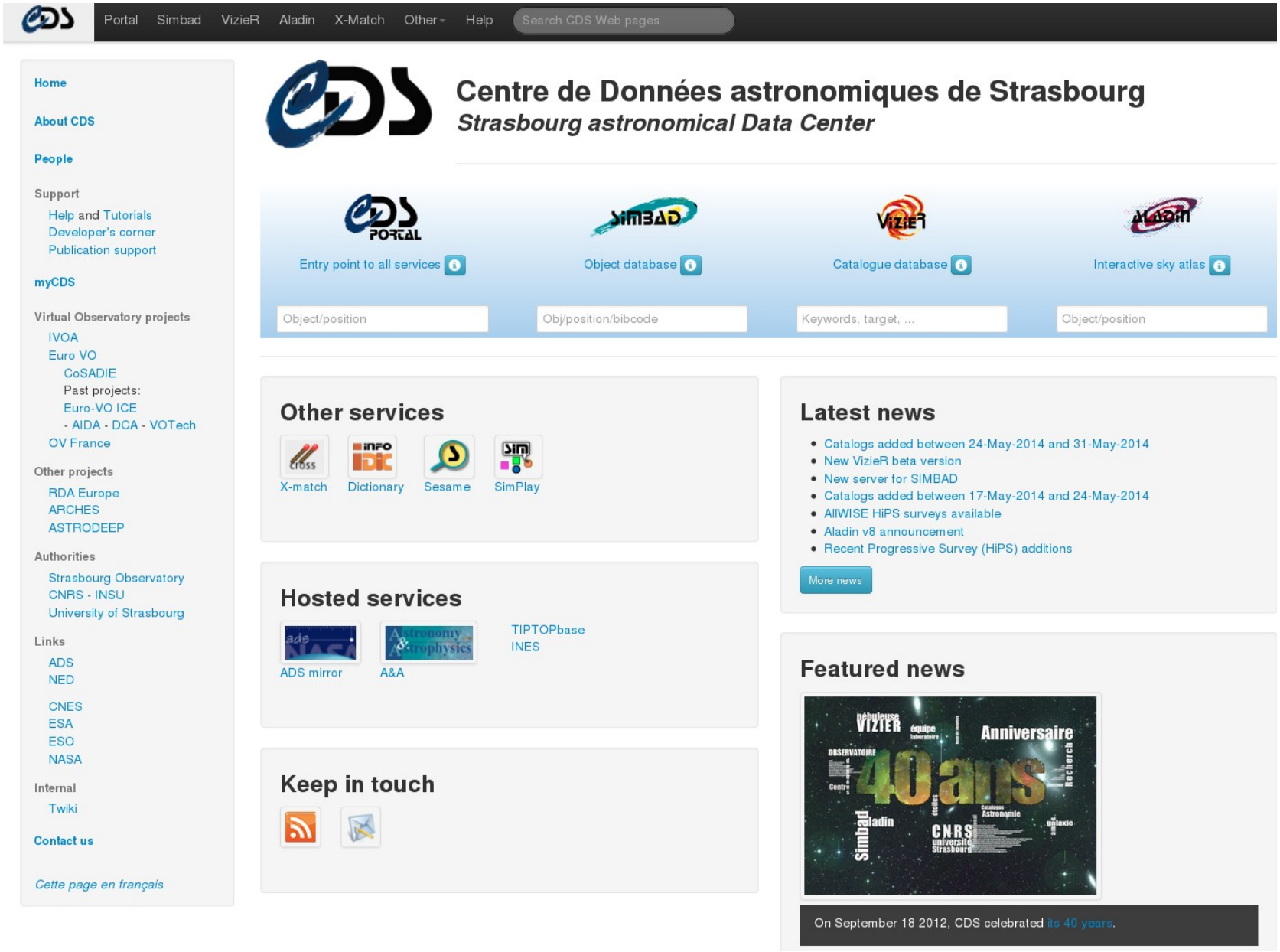
Working together at CDS : the symbiosis between astronomers, documentalists & IT specialists



Working together at CDS : the symbiosis between astronomers, documentalists & IT specialists

VizieR & SIMBAD created and maintained by astronomers, documentalists & computer engineers :

- An historical overview
- Definition and roles of these 3 profiles today

I. Historical view

3 main CDS services :

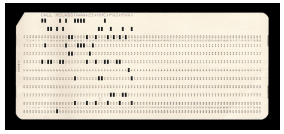
+ Nomenclature dictionnary

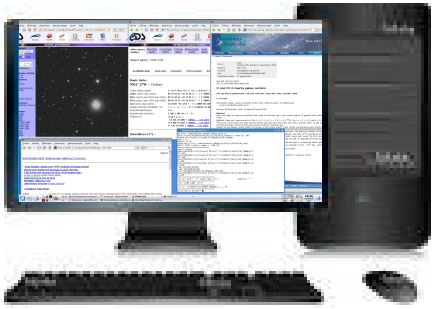
The current CDS staff actively participating in at least one of the 4 services above :

- 10 astronomers
- 11 documentalists
- 11 computer engineers

CDS technological evolution

1972 | 1980 | 1990 | 1993 | 1998 | 2006 | 2008 | 2014





Punched card

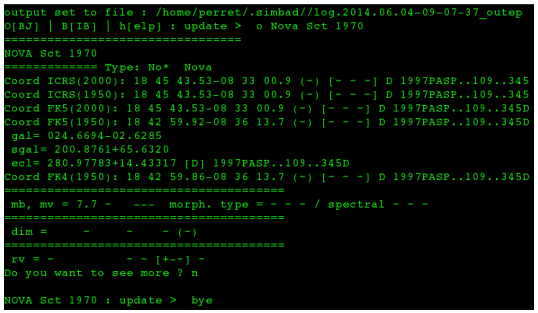
Alpha 20

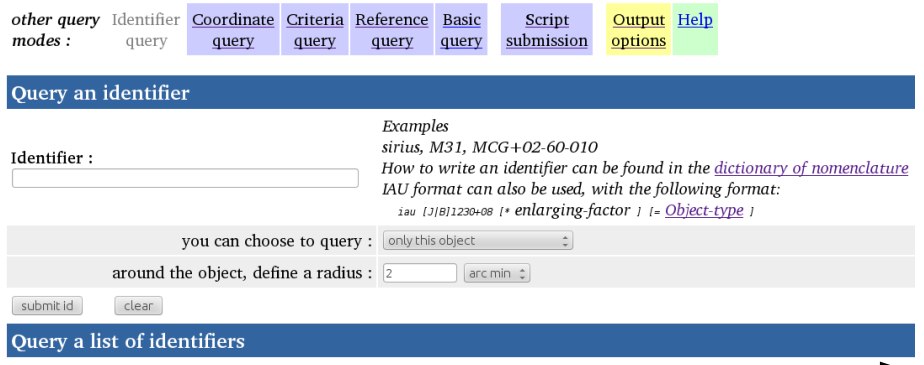
vt100

Terminal X

PC

500 To



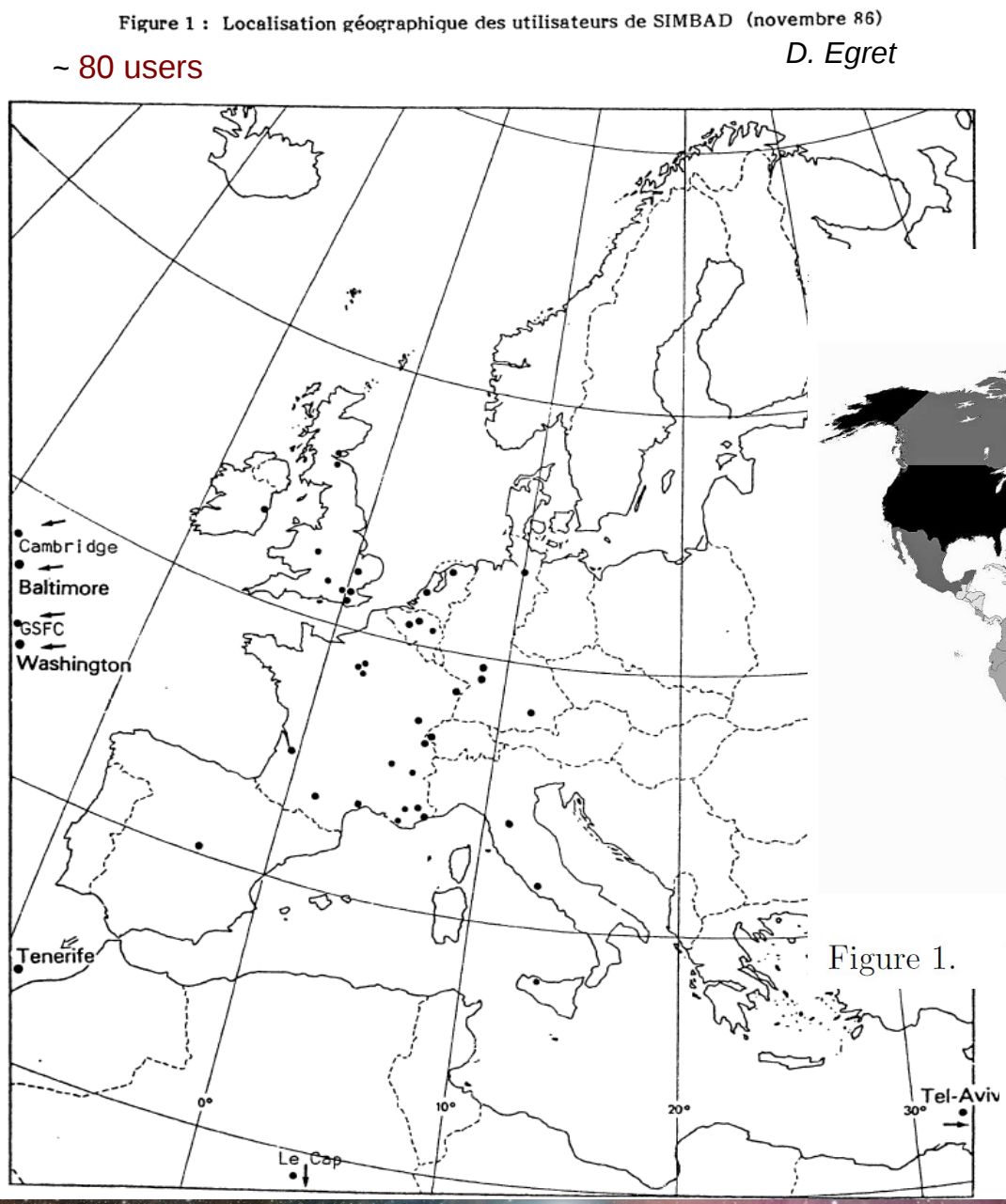


CSI — SIMBAD2 — SIMBAD3 — - Web — SIMBAD4

Raccord — Aladin — DJIN — COSIM

Magnetic bands & microfiches — Catalogs — VizieR — TAPVizieR

Users evolution (quantitatively)



~ 80 users

D. Egret

2001 : user accounts end ~8000

(M. Wenger, priv. com.)

Wenger and Oberto *2010ASPC.434.453*

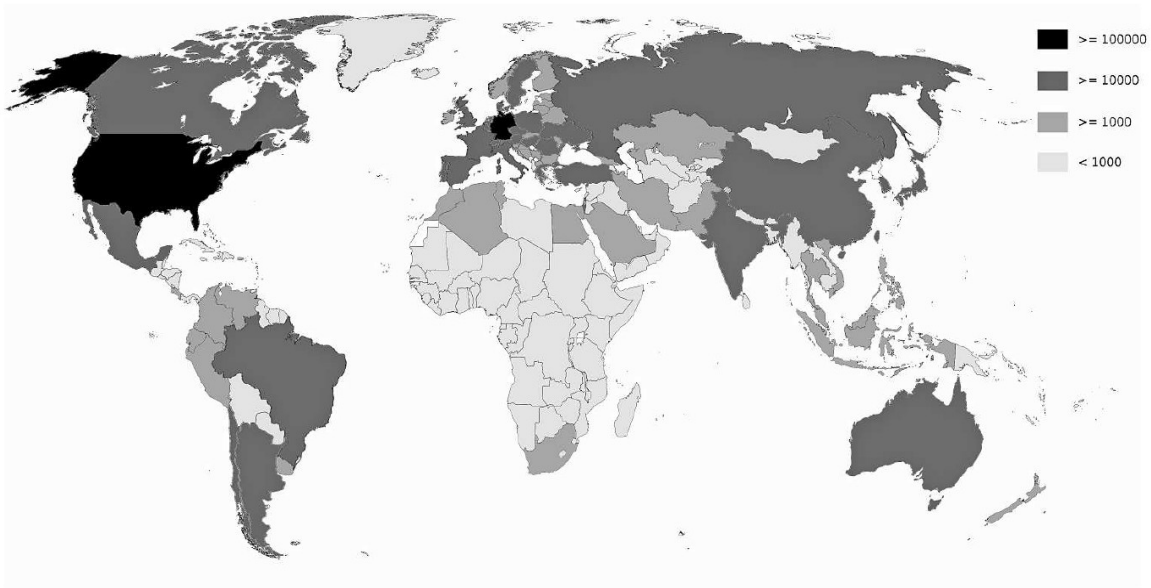
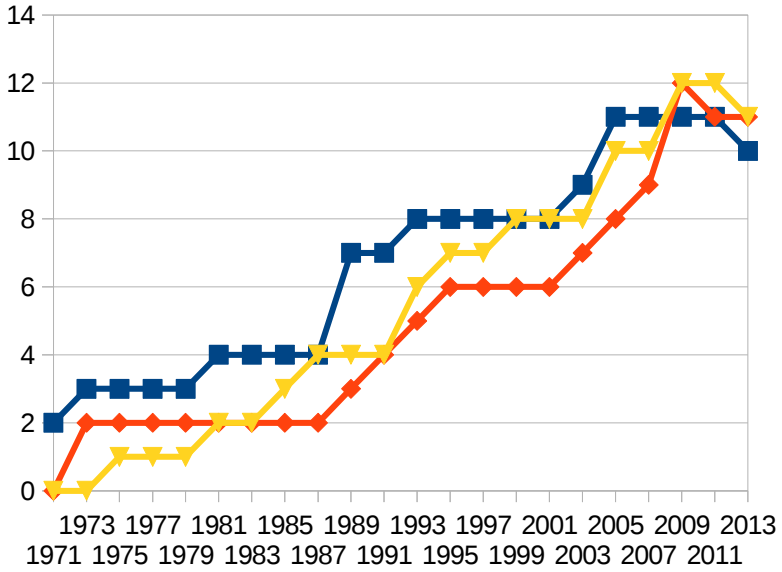


Figure 1. Users/country

IP adresses counts
>~100,000 in June 2009 in the US

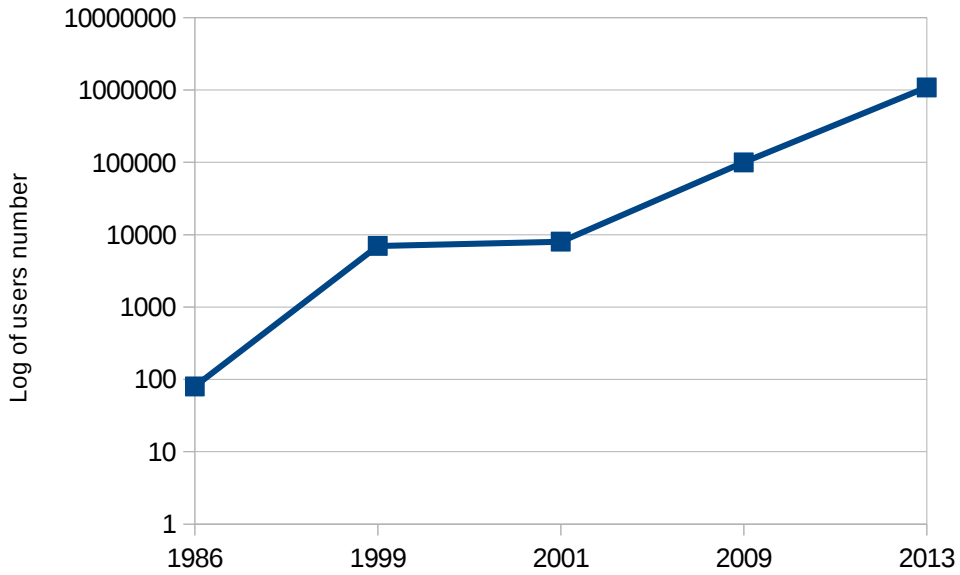
2014 : 400,000 requests per day for SIMBAD (M. Wenger, priv. com)

Staff evolution (quantitatively)



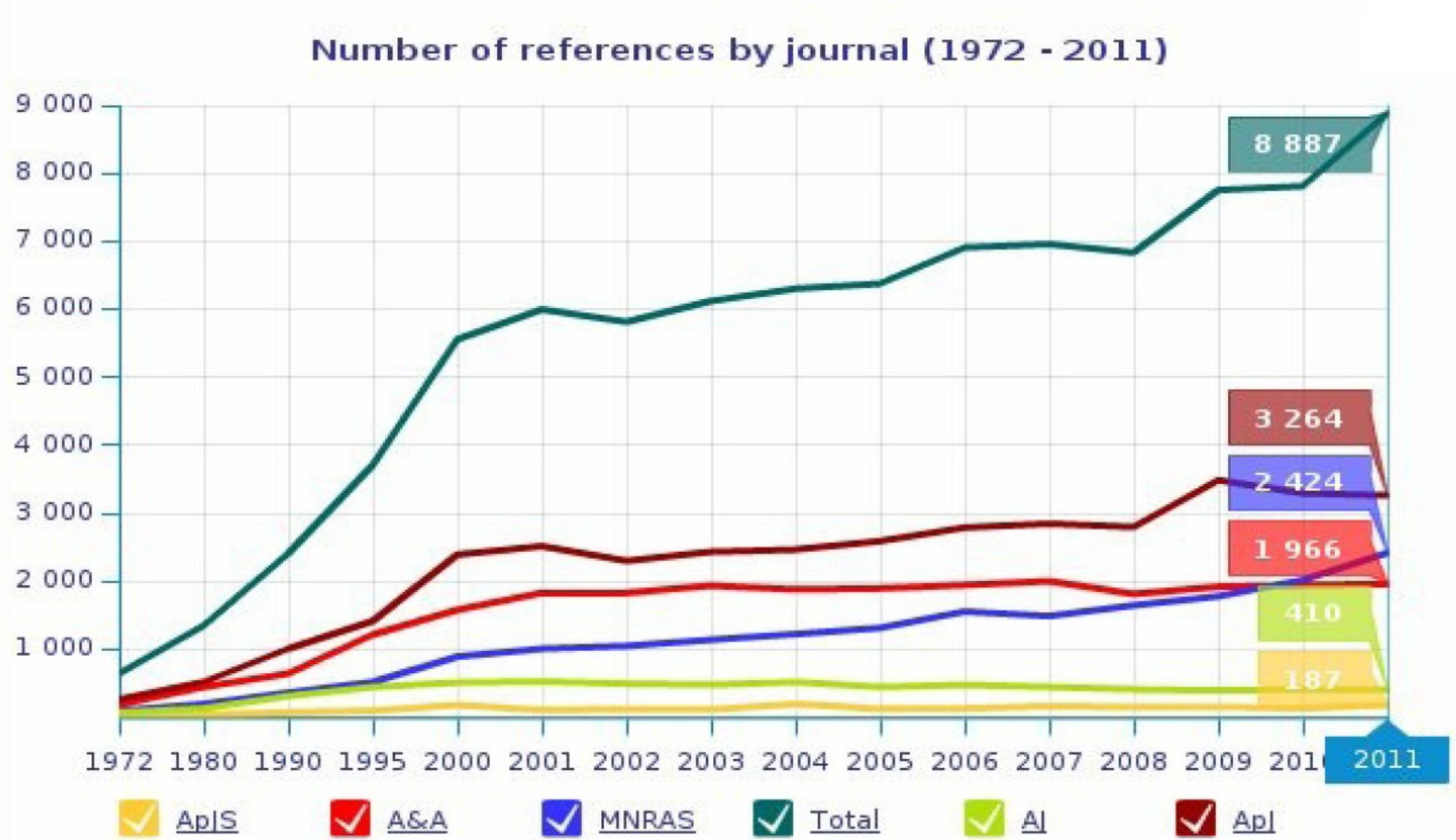
Includes also collaborations from other laboratories until 2013 (IAP, observatories of Meudon, Midi-Pyrénées, Paris, Bordeaux…) ; now all the staff is based in Strasbourg.

Very few turn-over, 51 people in 42 years (from CDS), except for computer engineers working on short missions.

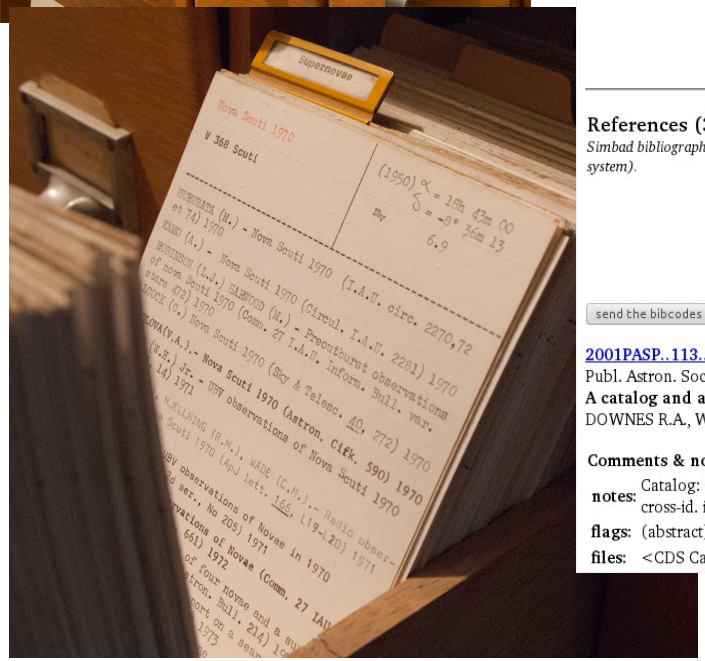


Data evolution (quantitatively)

From S. Lesteven – FRÉDOC 2013 talk : the quantitive evolution of the amount of references treated from 1972 until 2011



Data evolution (qualitatively)



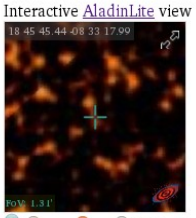
Basic data :

NOVA Sct 1970 -- Nova

query around with radius 2 arcmin

Other object types:	V* (V*,AAVSO) , No* (NOVA)
ICRS coord. (ep=J2000) :	18 45 43.53 -08 33 00.9 (~) [~ ~ ~] D 1997PASP..109..345D
FK5 coord. (ep=J2000 eq=2000) :	18 45 43.53 -08 33 00.9 (~) [~ ~ ~] D 1997PASP..109..345D
FK4 coord. (ep=B1950 eq=1950) :	18 42 59.86 -08 36 13.7 (~) [~ ~ ~] D 1997PASP..109..345D
Gal coord. (ep=J2000) :	024.6694 -02.6285 (~) [~ ~ ~] D 1997PASP..109..345D
Fluxes (1) :	B 7.7 [~] V4 E 2003AstL...29..468S

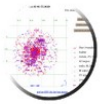
Interactive AladinLite view



Identifiers (3) :

NOVA Sct 1970 V* V368 Sct

Plots and Images


plot


CDS portal

radius 10 arcmin

Show menu

References (32 between 1850 and 2014)

Simbad bibliographic survey began in 1950 for stars (at least bright stars) and in 19 system).

Sort reference summaries by : (not exhaustive, explai

Date | Title|Abstract|Keyword | In table

send the bibcodes to ADS

2001PASP..113..764D [0]
Publ. Astron. Soc. Pac., 113, 764-768 (2001)
A catalog and atlas of cataclysmic variables: the living edition.
DOWNES R.A., WEBBINK R.F., SHARA M.M., RITTER H., KOLB U. and DI

Comments & notes:

notes:	Catalog: Objects with a format 'CCC N' are '[DWS97] CCC N' in SI cross-id. in other columns of the catalog (via http://icarus.stsci.ed
flags:	(abstract)
files:	<CDS Catalogue: V/123>

Portal | Simbad | VizieR | Aladin | X-Match | Other | Help

VizieR Result Page

Send to VO tools

Show the target form
Show constraint information

The 6 columns in *color* are computed by VizieR, and are *not part of the original data*.

II/199A/stars Radio continuum emission from stars (Wendker, 1995) 1995A&AS..109..177W ReadMe+ftp
Post annotation Positions and designations of the stars *(3021 rows)*

start AladinLite

Full	_r arcsec	_RAJ2000 "h:m:s"	_DEJ2000 "d:m:s"	Seq	Name	Alias	Det	RA1950 "h:m:s"	DE1950 "d:m:s"	Data	_RA.icrs "h:m:s"	_DE.icrs "d:m:s"
1	1.984	18 45 43.66	-08 33 01.2	2447	NOV Sct 1970		D	18 42 59.990	-08 36 14.00	Data	18 45 43.663	-08 33 01.17

V/123A/cv Catalog of Cataclysmic Variables (Downes+ 2001-2006) 2001PASP..113..764D ReadMe+ftp
Post annotation Catalog of cataclysmic variables, Final Version (February 2006) *(1830 rows)*

start AladinLite

Full	_r arcsec	_RAJ2000 "h:m:s"	_DEJ2000 "d:m:s"	R	GCVS	RAJ2000 "h:m:s"	DEJ2000 "d:m:s"	VarType	l	Maxmag mag	n_	l	Minmag mag	n_	Names
1	0.42	18 45 43.55	-08 33 01.2		V368 Sct	18 45 43.55	-08 33 01.2	NA		6.9	v		19.0	p	

B/gcvs/gcvs_cat General Catalogue of Variable Stars (Samus+ 2007-2013) ReadMe+ftp
1 annotation(s) - *post* The GCVS Catalog (Vol. I-III, version 2013-04-30) *(47969 rows)*

start AladinLite

Full	_r arcsec	_RAJ2000 "h:m:s"	_DEJ2000 "d:m:s"	GCVS	RAJ2000 "h:m:s"	DEJ2000 "d:m:s"	VarType	f_GCVS	n_GCVS	magMax mag	Period d	SpType
1	1.4	18 45 43.6	-08 33 00	V0368 Sct	18 45 43.6	-08 33 00	NA			7.700		pec(NOVA)

B/vsx/vsx AAVSO International Variable Star Index VSX (Watson+, 2006-2014) ReadMe+ftp
Post annotation Variable Star indeX, Version 2014-05-19 *(285852 rows)* 2006SASS...25...47W

start AladinLite

Full	_r arcsec	_RAJ2000 "h:m:s"	_DEJ2000 "d:m:s"	Name	RAJ2000 deg	DEJ2000 deg	Period d	OID	n_	VType	l	max mag	u_	n_	f_	l_	min mag	u_	n_
1	1.55	18 45 43.62	-08 33 00.1	V0368 Sct	281.43175	-08.55003		34484	B	0	NA	7.700		pg			19.300		pg

Available Visualisations:
- Plot of II/199A/stars V/123A/cv B/gcvs/gcvs_cat B/vsx/vsx in this region with Aladin-Java
- Optical Image of this region with Aladin-Java

→ Thanks for acknowledging the VizieR Service

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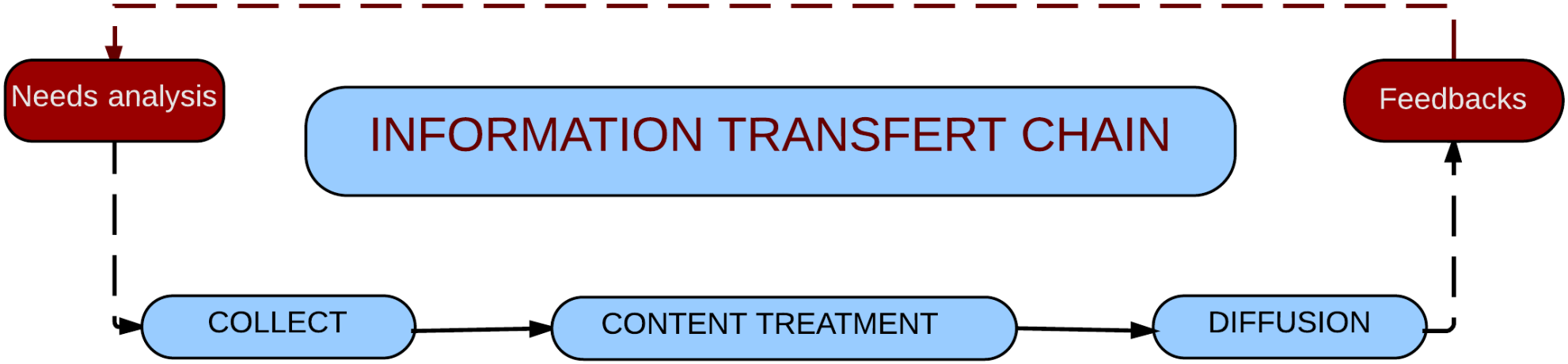
II. Documentalist, astronomer & IT specialist roles

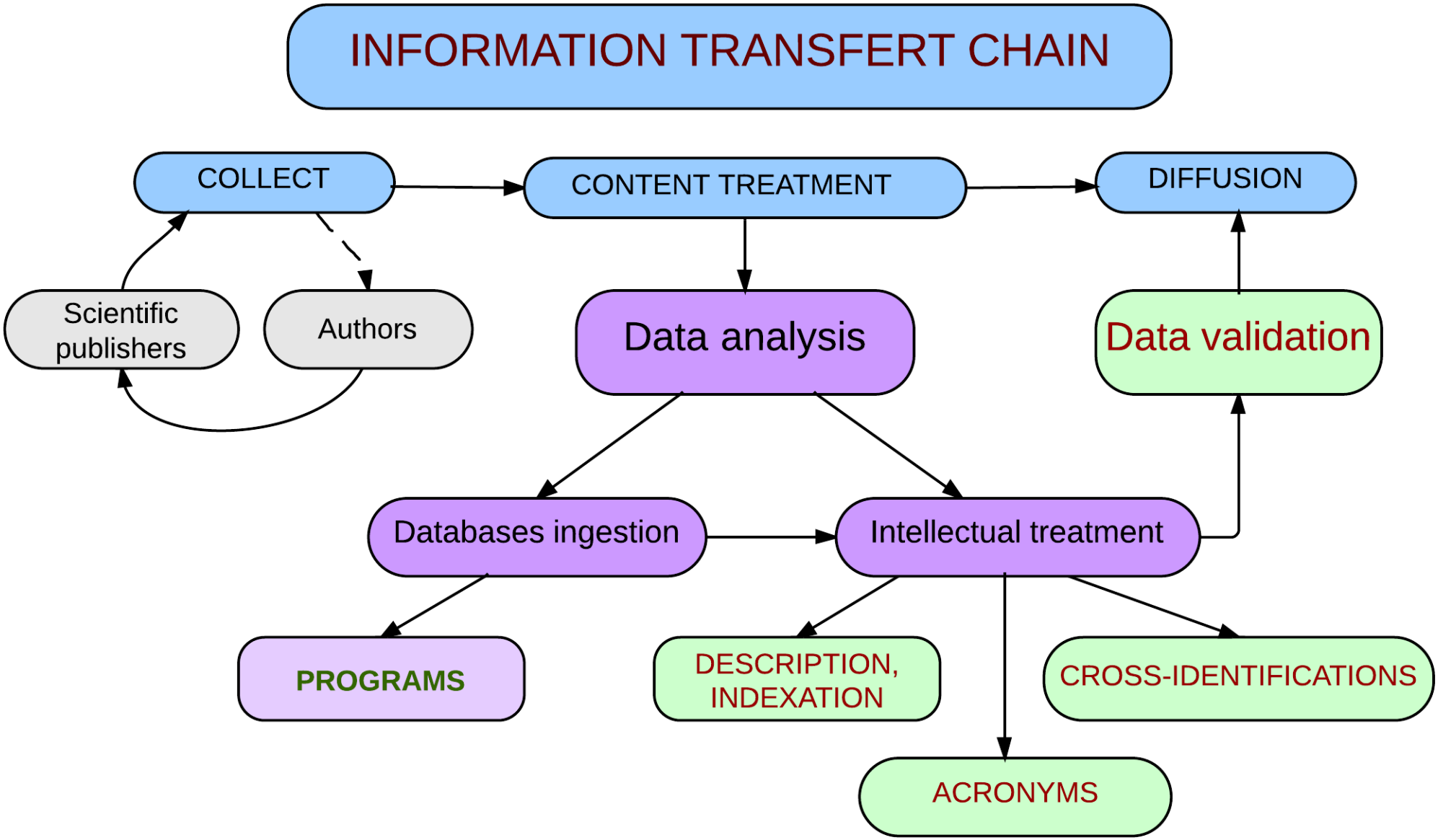
VizieR & SIMBAD created and maintained by astronomers, documentalists & computer engineers :

- An historical overview
- Definition and roles of these 3 profiles today

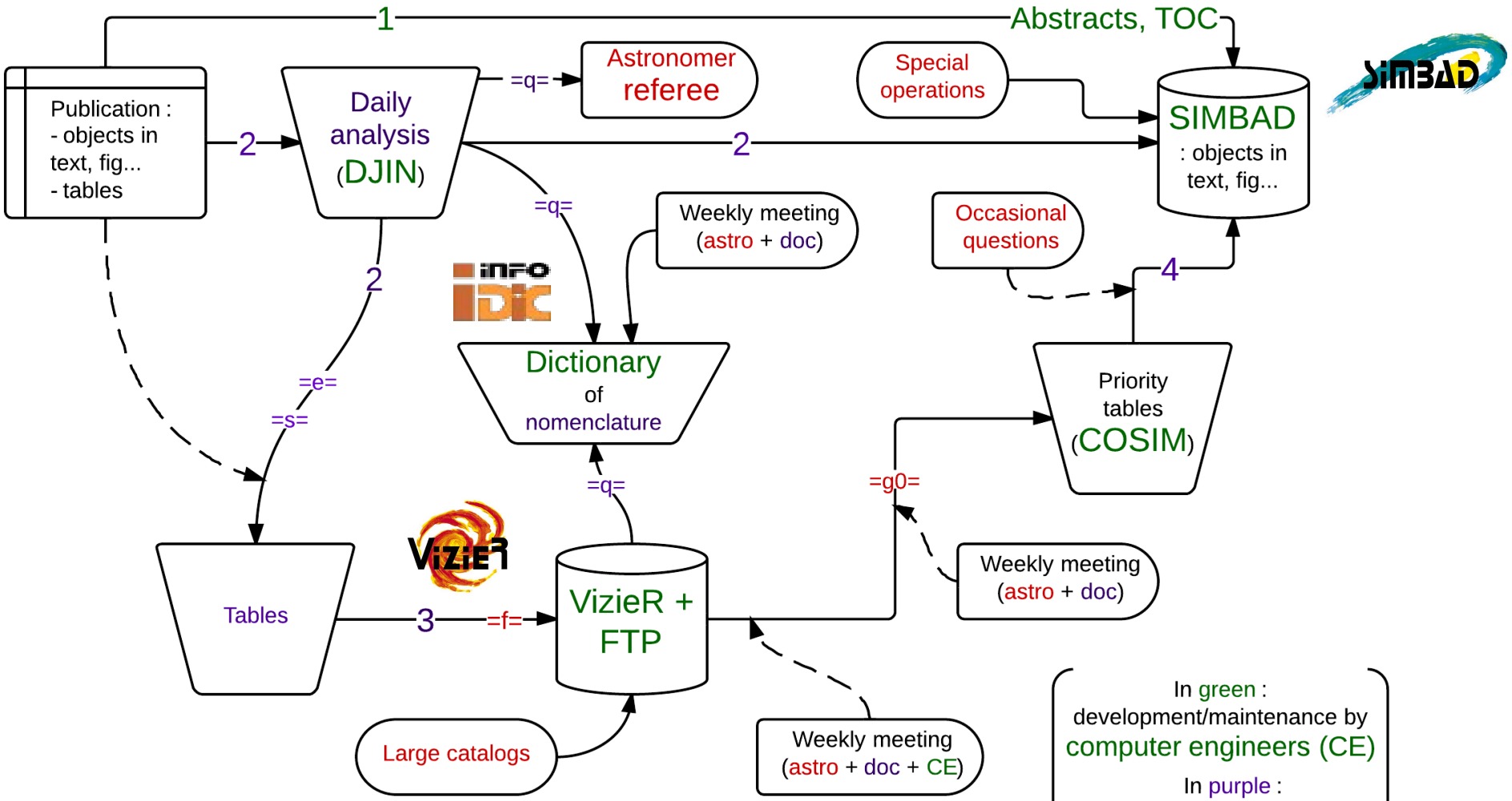
Documentalist profession – document chain



Documentalist profession – evolution at CDS



Interactions between the CDS staff to feed VizieR and SIMBAD



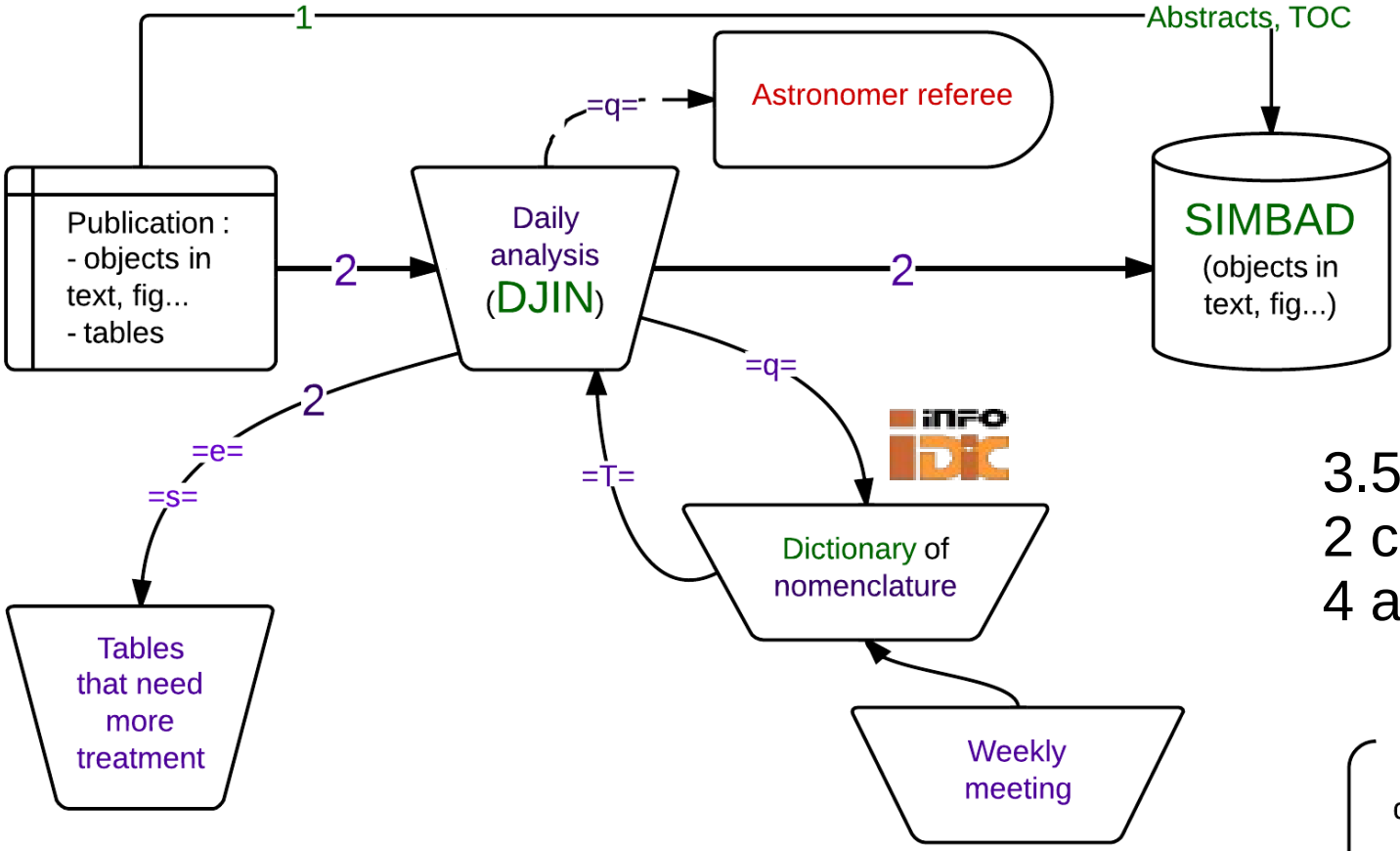
Interactions (simplified) between astronomers, documentalists and computer engineers to feed SIMBAD & VizieR

In green : development/maintenance by computer engineers (CE)

In purple : SIMBAD/VizieR feeding by documentalists

In red : SIMBAD/VizieR selection or quality control by astronomers

Interactions between the CDS staff (DJIN team)



Interactions between astronomers, documentalists ("Djinists") and computer engineers to feed SIMBAD & VizieR

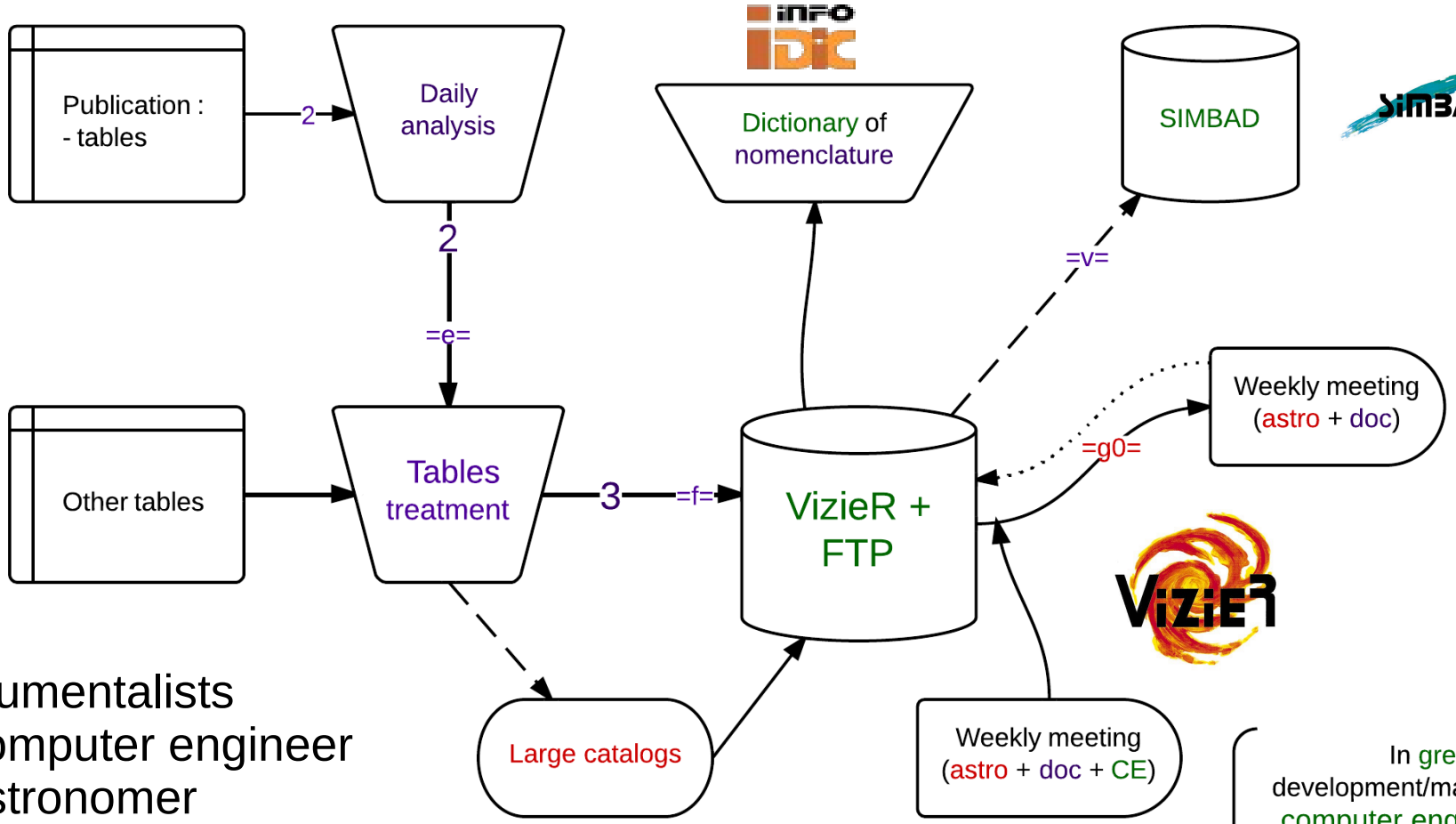
3.5 documentalists
2 computer engineers
4 astronomers

In green :
development/maintenance by
computer engineers (CE)

In purple :
SIMBAD/VizieR feeding by
documentalists

In red :
SIMBAD/VizieR selection or
quality control by
astronomers

Interactions between the CDS staff (VizieR team)



3 documentalists
1.5 computer engineer
1.5 astronomer

Interactions between astronomers, documentalists and computer engineers to feed SIMBAD & VizieR

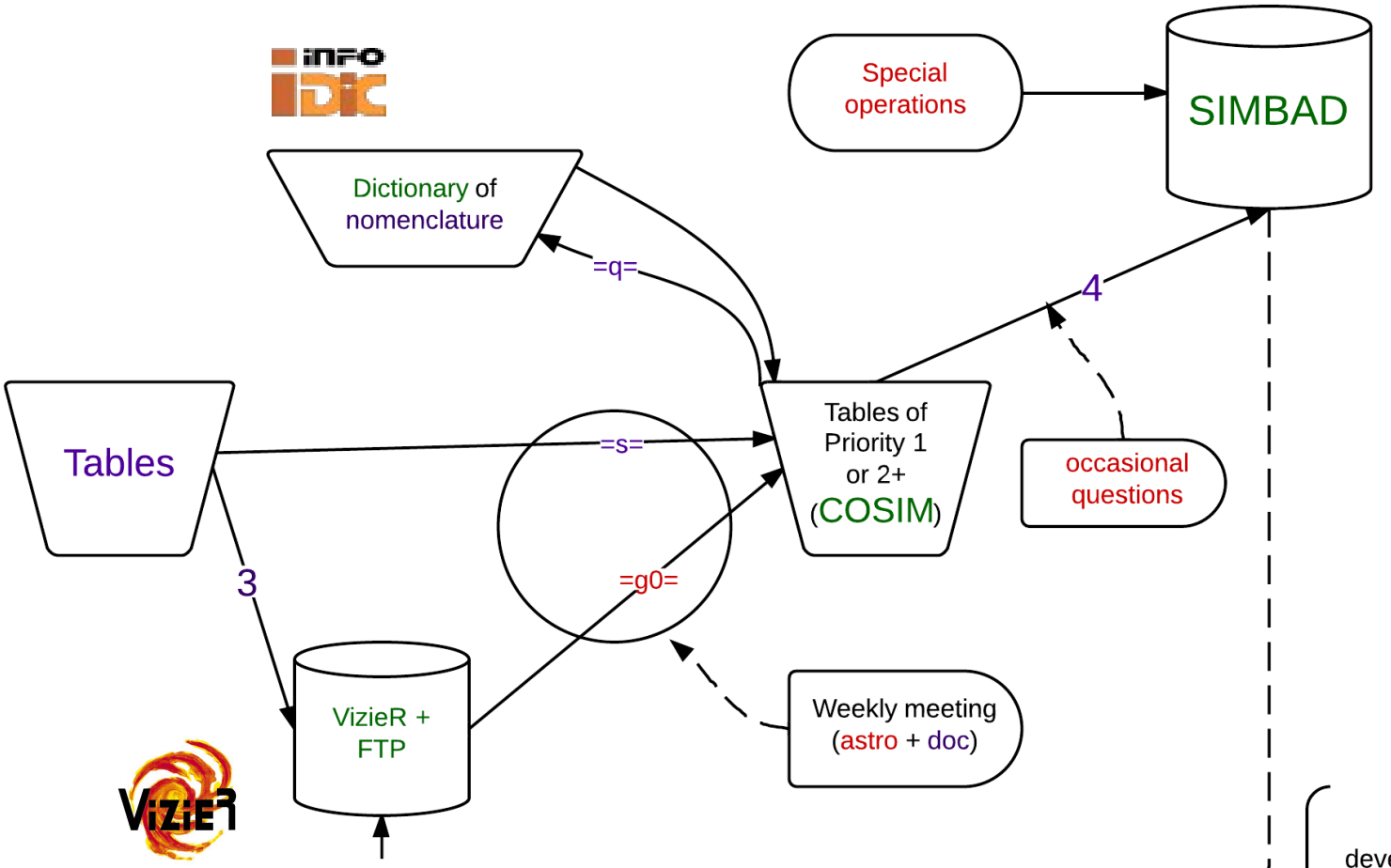
In green :
development/maintenance by
computer engineers (CE)

In purple :
SIMBAD/VizieR feeding by
documentalists

In red :
SIMBAD/VizieR selection or
quality control by
astronomers

See also this meeting
G. Landais poster

Interactions between the CDS staff (COSIM team)



3 documentalists
2 computer engineers
(one retiring this year)
5 astronomers

Interactions between astronomers, documentalists and computer engineers to feed SIMBAD & VizieR

In green : development/maintenance by computer engineers (CE)

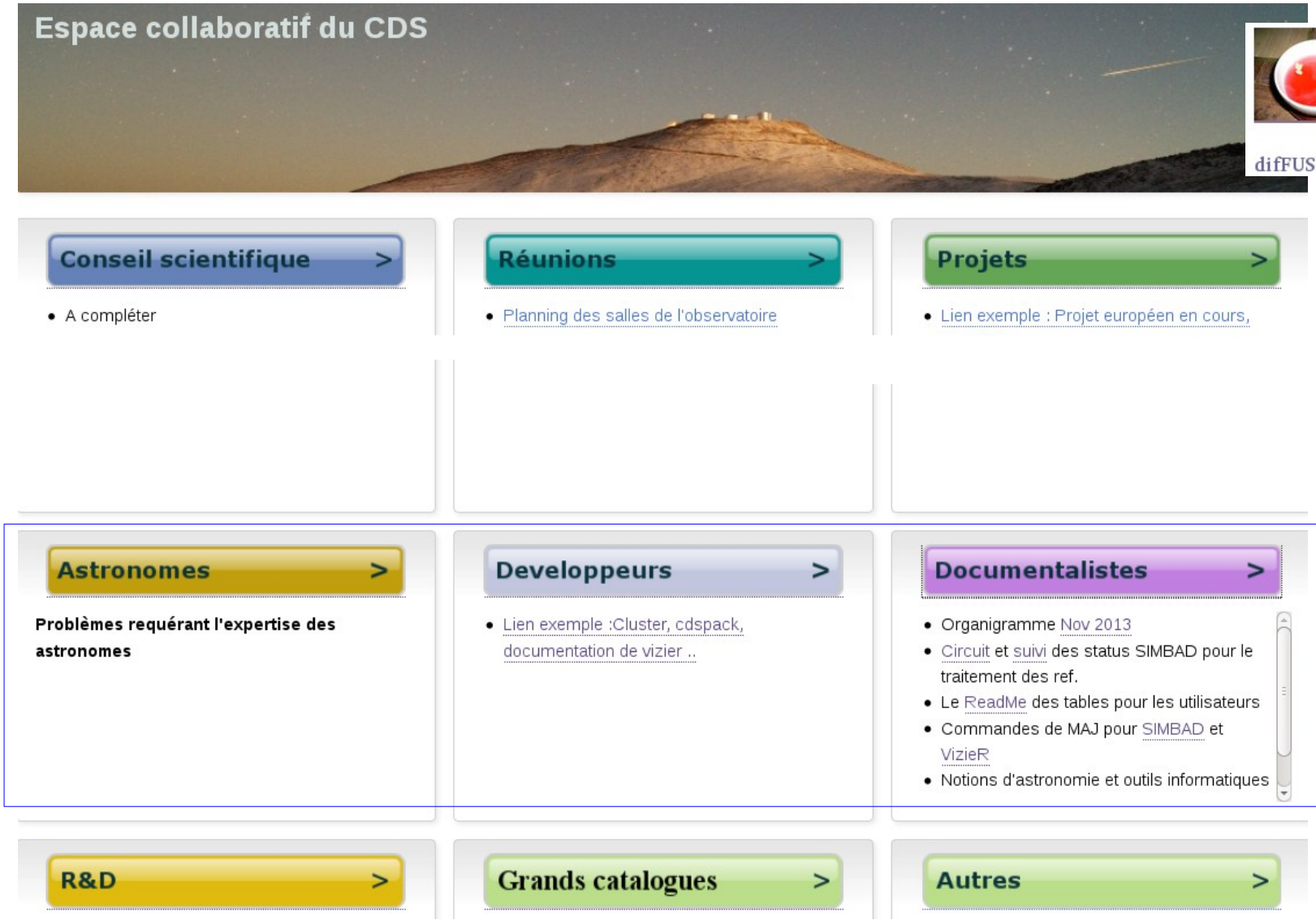
In purple : SIMBAD/VizieR feeding by documentalists

In red : SIMBAD/VizieR selection or quality control by astronomers

See also this meeting
M. Buga poster

Internal interactions between Astronomers, Computer engineers and documentalists

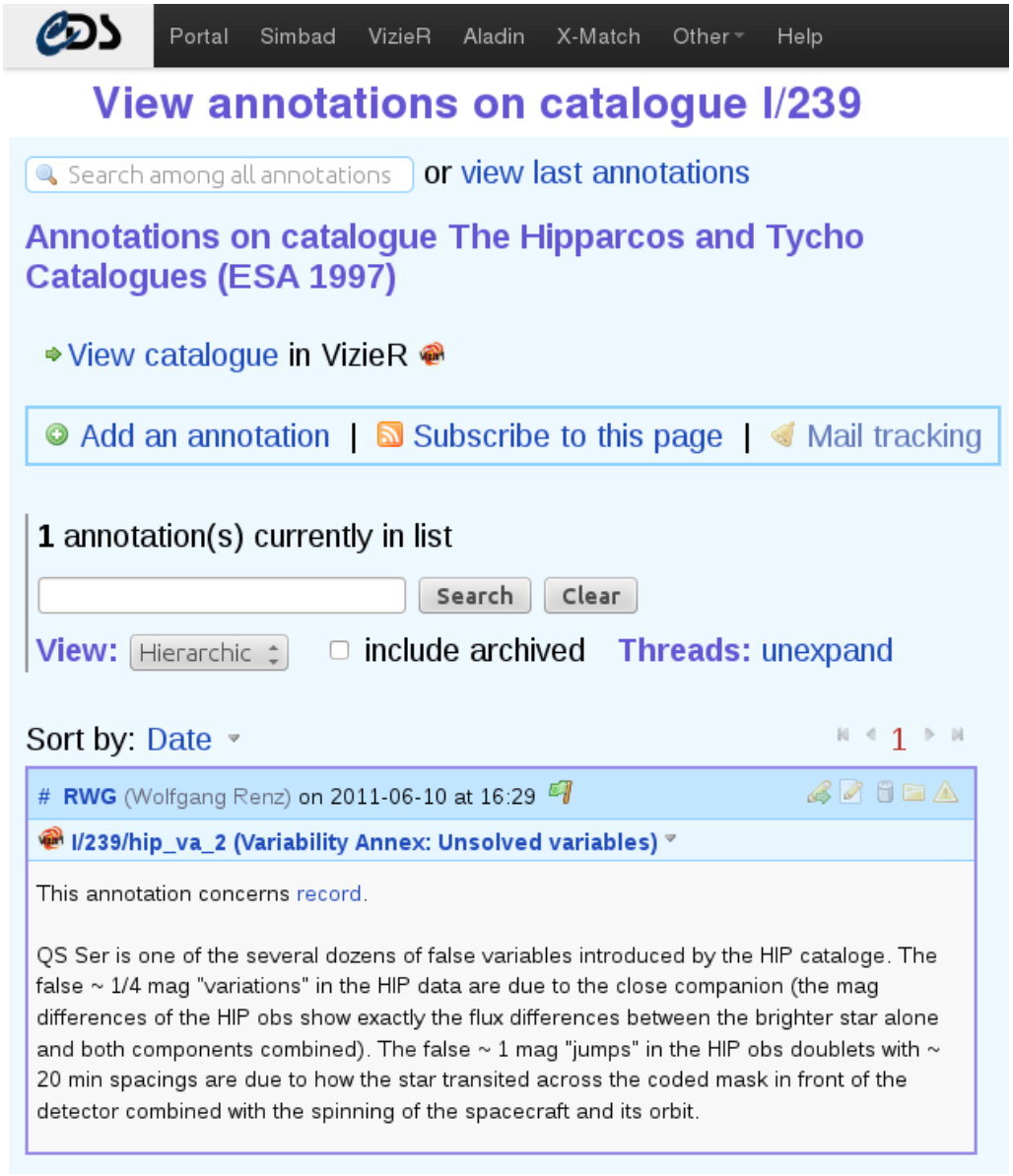
Knowledge management, in-service training & informal communication

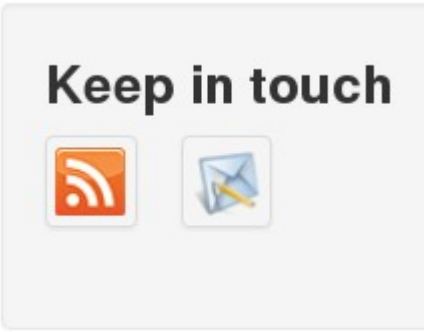


See also this meeting E. Son & A. Eisele poster

External interactions with users (astronomers)

Feedback from users





cds-question@unistra.fr

Conclusion

Symbiosis (from Ancient Greek σύν "together" and βίωσις "living") is close and long-term interaction between two or more different biological species.

The CDS success is based on a close and long-term interaction between :

- astronomers : specialists of the domain and data validation.

- Computer engineers : create easy ways to ingest, retrieve and use the data.

- documentalists : data specialists (cross-identification with SIMBAD) ; mediators between astronomers and IT specialists.

Data Steward

People who think to managing, curating, and preserving data.

- They are information specialists, archivists, librarians and compliance officers.
- This is an important role: if data has value, you want someone to manage it, make it discoverable, look after it and make sure it remains usable.

Kenji Takeda, Microsoft

Thank you very much Dr François OCHSENBEIN

APOD : Horsehead and Orion Nebulas - Image Credit & Copyright: Roberto Colombari & Federico Pelliccia