

Schutz, Bernard, “Data Access: Digital Technology and Scientific Communities”



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:



B F Schutz
Albert Einstein Institute

Talking points on data access || NSF: Changing the Conduct of Science in the Information Age || 1



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*



B F Schutz
Albert Einstein Institute

Talking points on data access || NSF: Changing the Conduct of Science in the Information Age || 1



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*



B F Schutz
Albert Einstein Institute

Talking points on data access || NSF: Changing the Conduct of Science in the Information Age || 1



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*



B F Schutz
Albert Einstein Institute

Talking points on data access || NSF: Changing the Conduct of Science in the Information Age || 1



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*



B F Schutz
Albert Einstein Institute

Talking points on data access || NSF: Changing the Conduct of Science in the Information Age || 1



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*



B F Schutz
Albert Einstein Institute

Talking points on data access || NSF: Changing the Conduct of Science in the Information Age || 1



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*



B F Schutz
Albert Einstein Institute

Talking points on data access || NSF: Changing the Conduct of Science in the Information Age || 1



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:
 - Access control and security for archives; protection of confidential data, facilitating automated access



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:
 - Access control and security for archives; protection of confidential data, facilitating automated access
 - Data integrity; preservation of provenance/attribution



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:
 - Access control and security for archives; protection of confidential data, facilitating automated access
 - Data integrity, preservation of provenance/attribution
 - Long-term preservation of data and access to it



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:
 - Access control and security for archives; protection of confidential data, facilitating automated access
 - Data integrity, preservation of provenance/attribution
 - Long-term preservation of data and access to it
 - Metadata (the richer the better!): distribution, creation of indexes, creation of federated data sets



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:
 - Access control and security for archives; protection of confidential data, facilitating automated access
 - Data integrity, preservation of provenance/attribution
 - Long-term preservation of data and access to it
 - Metadata (the richer the better!): distribution, creation of indexes, creation of federated data sets
 - Bandwidth and replication: the physical location of data when it is used



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:
 - Access control and security for archives; protection of confidential data, facilitating automated access
 - Data integrity, preservation of provenance/attribution
 - Long-term preservation of data and access to it
 - Metadata (the richer the better!): distribution, creation of indexes, creation of federated data sets
 - Bandwidth and replication: the physical location of data when it is used
 - Local or remote computing (Grid, Cloud): the physical location of the computing resources that use the data



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:
 - Access control and security for archives; protection of confidential data, facilitating automated access
 - Data integrity, preservation of provenance/attribution
 - Long-term preservation of data and access to it
 - Metadata (the richer the better!): distribution, creation of indexes, creation of federated data sets
 - Bandwidth and replication: the physical location of data when it is used
 - Local or remote computing (Grid, Cloud): the physical location of the computing resources that use the data
 - Creation of open community-usable tools to handle data, interface with local computing, perform intelligent search and retrieval



DATA ACCESS: DIGITAL TECHNOLOGY AND SCIENTIFIC COMMUNITIES

TALKING POINTS

- Social issues need clarity if the conduct of science is to change in a positive way:
 - Ownership of research data: *resolving the tension between confidentiality and openness; who decides?*
 - Intellectual property rights for open data: *attribution, publication policy on new results extracted from the data*
 - Rewards: *is the effort put into making data publicly accessible regarded as having the same kind of merit as the research that leads to a paper from the data?*
 - Is some data open by default? *Example, data that immediately supports the claims in a publication*
 - Policy issues for data repositories: *access to data, access to metadata, preservation policy, data integrity, replication, etc*
 - Standards: *Adoption/creation of international standards (metadata, formats, glossaries, indices) to facilitate search, retrieval, exploitation*
- Technical issues must be solved, requires support by research funders:
 - Access control and security for archives; protection of confidential data, facilitating automated access
 - Data integrity, preservation of provenance/attribution
 - Long-term preservation of data and access to it
 - Metadata (the richer the better!): distribution, creation of indexes, creation of federated data sets
 - Bandwidth and replication: the physical location of data when it is used
 - Local or remote computing (Grid, Cloud): the physical location of the computing resources that use the data
 - Creation of open community-usable tools to handle data, interface with local computing, perform intelligent search and retrieval
 - User features: ability to "browse" data before extracting it; local help desks; linking repositories with virtual research labs;



B F Schutz
Albert Einstein Institute

Talking points on data access || NSF: Changing the Conduct of Science in the Information Age || 1



