

Support Scholars Who Share: Combating the Mismatch between Openness Policies and Professional Rewards

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Goals for the session

- Take the perspective of an individual researcher in the scholarly communication ecosystem
- Understand how incentive structures for academics undermine progress towards community goals of open scholarship
- Conceptualize mandates that do not work against long-term adoption of open practices
- Discuss strategies to resolve this tension, give researchers who contribute to open knowledge a competitive advantage, and advocate for nuance in judging academic performance

Open scholarship is a coordination problem

- Why hasn't more progress been made towards openness?
- Open access to articles, data, code, and other products of research benefits the community
- Researchers and working groups within the system are competing for limited resources
- The incentive structure can be a barrier to openness even when there is widespread agreement on its value

Prisoner's dilemma

	Cooperate	Defect
Cooperate	Top: 3 Side: 3 All: 6	Top: 5 Side: 0 All: 5
Defect	Top: 0 Side: 5 All: 5	Top: 1 Side: 1 All: 2

Community outcome: all cooperate > split > all defect

Individual payoff: betray partner > all cooperate > all defect > “sucker's payoff”



Early career researchers and data sharing

- In a simulated research community, researchers who did not share data were always more productive than those who did, regardless of overall sharing, in the absence of direct rewards (Pronk et al, 2015)
- A survey of attitudes toward data sharing found that early career researchers were most supportive of data sharing as a concept but less likely to share data themselves (Tenopir et al, 2015)

Early career researchers are of particular interest because they are the most sensitive to systemic risk and reward.

Key concept – Absolute vs. relative cost

- Costs can be objectively the same but have disparate impact
- Examples: article processing charges, data curation needed for deposit, limitations on publication venue
- High costs relative to an individual's circumstance worsen the consequences of unreciprocated cooperation

Scholarly impact

- Scholarly impact is the currency of academic advancement
- Impact is a composite measure
- Resources available to produce impactful work are limited

Open access has many benefits, but the promise of increased scholarly impact is the only one that directly rewards the researcher.

The open access arms race

- Gold OA journals and APCs
 - *Repeated payments for impact raise systemic costs
- Hybrid journals and open a la carte
 - *As above, but double-dipping raises total costs even faster
- Green OA via academic social networks
 - *Shortcuts to impact undermine robust, distributed repositories

Why is gold open access so expensive?

Journal Title	IF (2017)	APC
Genome Biology	13.214	\$3490
Nature Communications	12.353	\$5200
PLoS Biology	9.163	\$3000
Scientific Reports	4.122	\$1790
Geoscience Frontiers	4.051	\$0 ^a
Database: Journal of Biological Databases and Curation	3.978	\$1680
Frontiers in Plant Science	3.677	\$2950
Remote Sensing	3.406	\$1800
Ecology and Evolution	2.340	\$1950
PeerJ	2.118	\$1095
Geoscience Data Journal	1.867	\$1500

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As long as high impact factors make journals non-substitutable goods, market forces cannot control APCs.

Scholar-friendly open access mandates

1. Mandates should not be “opinionated” about venue
 - Researchers have their choice of journals and repositories
2. Mandates should be tied to incentives that matter
 - Grant renewal or promotion contingent on compliance
3. Mandates should not be universal across disciplines
 - Expect differences in venue of dissemination, embargo periods, reporting mechanisms
4. Mandates should be enforced
 - Low compliance rates allow for free-riding, unfair competitive advantage

The librarian's dilemma

We are faced with two potentially contradictory strategies:

1. Help researchers “win” at metrics, using open scholarship as one tool to increase impact and gain a competitive advantage
2. Push back against scholarly impact as a proxy for quality of scholarship and advocate for systemic overhaul

Regardless of our choices, we need to pay attention to their effects on those with relatively higher cost burdens.