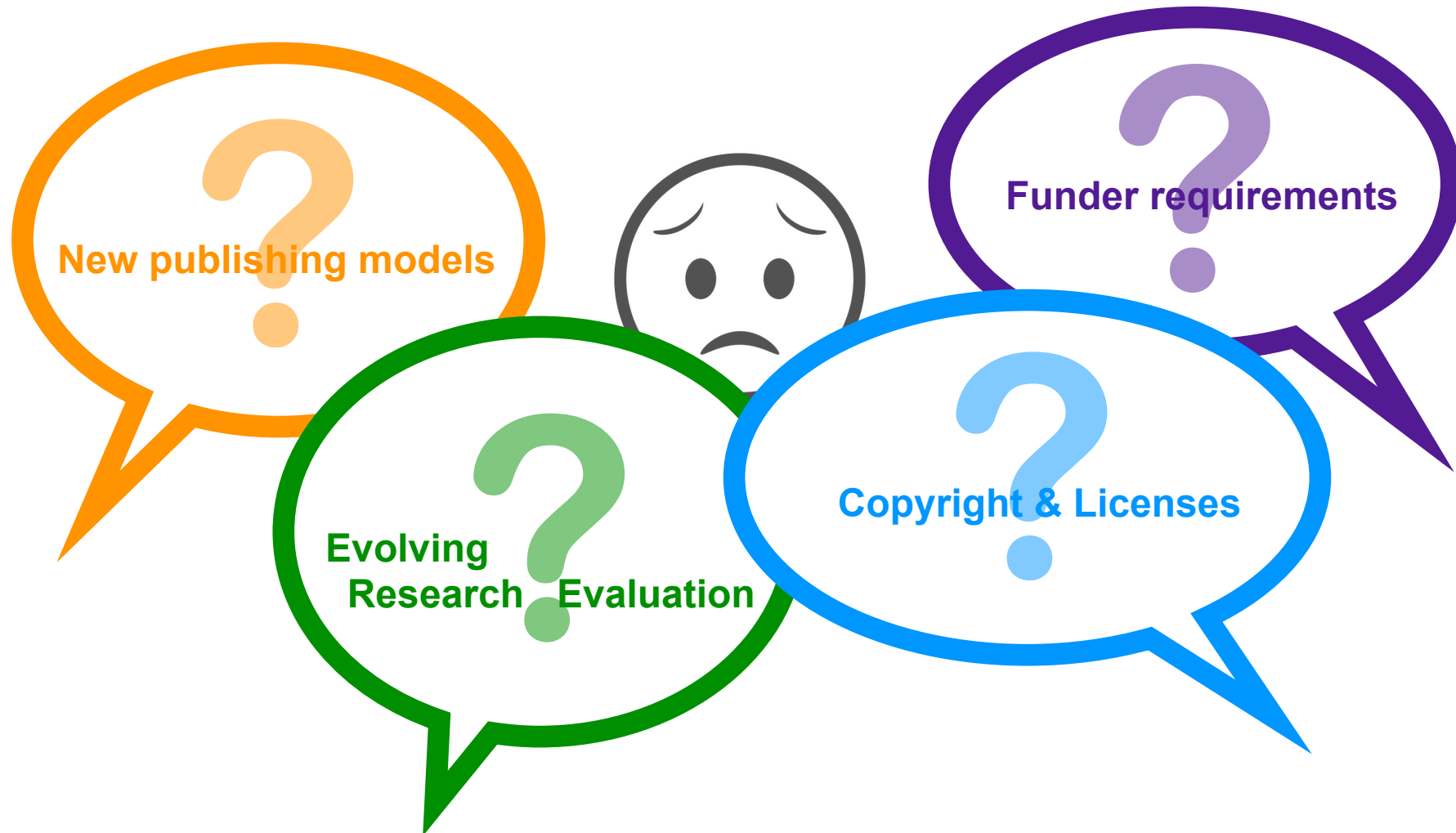
# Where do we go from here?

## How to collect Requirements for the Future of Publishing?

# A&A Survey before EAS (Europ. Astron. Soc.) 2025 Meeting:
## *Trends and Challenges in Scientific Publishing*

*How to create quality publishing of the future? Based on survey key take-aways (~2,500 responses)*

# A&A Survey before EAS (Europ. Astron. Soc.) 2025 Meeting: *Trends and Challenges in Scientific Publishing*

*How to create quality publishing of the future? Based on survey key take-aways (~2,500 responses)*

To maintain scientific publishing, researchers emphasise

1. Quality and Integrity of Publishing

2. Editorial Transparency

3. Reusability (access to complementary data, code, etc.)

4. Global Publishing Equity

5. Evaluation of Science

6. Responsible Use of AI in Publishing

7. Community involvement

"*These factors reflect a call for journals to function as **guardians of research quality**, not just **publication venues**.*"

# Major Players in Publishing

1. Quality and Integrity of Publishing

2. Editorial Transparency

3. Reusability (access to complementary data, code, etc.)

4. Global Publishing Equity

5. Evaluation of Science

6. Responsible Use of AI in Publishing

7. Community involvement



Researchers

Research Performing Organisations (RPOs)

Science Funders

Libraries

Publishers

# How can Stakeholders shape the Future of Scientific Publishing?

(identifying concrete actions, not solving the big questions)

# 1. Quality and Integrity of Publishing

*Peer-review is key! More discussion needed: Double-Blind or Open? Pre- or Post-Publication? Published Reports?*

**Researchers**
- **Conduct peer-review (otherwise system will break)**
- **No refereeing for predatory or dubious publishers**
- Discuss advantages and challenges of evolving models

**Organisations**
- Support training in peer review
- **Recognize refereeing (for quality journals) as scholarly contribution**
- **Emphasise quality content when communicating with wider public**

**Funders**
- Promote transparent peer review through mandantes and funding criteria

**Libraries**
- **Provide support on how to identify quality journals**
- Inform researchers about options; contribute to scholarly discussions

**Publishers**
- **Implement and maintain ethical peer review standards**
- Evaluate feasibility of evolving trends for specific or all journals

# 2. Editorial Transparency

*Authors: Beware predatory publishers!*

**Researchers**
- **Only publish in quality journals**
- Serve on editorial boards of quality journals

**Organisations**
- Encourage researchers to engage with editorial roles
- **Provide training on good editorial / refereeing standards**

**Funders**
- Require grantees to publish in journals with transparent policies

**Libraries**
- **Promote tools to identify predatory publishers**, e.g., Directory of Open Access Journals (DOAJ) and Think-Check-Submit site

**Publishers**
- **Disclose editorial workflows and policies**
- **Ensure independence and accountability of editorial boards**

# 3. Open Science & Reusability

*Access to research data, code, simulations, etc. Interconnected research output for future use*

**Researchers**
- **Share data, code, materials, protocols** alongside paper
- Assign **Digital Object Identifiers (DOIs)** to ensure traceability and preservation
- **Use Open Licenses (CC-BY)** to enable re-use

**Organisations**
- **Incentivize diverse research outputs**
- **Ensure reusability of organisational research output**
- Invest in shared infrastructure, e.g., arXiv, open platforms

**Funders**
- **Mandate open research outputs (beyond published paper)**
- Monitor compliance

**Libraries**
- **Train in FAIR data practices**
- Set up and manage open repositories

**Publishers**
- **Provide infrastructure for data/code sharing or collaborate with providers**
- **Require data availability statements**
- Implement accessibility checks

*Future of Publishing, Uta Grothkopf, EAS Annual Meeting 2025*

# 4. Global Publishing Equity

*Make publishing affordable for researchers while still maintaining economic stability for publishers*

**Researchers**
- **Publish in, and review for, inclusive, equitable venues**
- **Voice barriers for wider uptake of equitable publishing** (if any)
- Avoid APC-heavy journals

**Organisations**
- **Create or participate in open, no-cost publishing infrastructure**
  e.g., CERN: Zenodo, EMBL: Europe-PMC   (together with Funders?)

**Funders**
- **Create or participate in open, no-cost publishing infrastructure**
  e.g., EC's Open Research Europe (ORE) platform   (together with Organisations?)
- **Push for global inclusion**: OA must mean equitable access to publish and read

**Libraries**
- Manage institutional OA funds; negotiate cost-effective agreements
- **Support community-owned and collaborative publishing models**
- **Avoid lock-in with large commercial publishers**

**Publishers**
- **Develop equitable publishing models** (e.g., membership, OA consortia)
- Support subject-based and regional scholar-led publishing initiatives

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# 5. Evaluation of Science

*"Scientific Rigor over Novelty" or "…over Prestige" ?     —> Responsible Metrics*

| | |
|---|---|
| **Researchers** | • **Demand article-based and inclusive evaluation metrics**<br>• Prioritise methodological soundness over impact factors (very difficult especially for early career researchers…) |
| **Organisations** | • **Take a clear position of quality over quantity**<br>• **Develop career recognition for non-traditional outputs** (data, software, peer rev.)<br>• **Apply responsible metrics in hiring and promotion metrics** (e.g, DORA/CoARA) |
| **Funders** | • **Shift evaluation focus from journal prestige to research quality**<br>• Do not demand wrongly applied metrics like Journal Impact Factor when evaluating results from funded research |
| **Libraries** | • Advise on article-based research evaluation<br>• Adapt institutional evaluation reports accordingly |
| **Publishers** | • Clearly state value of journal-level metrics for journals, but not researchers<br>• **Provide easily accessible article-level metrics**<br>• **Collaborate with ORCID (Open Researcher and Contributer ID) platform** |

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# 6. Responsible Use of AI in Publishing

*What is acceptable? Who defines policies? How to detect misbehaviour?*

| | |
|---|---|
| **Researchers** | • Use AI tools ethically; resist ghost authorship or content generation<br>• **Declare use of AI** |
| **Organisations** | • **Set institutional guidelines on AI use in research and publication**<br>• **Monitor organisational CO$_2$ footprint** (likely to increase with heavy use of AI) |
| **Funders** | • **Define ethical AI use**<br>• **Require disclosure of AI assistance in outputs** |
| **Libraries** | • Monitor AI strategies and guidelines of publishers, funders, RPOs, etc.<br>• Host detection tools to ensure policy compliance |
| **Publishers** | • **Develop and promote policies on AI-assistance**, require AI use disclosure<br>• **Use AI ethically for editorial workflows**, communicate openly about it |

# 7. Community Involvement

*Options to voice community needs*

| | |
|---|---|
| **Researchers** | • **Support society-run or scholarly-driven journals**<br>• Advocate for disciplinary-specific needs<br>• Provide feed-back and experience to funders, publishers, colleagues |
| **Organisations** | • Enable faculty roles in scholarly societies and field-specific publishing<br>• **Develop tools and venues with community for community** |
| **Funders** | • Fund community- and scholar-led publishing initiatives |
| **Libraries** | • **Act as a mediator between researchers and publishers**<br>• **Provide hosting support for small or community-specific journals** |
| **Publishers** | • Collaborate with scholarly communities; provide feedback channels<br>• Adapt publishing practices to community norms, values, and needs |

# Final Remarks

# Strategic Questions

1. How do we ensure quality publishing?

2. What will peer-review look like?

3. How do we embed reusability and Open Science?

4. How do we ensure global inclusivity?

5. How do we apply responsible research metrics?

6. How do we use technology responsibly?

7. How do we ensure community involvement?

8. Who owns and governs our publishing infra-structure? How do we create a persistent, reliable ecosystem for science?

*Shaping the Future of Publishing, Uta Grothkopf, LISA 10, Nov. 2025*

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# Open Access is a Paradigm Shift. We must get it right (finally)!

- We are no longer just adopting Open Access — we are defining it.

- There are already too many unintended side-effects. We must do better.

- Different OA paths not just economic choices, they represent different values and roles for the community.

- Researchers, organisations, funders, libraries, publishers make strategic choices for scholarly publishing.

- Let's build together a collaborative, equitable, community-controlled publishing ecosystem

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# Good Science Practice is a Collective Action

*Together we can build the Future of Quality Publishing*



**Thank you!**

uta.grothkopf@eso.org