

This presentation has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730562 [RadioNet]

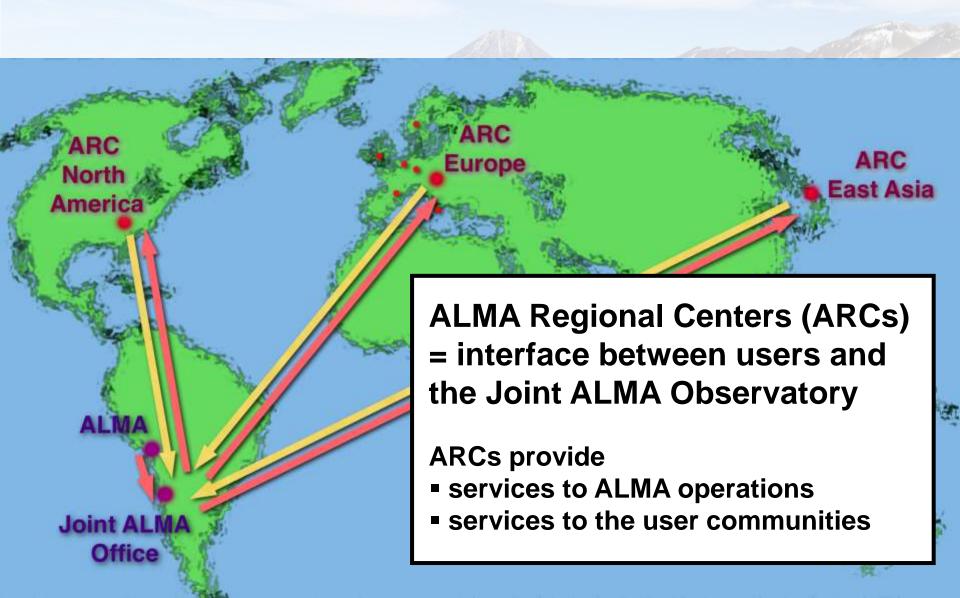
# Getting help: Support for (prospective) ALMA users



Stefanie Mühle German ARC node University of Bonn



# **ALMA Regional Centers**



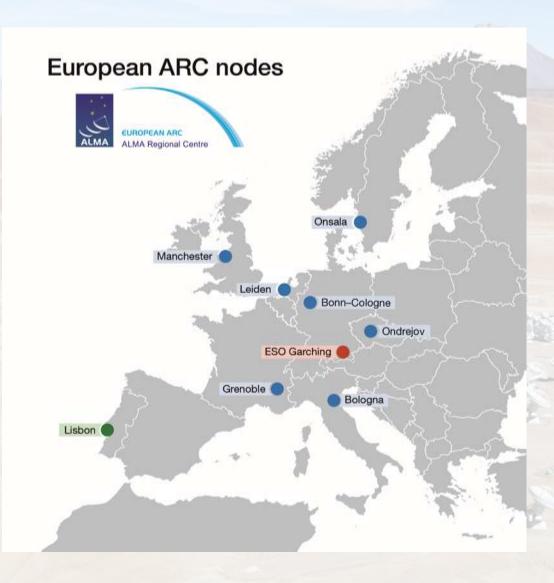
# The European ARC structure



In the EU executive, the ARC consists of a network of regional nodes with a central node at ESO, Garching



# The European ARC structure



# Tasks of the central ARC node include:

- helpdesk
- archive
- software development
- press and public relations

# Tasks of the regional nodes include:

- face-to-face user support
- contact to local scientific community
- community development
- local public outreach
- special expertise areas (EU-ARC wide support)

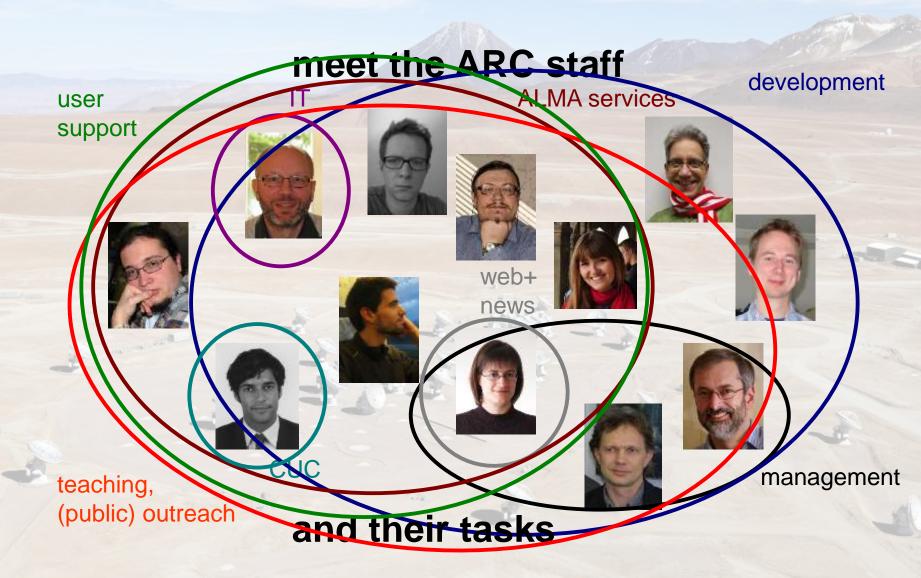
## The German ARC node



- Universities of Bonn and Cologne
- current special expertise areas:
  - advanced data analysis and modeling tools, CDMS
  - > single-dish/interf. combination
  - > mm-VLBI



# The German ARC node



# **Activities: Development**

- Cologne Database for Molecular Spectroscopy, implemented in the Virtual Atomic and Molecular Data Centre (Endres et al. 2016, J. of Mol. Spectroscopy)
- XCLASS releases and tutorials (Moeller et al. 2016, A&A)
- ALMA polarization data reduction and analysis (with Nordic and Italian nodes)
- Integration of ALMA into mmVLBI networks
- Test of various INTF/SD combination methods and INTF/SD GUI for feathering
- Tools for data mining in the ALMA archive

# **Activities: ALMA services**

#### Many activities behind the scenes, including

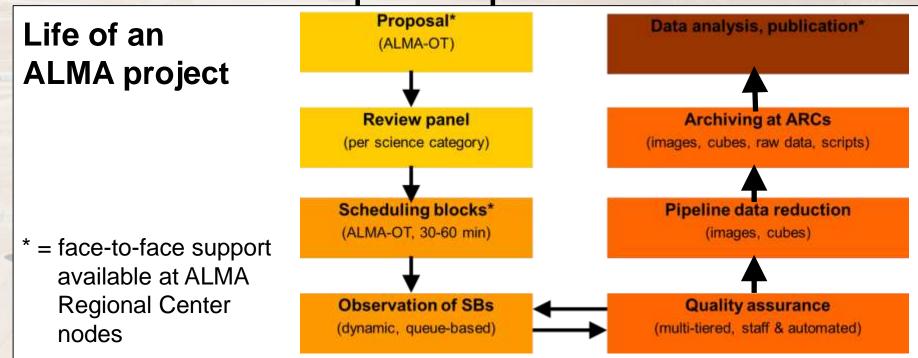
- definition of data reduction strategies
- special campaigns, e.g. calibrator surveys
- software tests, e.g. ALMA-OT
- documentation and documentation review
- staff training
- data quality assessment
- ALMA user feedback

# Activities: User support I

- community events and training, e.g.
  - ALMA info booth at annual meeting of German Astronomical Society, Bochum, September 2016
  - German ALMA Community Days, Bonn, 27/28 March 2017
  - Swiss ALMA Community Day, Bern, 03 April 2017
  - Master course "Radio Interferometry: Methods and Science" (lecture + CASA tutorial), April – July 2017
- newsletter, newsflashes and webpages
- ALMA talks and posters at seminars and conferences
- public outreach: talks, teachers' education, radio feature, ...
- European representative in CASA Users Committee
- infrastructure: 2 compute servers, SSDs, RAID storage

# **Activities: User support II**

- help with proposal preparation
- phase 2 support (5-6 weeks, strict deadline in Sep.!)
- data reduction and analysis help
- advice in areas of special expertise



# User support tools:

#### **German ARC node**

German ALMA Comm/Users' Meetings course Radio Interferometry (incl. CASA) ARC node staff (arc@astro.uni-bonn.de) your Contact Scientist face-to-face visit (arrange via helpdesk) home page newsletter and newsflashes

#### **Science Portal at ESO**

news section, newsletter, announcements **ALMA** documents

CASA data reduction guides

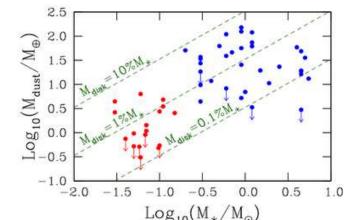
**ALMA Science Verification data** 

**ALMA** archive

Helpdesk (Knowledgebase, Tickets)



#### Science Highlights - Possible Disk Truncation in Ophiuchus Brown Dwarfs

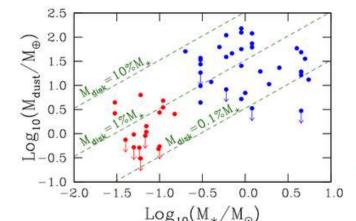


The sensitivity, resolution and the wavelength coverage of ALMA makes it an ideal tool for studying the properties of the cold outer disks of young stars and low mass objects. Such observations can aid us in understanding the formation of their central objects and their likelihood of ultimately hosting planets. In a recent Astronomy & Astrophysics paper, Dr. Testi and his collaborators made use of ALMA Band 7 to observe an unbiased sample of spectroscopically confirmed Ophiuchus brown dwarfs with infrared excesses.

Full Summary...



#### Science Highlights - Possible Disk Truncation in Ophiuchus Brown Dwarfs

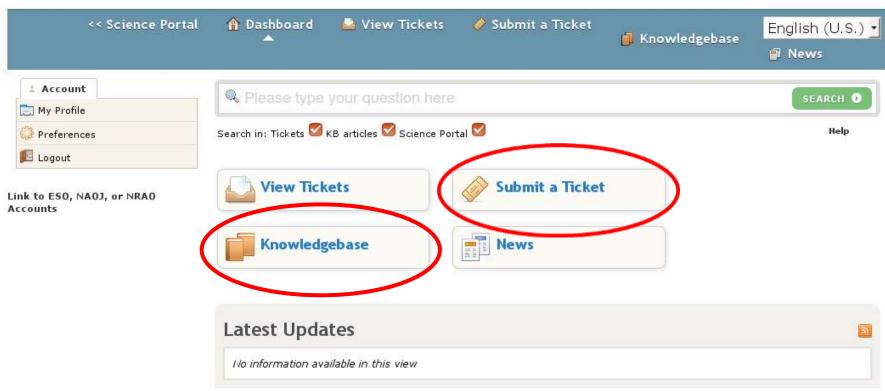


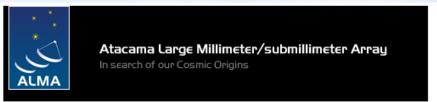
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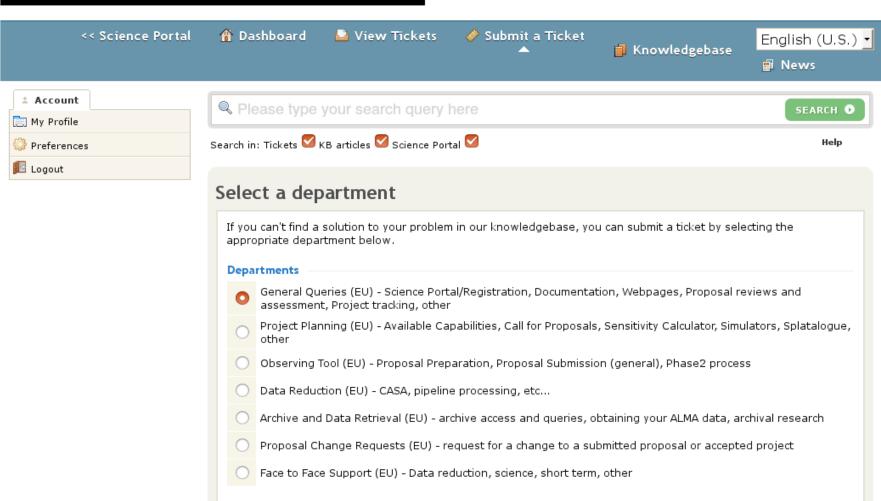






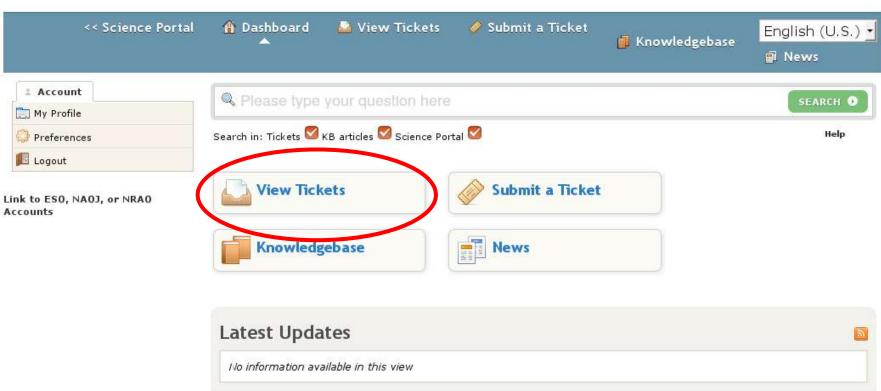






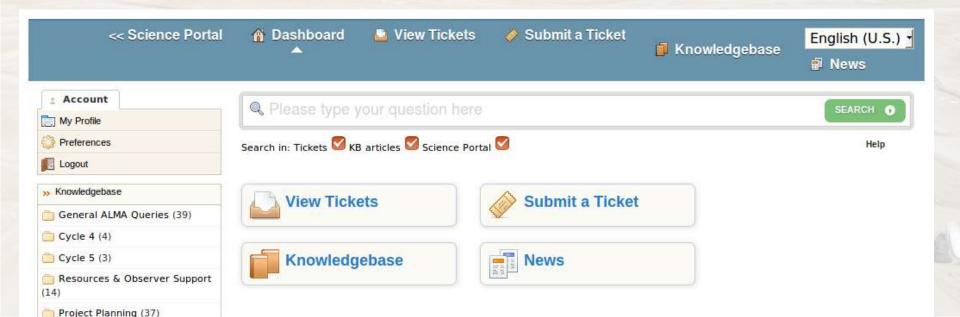






#### Advantages of the helpdesk:

- up-to-date knowledgebase
- always the right person (via triage)
- fast feedback, log for future reference



# User support tools: f2f support

#### Face-to-face support at the German ARC node:

- Request for f2f support via helpdesk (f2f department)
  - Logistical details
  - Data delegation





- Stay at the German ARC node (with dedicated contact scientist, computing infrastructure, node facilities)
- Transfer data from Bonn to home institution
- Feedback form

# User support tools: RI course

#### Radio Interferometry: Methods and Science

Radio Interferometry SS 2017 (8404)

Dr. Stefanie Mühle, Dr. Benjamin Magnelli, Prof. F. Bertoldi, Dr. Alexander Karim, Prof. Dr. M. Kramer, PD Dr. R. Mauersberger

#### Links:

Argelander Institute for Astronomy

German ALMA Regional Center node

ALMA

#### Course Links:

Course main page

Course material

Syllabus

A virtual radio interferometer

The course "Radio Interferometry: Methods and Science" offers a hands-on overview of major aspects of radio/mm/submm interferometry for master students, PhD students and senior astronomers. The lectures start with a general introduction to radio interferometry and data reduction, followed by an overview of various fields of research and the special observing modes that they require, given by experts of the respective fields. The latest developments of selected world-leading radio/mm/submm interferometers will be presented as well.

The course also comprises a hands-on tutorial, where participants learn how to reduce interferometric data with the Common Astronomy Software Applications (CASA) package.

As a Master student you can take this course for credit, obtaining 4 CP. Following the hands-on approach of the course, the coursework relevant for the final grade consists of assignments related to the data reduction and analysis of a small interferometric dataset: commented scripts and logs used for the data reduction and analysis, followed by a presentation (Referat, 15 min length) and a short paper summarizing the data reduction, the analysis and the scientific results (5-12 A4 pages). It is expected that "for credit" students attend all the lectures and tutorials and register for the exam on Basis before the deadline!

You are also very welcome to attend if you do NOT want/need to earn credit points. In this case, feel free to pick only some lectures and/or the tutorial.

On 19 April, we will collect the email addresses of all participants to set up a mailing list that we will use to circulate updates, material and other information related to the course. If you can't attend on 19 April, but are interested in participating in the course, please contact us **before 21** April.

We will offer remote access to the lectures and tutorials on a best-efforts basis (maximum 5 remote locations). If you would like to follow the course from a remote location, please contact us **before 01 April**.

Note: the lectures start on 19 April 2016!

Time: Wednesdays, 10:15-11:45 lecture, 12:00-12:45 tutorial

# User support tools: RI course

#### Radio Interferometry: Methods and Science

- Master level course (4 CP, Bonn, Cologne)
- April July, Wednesdays 10:15 12:45
- Lectures: Introduction/special modes/facilities
- Exercises: CASA Tutorial data reduction
- Remote participation possible (on best efforts basis!)

# User support tools: News

#### **News channels:**

- Science Portal at ESO/news section (web)
- EU ARC announcements (web, RSS feed)
- EU ARC newsletter (email)
- Home page of the German ARC node (web)
- DARC newsletter + newsflashes (email)

=> see http://www.astro.uni-bonn.de/ARC for an overview

# User support tools:

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German ALMA Comm/Users' Meetings course Radio Interferometry (incl. CASA) ARC node staff (arc@astro.uni-bonn.de) your Contact Scientist face-to-face visit (arrange via helpdesk) home page newsletter and newsflashes

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news section, newsletter, announcements

**ALMA** documents

CASA data reduction guides

**ALMA Science Verification data** 

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Helpdesk (Knowledgebase, Tickets)

# How can I ... get the latest ALMA news?

learn more about radio interferometry?

get help with my ALMA proposal?

get help with other ALMA procedures?

learn how to reduce ALMA data?

get ALMA data without writing a proposal?

deal with huge ALMA data sets?

get an answer to my specific question?

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## The German ARC node

## Let's stay in touch!

German ARC node, newsletter etc.:

http://www.astro.uni-bonn.de/ARC

**ALMA Science Portal at ESO:** 

http://almascience.eso.org

Helpdesk:

http://help.almascience.org





