

ESO **telbib**:

Learning from **experience**, preparing for the **future**

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ESO Library
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Data lifecycle in Astronomy



ESO Telescope Bibliography

telbib.eso.org

The ALMA Spectroscopic Survey in the Hubble Ultra Deep Field: Search for [CII] Line and Dust Emission in 6

Authors: Aarevi, M.; Doufil, R.; Walter, F.; Bouwens, R.; Dessh, P. A.; Carril, C. L.; Bauer, F. E.; De Cunha, E.; Dessh, E.; González López, J.; Hiron, R. J.; Hecher, D. A.; Smail, I.; Swinbank, A. M.; Weiss, A.; Anguita, T.; Bacon, R.; Bell, E.; Bertoldi, F.; Cortes, F.; Cox, P.; Hodges, J.; Ivis, E.; Iram, P.; Manks, L.; Karim, A.; Magnell, B.; Ota, N.; Poppinga, G.; van der Werf, P.; Wagg, J.; Fudamoto, Y.

Keywords: galaxies: evolution, galaxies: high-redshift, galaxies: ISM, galaxies: star formation, instrumentation: interferometers, submillimeter: galaxies

Abstract: show abstract +

Publication details: Apr. 2016, vol. 633, 1

BinCode: 2016ApJ...833..71A

Fulltext (via ADS): ADS

Citations from ADS: 18

Further information: http://www.eso.org/public/news/1603/ (Press Release)

Instrument(s): ALMA, Band 9, MUSE

Telescope(s): ALMA, VLT

Site(s): Chajnantor, Paranal

Program(s): 2013.1.00148.S (access to data), ALMA-Partner: Europe, 2013.1.00718.S (access to data), ALMA-Partner: Chile, 09A-C099 (access to raw data), 09A-C010 (access to raw data), 09A-C045 (access to raw data)

Observational Raw Data Query Form

Science Archive Facility

Target, Program, and Scheduling Information

ESO Science Archive

Observing Information

Imaging	Spectroscopy	Interferometry	Other
<input type="checkbox"/> ALL <input type="checkbox"/> ESO/CLARA <input type="checkbox"/> ESO/LA8 <input type="checkbox"/> ESO/LA9 <input type="checkbox"/> ESO/LA10 <input type="checkbox"/> ESO/LA11 <input type="checkbox"/> ESO/LA12 <input type="checkbox"/> ESO/LA13 <input type="checkbox"/> ESO/LA14 <input type="checkbox"/> ESO/LA15 <input type="checkbox"/> ESO/LA16 <input type="checkbox"/> ESO/LA17 <input type="checkbox"/> ESO/LA18 <input type="checkbox"/> ESO/LA19 <input type="checkbox"/> ESO/LA20 <input type="checkbox"/> ESO/LA21 <input type="checkbox"/> ESO/LA22 <input type="checkbox"/> ESO/LA23 <input type="checkbox"/> ESO/LA24 <input type="checkbox"/> ESO/LA25 <input type="checkbox"/> ESO/LA26 <input type="checkbox"/> ESO/LA27 <input type="checkbox"/> ESO/LA28 <input type="checkbox"/> ESO/LA29 <input type="checkbox"/> ESO/LA30 <input type="checkbox"/> ESO/LA31 <input type="checkbox"/> ESO/LA32 <input type="checkbox"/> ESO/LA33 <input type="checkbox"/> ESO/LA34 <input 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Data Product Info

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Dataset ID: [input]

Site Name: [input]

Release Date: [input]

OB Name: [input]

OB ID: [input]

Category: SCIENCE, CALIB, ACQUISITION

Instrumental Setup: [input]



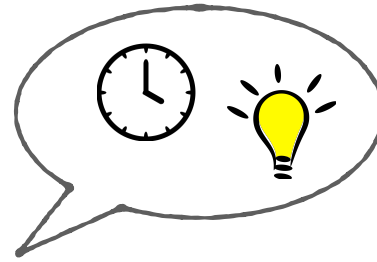
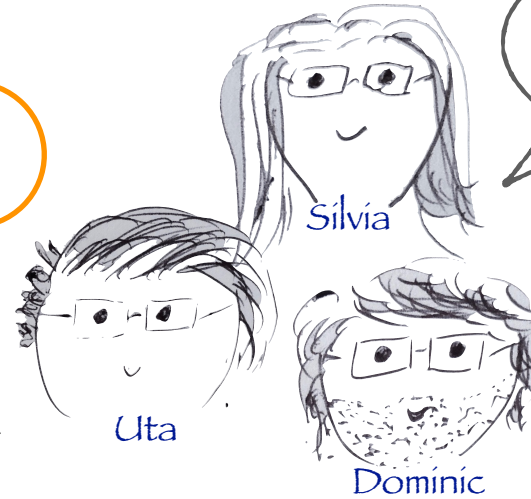


ESO telescope bibliography

telbib:

- **unique place** of links between ESO data papers and the observations in the Science Archive
- **built and curated** by ESO Librarians
- **interlinking** resources
- **tool to evaluate** ESO's performance and impact through bibliometrics

1



ESO Telescope Bibliography

back to results

DETAILED INFORMATION

Authors: Awewa, M.; Douillet, P.; Waters, F.; Bouwman, R.; Desch, P. A.; Carr, C. L.; Bauer, F. E.; De Courpa, S.; Desh, E.; González López, J.; Hines, R. J.; Richers, D. A.; Smail, I.; Beninink, A. M.; Weiss, A.; Anguita, T.; Bacon, R.; Bell, E.; Bertoldi, F.; Cortes, F.; Cox, P.; Hodges, J.; Ilee, E.; Iram, P.; Manks, L.; Karim, A.; Magnell, B.; Ota, N.; Poppinga, G.; van der Werf, P.; Wagg, J.; Fukumoto, Y.

Title: The ALMA Spectroscopic Survey in the Hubble Ultra Deep Field: Search for [CII] Line and Dust Emission in 6

Keywords: galaxies: evolution, galaxies: high-redshift, galaxies: ISM, galaxies: star formation, instrumentation: interferometers, submillimeter: galaxies

Abstract: show abstract +

Publication details: Apr. 2016, vol. 833, 1

BisCode: 2016Apr...833...71A

FulText (via ADS): ADS

Citations from ADS: 18

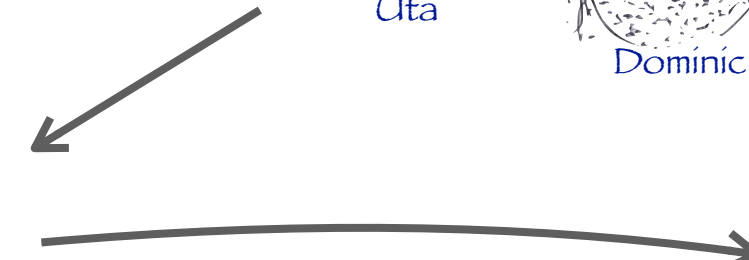
Further information: http://www.eso.org/public/news/1603/ (Press Release)

Instrument(s): ALMA, Bands, MUSE

Telescope(s): ALMA, VLT

Site(s): Paranal, Cerro Paranal

Program(s): 2013.1.071A-B.S (access to data), ALMA-Partner: Europe, 2013.1.071A-S (access to data), ALMA-Partner: Chile, 09A-A-0399 (access to raw data), 09A-A-0103 (access to raw data), 09A-A-0045 (access to raw data)



2

iD ORCID Connecting Research and Researchers

ESO Archive Query Form

Search Name of: []

Instrument(s): []

Site(s): []

Program(s): []

Observing mode: []

Observation date: []

Exposure time: []

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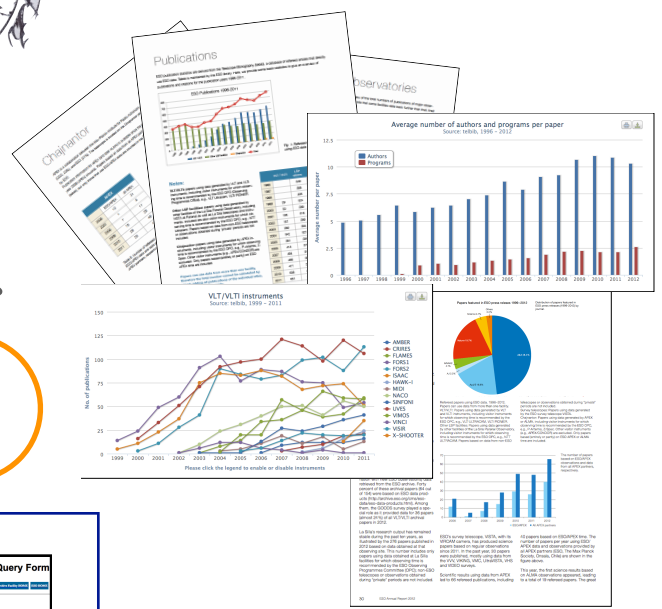
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Equatorial coordinates: []

Other: []





Overview

- 1 **Why** do we need **”curated”** telescope bibliographies?
- 2 **Lessons learned** from **20+ years of telbib**
(“The **7 Cs**”)



① Why do we need **”curated”** telescope bibliographies?



Contributions and roles related to content

	YOUR CONTRIBUTION TO CONTENT	YOUR ROLE
author	ORIGINAL CONTENT YOU GENERATED or AUTHORED	THE AUTHOR
publisher	CONTENT DEPOSITED TO YOUR CARE by the GENERATOR	THE GUARDIAN
libraries, repositories	CONTENT YOU CURATED	THE CURATOR
telbib	MEANINGFULLY DIFFERENT, or EXPANDED CONTENT	THE ANNOTATOR
telbib	INTEGRATIONS of EXISTING DATA, COMBINED in NOVEL WAYS, or at DIFFERENT LEVELS of GRANULARITY	THE INTEGRATOR
telbib	FACTUAL CORRECTIONS, IMPROVEMENTS	THE CONTRIBUTOR
telbib	IDENTICAL CONTENT or TRIVIALY CHANGED, AGGREGATED for INDEXING or SEARCH	THE INDEXER
telbib	CONTENT COPIED to CIRCUMVENT DEPENDENCY or to UNIFY USER EXPERIENCE	THE APPLICATION PROVIDER

Credit:

McMurry, Julie et al. (2017) Identifiers for the 21st century: How to design, provision, and reuse persistent identifiers to maximize utility and impact of life science data. PLoS Biol 15(6): e2001414. <https://doi.org/10.1371/journal.pbio.2001414>





Contributions

5 crucial roles

fulfilled by
bibliography curators

telbib

MEANINGFULLY
DIFFERENT, or
EXPANDED CONTENT

telbib

INTEGRATIONS of
EXISTING DATA,
COMBINED in NOVEL WAYS
or at DIFFERENT
LEVELS of GRANULARITY

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IMPROVEMENTS

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INDEXING or SEARCH

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CIRCUMVENT DEPENDENCY
or to UNIFY USER EXPERIENCE

THE
ANNOTATOR

assign tags to
optimize retrieval
(surveys, archival data, etc.)

THE
INTEGRATOR

link papers & data
(& other info resources)

THE
CONTRIBUTOR

correct / add wrong
or missing identifiers

THE
INDEXER

make content **searchable**
(multiple parameters)

THE
APPLICATION
PROVIDER

provide retrieval platform
(telbib.eso.org)





- ① **Why** do we need **”curated”** telescope bibliographies?
- ② **Lessons learned** from **20+ years of telbib**
(“The **7 Cs**”)

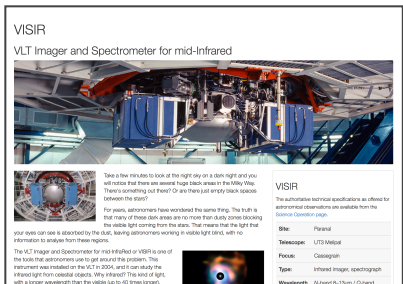


1. Connectivity

- ▶ **Keywords:** interoperability, access, data exchange
- ▶ **ESO telbib:**
 - Sybase database chosen for **easy data exchange** with ESO Science Archive
 - various identifiers to link in and reach out
- ▶ **Identifiers:**
 - ESO programIDs (Archive, Observing Schedule)
 - bibcode (ADS, ESO press releases)
 - author IDs (ORCID)
 - DOI (Altmetric)
 - API parameters (access to and from telbib)



article DOI



instrument info

DETAILED INFORMATION

Author(s) **Pian, E.** ; **D'Avanzo, P.** ; **Benetti, S.**; **Branchesi, M.**; **Brocato, E.**; **Campana, S.**; **Cappell**; **Ghisellini, G.**; **Hjorth, J.**; **Kouveliotou, C.**; **Levan, A.**; **Limatola, L.**; **Male**

ORCID

[show all authors](#) ▾

Title **Spectroscopic identification of r-process nucleosynthesis in a double neutron-star merger**

Keywords **Astrophysics - High Energy Astrophysical Phenomena**

Abstract [show abstract](#) ▾

Publication details **Nature, 2017, vol. 551, p. 67**

BibCode **2017Natur.551...67P**

Fulltext (via ADS) [ADS](#) **fulltext**

DOI [10.1038/nature24298](https://doi.org/10.1038/nature24298)

Citations (from ADS) **58** **53** altmetric.com

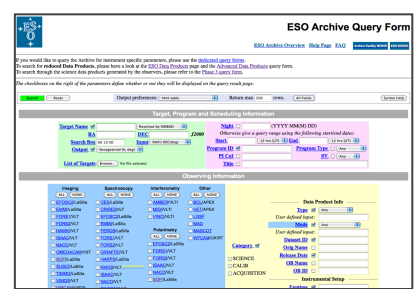
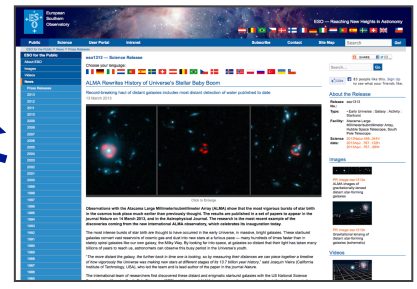
Further information <http://www.eso.org/public/news/eso1733/> (Press Release) **ESO PR**

Instruments and Observing Programmes used:

- FORS2 (VLT / Paranal)
 - [099.D-0382](#) (access to raw data)
 - [099.D-0622](#) (access to raw data)
- OMEGACAM (VST / Paranal)
 - [099.D-0191](#) (access to raw data)
- XSHOOTER (VLT / Paranal)
 - [099.D-0382](#) (access to raw data)
 - [099.D-0622](#) (access to raw data)

Hosted facilities REM

Other tags PI data



data





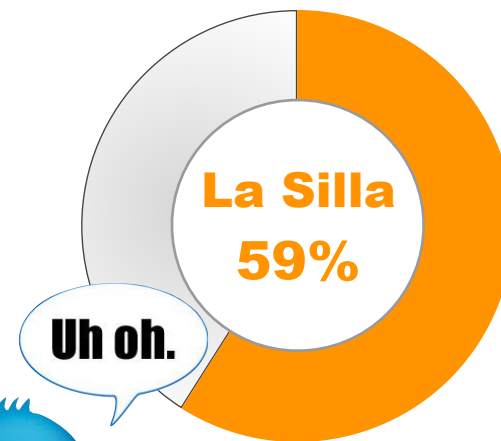
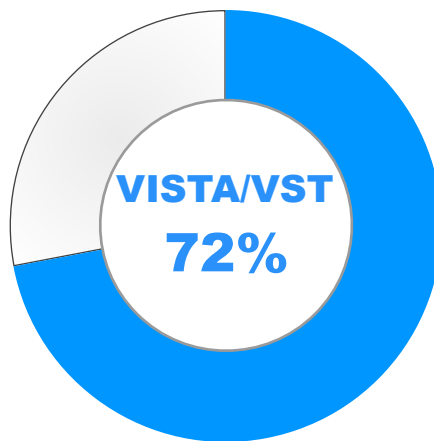
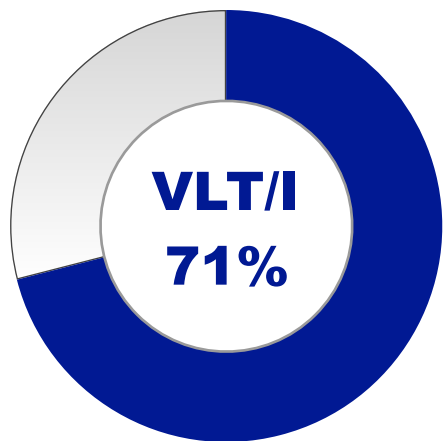
2. Curation

- ▶ **Keywords:** text mining, human inspection, automated retrieval (*reliable??*)
- ▶ **ESO telbib:**
 - FUSE full text search tool extremely helpful, but human curation necessary
- ▶ **Aim:**
 - Ensure **correct and complete** (within ~5%) set of data papers in telbib



2. Curation

Fraction of data papers with **correct** and **complete** identifiers (2012-2017)





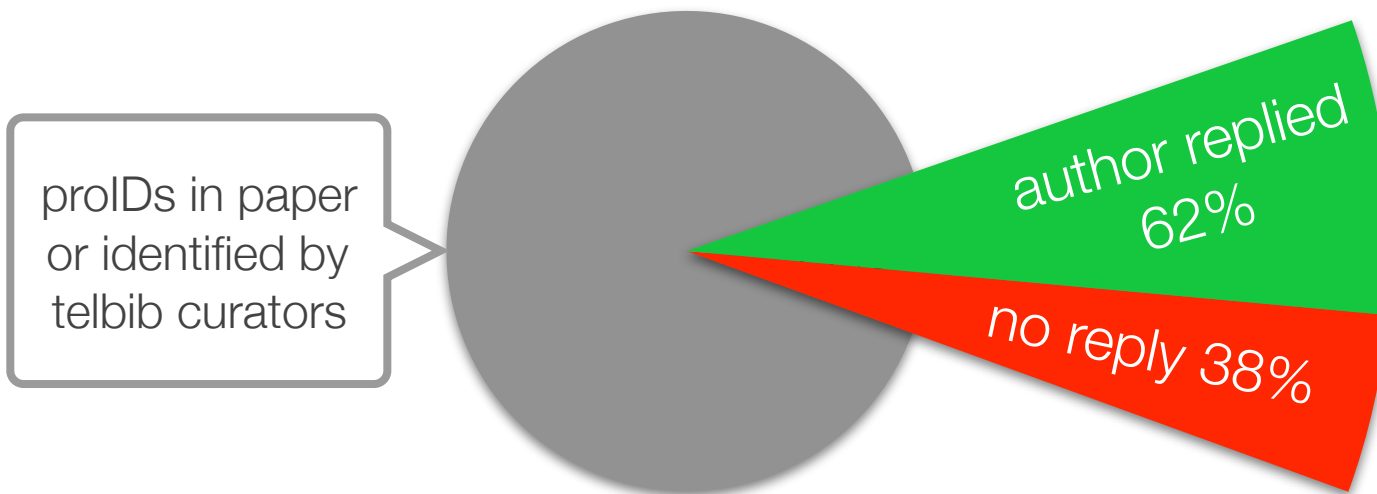
3. **Community** involvement

▶ **Keywords:** author awareness, dissemination of data citation policy

▶ **ESO telbib:**

- Data citation policy (when and how to acknowledge data)
- disseminated through Instrument Scientists, ESO Science Archive interface, “power users”
- **communication with authors**

▶ **Example:** telbib records added Sep-Dec 2017



Communication with authors:

414 records added to telbib
proIDs identified: 89%
45 authors contacted: **11%**

28 authors replied: **62%**
17 authors did not reply: **38%**



4. Collaboration

- ▶ **Keywords:** teamwork, exchange of best practices, networking
- ▶ **ESO telbib:**
 - joint efforts to establish new features
 - **define policies and guidelines** with other bibliography curators (HST, Gemini, Spitzer)
- ▶ **Example:**
 - ALMA Bibliography



*“The ALMA bibliography is **jointly maintained** by the librarians at ESO and NRAO as well as NAOJ.”*





5. Conjecture (Anticipation)

▶ **Keywords:** parameters, metrics, publishing trends

▶ **ESO telbib:**

- from list of articles to sophisticated system
- new features implemented **proactively**

▶ **Use cases:**

- **Ad-hoc statistics:** provided on demand or user request
- **Regular reports:** *Basic ESO Publication Statistics*
- **Essential statistics** provided for investigations, e.g.

- ▶ Sterzik+ 2016: ***The impact of science operations on science***, 2016Msng.169...11L
- ▶ Leibundgut+ 2017: ***Scientific Return from VLT instruments***, 2017Msng.169...11L
- ▶ Patat+ 2017: ***The ESO Survey of Non-Publishing Programmes***, 2017Msng.170...51P
- ▶ Grothkopf+ 2017: ***On the Availability of ESO Data Papers on arXiv/astro-ph***, 2017Msng.170...58G

telbib
completeness:
> 95%





6. Courage

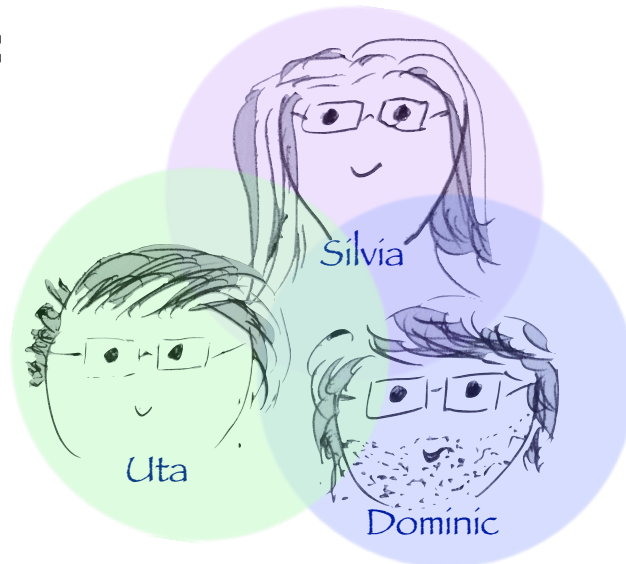
- ▶ **Keywords:** feedback, suggestions, user requests
- ▶ **ESO telbib, e.g.:**
 - telbib—Science Archive connection: what do we want to measure?
 - public interface: how much detail?
- ▶ **Bottom line:**
 - increasing number of papers & parameters
(with same number of staff)
 - find the courage to **decline requests**



7. **Count on** your team

- ▶ **Keywords:** professional roles, knowledge, collaboration, teamwork

- ▶ **ESO telbib:**



- ▶ **Bottom line:**

- different roles / **complementary knowledge & skills** among team
- some redundancy necessary to avoid single point of failure

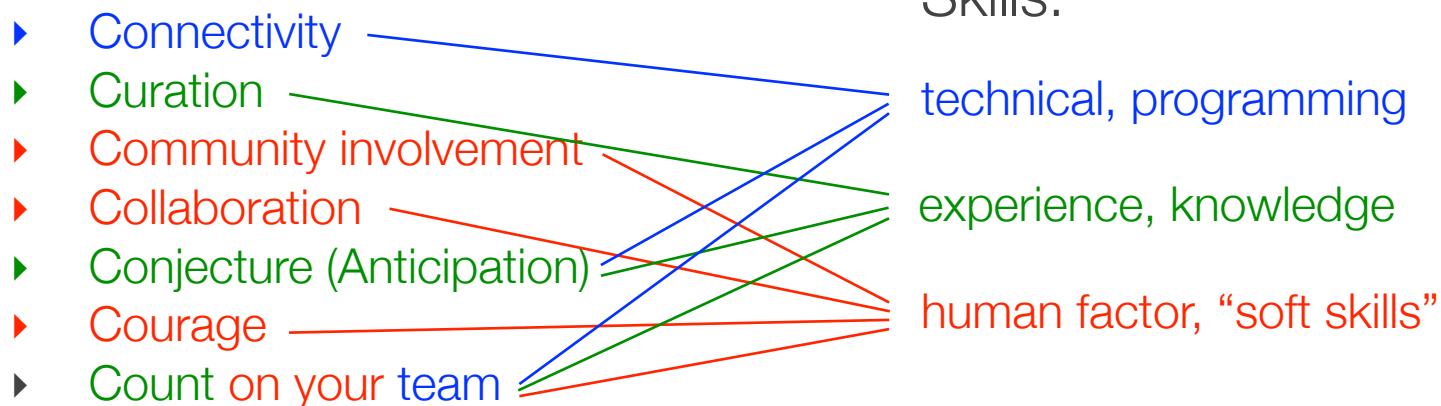


Take-away Points

1. telbib is curated

- ▶ curation = “to take care of”
- ▶ workflow ensures quality content
- ▶ including, but not limited to linking programs to papers

2. Basis: “7 Cs”



3. Way forward:

- ▶ **proactively implement** new features
- ▶ react to **demand from stakeholders**
- ▶ **select** only requests that are feasible

