

# Max-Planck-Institut für extraterrestrische Physik

MAX-PLANCK-INSTITUT FÜR EXTRATERRESTRISCHE PHYSIK

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## **Impressum**

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# PERSONAL 2018

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sches Zentrum für Luft und Raumfahrt (DLR), Köln

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Prof. Dr. B. Huber, Präsident der Ludwig-Maximilians-Universität, München

Dr. F. Merkle, OHB System AG, Bremen

Dr. U. von Rauchhaupt, Frankfurter Allgemeine Zeitung, Frankfurt/Main

Prof. R. Rodenstock, Optische Werke G. Rodenstock GmbH & Co. KG, München

Dr. J. Rubner, Bayerischer Rundfunk, München

Dr. M. Wolter, Bayer. Staatsministerium für Wirtschaft, Energie und Technologie, München

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Prof. Dr. G. Anton, Universität Erlangen-Nürnberg (Deutschland)

Prof. Dr. M. Perryman, ESA/ESTEC (Niederlande)

## Wissenschaftliche Auszeichnungen, Berufungen

de Zeeuw, P.T.: Knight in the Order of the Dutch Lion, Groningen, The Netherlands, May 2018

de Zeeuw, P.T.: Blaauw Visiting Professorship 2018, University of Groningen, Groningen, The Netherlands, 2018

de Zeeuw, P.T.: Blaauw Lecture 2018, University of Groningen, Groningen, The Netherlands, October 2018

Haerendel, G.: Honorary Doctor of Physics, University of Crete, Heraklion, Greece, September 2018

Ivlev, A.: Doctor honoris causa, Russian Academy of Sciences, Moscow, Russia, April 2018

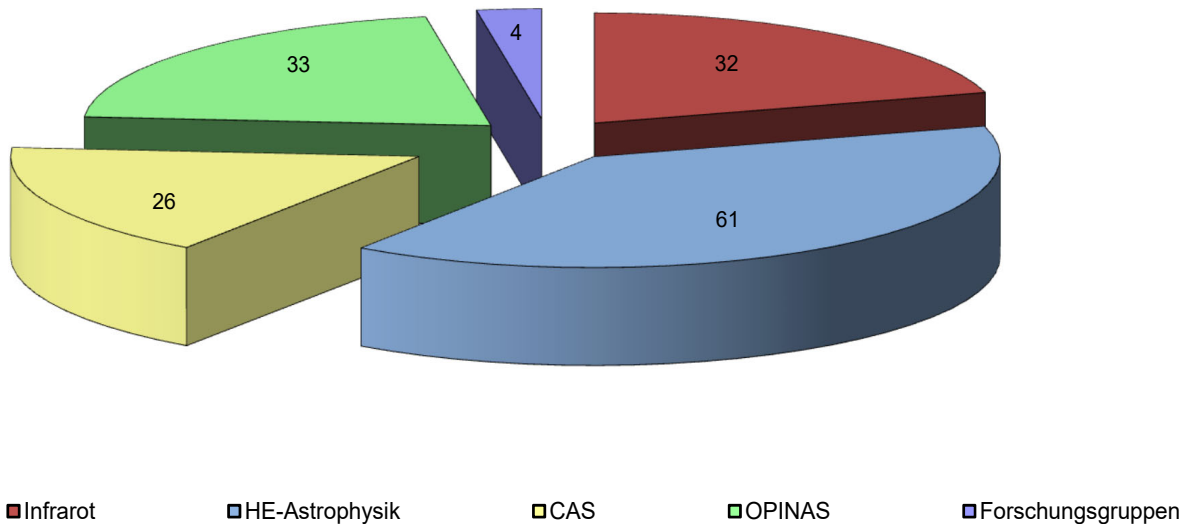
Tacconi, L.: Appointed to lead the ESA Cosmic Vision 2050 planning exercise, ESA Madrid, Spain, December 2018

van Dishoeck, E.: Kavli Prize for Astrophysics, Oslo, Norway, September 2018

van Dishoeck, E.: James Craig Watson Medal, National Academy of Sciences, Washington, USA, April 2018

## Wissenschaftliche Arbeitsgruppen

### Mitarbeiter nach wissenschaftlichen Arbeitsgruppen



#### Infrarot- und Submillimeter-Astronomie

Sekretariat: Richter, A.

Teamassistentinnen: Dengler, S.; Kleiser, A.  
Zanker-Smith, J.

Bauböck, Dr. M.; Belli, Dr. S.; Cortes, Dr. A.; Contursi, Dr. A.; Davies, Dr. R.; Deen, Dr. C. (bis 31.03.); Dexter, Dr. J.; Eisenhauer, Dr. F.; Facchini, Dr. S. (bis 01.09.); Feuchtgruber, Dipl.-Phys. H.; Förster Schreiber, Dr. N.; Gao, Dr. F.; Garrel, Dr. V.; Gillessen, Dr. S.; Habibi, Dr. M.; Herrera-Camus, Dr. R.; Lee, Dr. M. (seit 25.11.); Liu, Dr. Yao (seit 01.11.); Lutz, Dr. D.; Ott, Dr. T.; Pfuhl, Dr. O.; Poglitsch, Dr. A. (beurlaubt); Price, Dr. S.; Rabien, Dr. S.; Rosensteiner, Dr. M.; Schrubba, Dr. A.; Shangguan, Dr. J. (seit 15.10.); Shimizu, Dr. T.; Sturm, Dr. E.; Tacconi, Dr. L.

#### Gäste

Andrews, Prof. S. (14.05.-18.05.); Baron Dr. D. (05.07.-15.07.); Bergin, Prof. T. (23.09.-27.09.); Bertemes, C. (07.07.-22.07.); Bruderer, Dr. S. (12.06.-15.06.); Rubio, Prof., M. (14.03.-25.03.); Davé, Prof. R. (02.05.-06.05.); Evans, Prof. N. (12.06.-01.07.); Hayashi, Dr. M. (19.03.-22.03.); Janssen, Dr. A. (12.03.-16.03.); Kodama, Prof. T. (19.03.-23.03.); Lin, Dr. M.-Y. (11.02.-27.02.); Nelson, Dr. E. (02.03.-17.03. und 12.10.-18.10.); Netzer, Prof. H. (05.07.-15.07.); Pueyo, Dr. L. (05.11.-08.11.); Scoville, Prof. N. (01.04.-15.04.); Shapley, Prof. A. (01.07.-20.07.); Sternberg, Prof. A. (02.01.-05.01., 09.06.-13.06., 16.12.-

19.12.); Straub, Dr. O. (01.12.-31.12.); Tadaki, Dr. K. (19.03.-22.03.); Veilleux, Dr. S. (01.07.-14.08.); Vermot, P. (18.06.-22.06.); Wuyts, Dr. S. (07.07.-22.07.); van Dishoeck, Prof. E.; de Zeeuw, Prof. T.; Lacour, Dr. S.

#### Doktoranden (D.) / Master (M.)

Cazzoletti, P. (D., van Dishoeck); Worth-Davies, R. (D., Tacconi/Förster Schreiber/Genzel); Fellenberg von, S. (D., Eisenhauer/Gillessen); Jiménez Rosales, A. (D., Dexter/Genzel); Karl, M. (bis 31.05., M., Eisenhauer); Kohlmann, C., (bis 31.05., M., Rabien); Lippa, M. (bis 30.06., D., Tacconi); Plewa, P. (bis 31.08., D., Gillessen); Stock, R. (bis 06.09., M., Dexter/Eisenhauer); Übler, H. (D., Genzel); Waisberg, I. (D., Genzel); Widmann, F. (D., Eisenhauer), Wölfer, L. (seit 15.10., D., van Dishoeck)

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T.; Eder, Dipl.-Ing. J.; Emberger, V.; Erfanianfar, Dr. G.; Freyberg, Dr. M.; Friedrich, Dr. P.; Fürmetz, Dr. M.; Gaida, R.; Gueguen, Dr. A.; Greiner, Dr. J.; Grossberger, Dr. C.; Haberl, Dr. F.; Hartl, S.; Hartmann, K.; Hartner, Dipl.-Math. G.; Hauser, G.; Hofmann, Dr. F.; Kienlin von, Dr. A.; Klein, Dr. M.; Koch, A.; La Caria, M.M. (bis 30.09.); Liao, Y. (seit 01.10.); Liu, Dr. T.; Maitra, Dr. Ch.; Meidinger, Dr. N.; Merloni, Dr. A.; Obergassl, S. (bis 30.09.); Ott, S.; Pellicciari, C.; Pfeffermann, Dipl.-Phys. E.; Predehl, Dr. P.; Ponti, Dr. G. (bis 30.09.); Rau, Dr. A.; Reiffers, J.; Ridl, Dr. J. (bis 31.01.); Sanders, Dr. J.; Schady, Dr. P. (bis 30.06.); Schweyer, T.; Siegert, Dr. T.; Stehlikova, V.; Tran, J.; Treberspurg, Dr. W.; Zhang, Dr. X.-L.

### **Gäste**

Baykal, Prof. Dr. A. (25.08.-06.09.); Baron D. (05.07.-15.07.); Bianconi, Dr. M. (10.-14.07.); Buchner, Dr. J. (18.06.-30.06. und 07.07.-13.07. und 20.08.-13.09.); Canalizo, Dr. G. (08.11.-12.11.); Capel, Dr. F. (12.11.-23.11.); Carrera, F. (30.7.-11.08.); Clerc, Dr. N. (22.01.-26.01.); Damsted, Dr. S. (02.07.-13.08.); Del Moro, Dr. A. (seit 01.10.); Gareffa, M. (26.09.-05.10.); Ghirardini, V. (17.07.-17.11.); Jauzac, M. (19.11.-24.11.); Kanbach, Dr. G.; Kashlinsky, Dr. A. (15.10.-21.10.); Lang, M.; Leung, Dr. Shing Chi (06.07.-12.07.); Molendi, Dr. S. (15.07.-31.08.); Panter, Dr. F. (01.07.-21.07.); Netzer, Dr. H. (05.07.-15.07.); Pietsch, Dr. W.; Poorna Pedapudi, V. (15.04.-15.07.); Ponti Dr. G. (seit 01.10.); Sala, Dr. G. (09.02.-15.02. und 31.08.-07.09.); Sanner, J. (21.03.-31.07.); Silverman, Dr. J. (21.05.-26.05.); Strong, Dr. A.; Varela, Dr. K. (08.10.-19.10.); Vasilopoulos, G. (01.10.-20.10.); Wang, J.-X., (10.08.-20.08.)

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**Forschungsgruppe Burkert**

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**Forschungsgruppe Mohr**

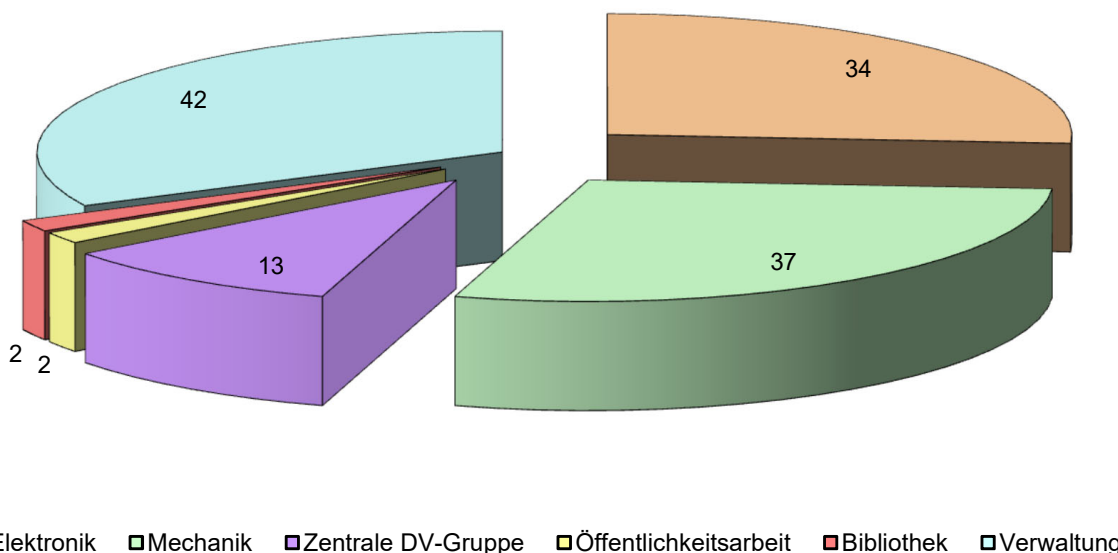
Klein, Dr. M.; Mohr, Prof. Dr. J.

***Doktoranden (D.) / Master (M.)***

Grandis, S. (D., Mohr); Gupta, N. (D., Mohr); Paulus, M. (seit 01.09., D., Mohr)

## Ingenieurbereich und Werkstätten

### Ingenieurbereich, Werkstätten und Zentrale Bereiche



#### Elektronische Entwicklung

Plattner, Dr. M. (Leitung)

Albrecht, Dipl.-Ing. S.; Baade, M. (bis 31.3.); Barl, Dipl.-Ing. (FH) L.; Besendörfer, A.; Böhme, H.; Bornemann, Dipl.-Ing. (FH) W.; Burghardt, Dipl.-Ing. (FH) T.; Buron, M.Sc. A.; Gillhuber, M.Sc. M. (bis 31.8.); Hälker, Dipl.-Ing. (FH) O.; Hans, O.; Hartmann, K.; Kink, Dipl.-Ing. (FH) W.; Koch, M.Sc. A. (bis 31.3.); Köglmeier, B. (seit 1.5.); Lederhuber, M.Sc. A.; Mandla, M.Sc. C.; Müller, Dipl.-Ing. (FH) S.; Ott, G. (bis 28.2.); Ott, Dipl.-Ing. (FH) S.; Rau, Dipl.-Ing. (FH) C.; Reiffers, Dipl.-Ing. (FH) J.; Schrey, F.; Schulte, W.; Unterlinner, T.; Yaroshenko, V.; Zanker-Smith, J.; Ziegleder, Dipl.-Ing. (FH) J.

#### Elektronische Werkstatt und Haustechnik

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#### Mechanik und Testlabor

Schubert, Dr. J. (Leitung)

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#### Mechanische Werkstatt

Czempiel, S. (Leitung)

Bayer, R.; Brara, A.; Budau, B.; Eibl, J.; Feldmeier, P.; Gahl, J.; Goldbrunner, A.; Hartwig, J.; Honsberg, M.; Huber, D.; Huber, F.-X.; Kestler, H.-J.; Kratschmann T. (bis 20.06); Reinold, A.; Sandmair, R.; Schunn, W.; Schuppe, D.; Senftleben, S.; Soller, F.

#### Auszubildende

Bergner, K.; Furchtsam, C.; Heckmair, S. (seit 01.09.); Loichinger, L. (seit 01.09.); Rusp, M. (bis 24.08.); Waldhör, F.; Warmuth, C. (bis 31.08.); Ziegmeier, J.

## Werksstudenten und Praktikanten

### **Studentische Arbeiten/Werksstudenten**

Alexander, B.; Babl, A.; Bratke, C.; Burkhard, C.; Carvajal, A.; Chikrapla-Dnappa, A.; Corrales, X.; Gaur, P.; George, P.; Grabichler, J.; Karakoc, E.; Korth, T.; Lopez-Corales, X.; Lorenz, C.; Mashmood, M.; Neri, M.; Neumeier, L.; Rüdtenklau, R.; Scheitler, S.; Thalmann, K.; Wendebourg, Y.

### **Flüchtlingspraktikum**

Abdi Hassen, A.; Abedom, W.; Abla, T.; Adem Ibrahim, A.; Adem, K.; Ahmadi, W.; Al Abed, O.; Al Ghabash, M.; Al Masri, M.; Almusleh, B.; Almusleh, B.; Azimi, E.; Bahaia, M.; Barakat, H.; Fendt, L.; Gebrehiwet, A.; Götz, S.; Hafte, S.; Hailab, M.; Hamad, W.; Hans, F.; Horban, S.; Ibrahim Jibill, A.; Jalloh, C.; Kersten, J.; Khadedah, O.; Khan, I.; Khesrawi, H.; Lederhuber, M.; Mahmoodi, S.; Malhis, A.; Matias, S.; Menge, K.; Mohammed, B.; Naser, N.; Nimroozi, E.; Omari, W.; Sadat, M.; Shabarek, A.; Shi, D.; Weinzierl, B.

### **Schülerpraktikum**

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### **Hochschulpraktikum**

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## Zentrale Bereiche

### Datenverarbeitung

#### DV-Ausschuss

Haberl, Dr. F. (Vorsitz)

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### Zentrale IT-Gruppe

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### Öffentlichkeitsarbeit

Hämmerle, Dr. H.; (Leitung)

Collmar, E.; Niebisch, B. (seit 01.07.)

### Bibliothek

Bartels, C. (Leitung)

Blank, E.

### Verwaltung

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Sekretariat: Hesseler, G.

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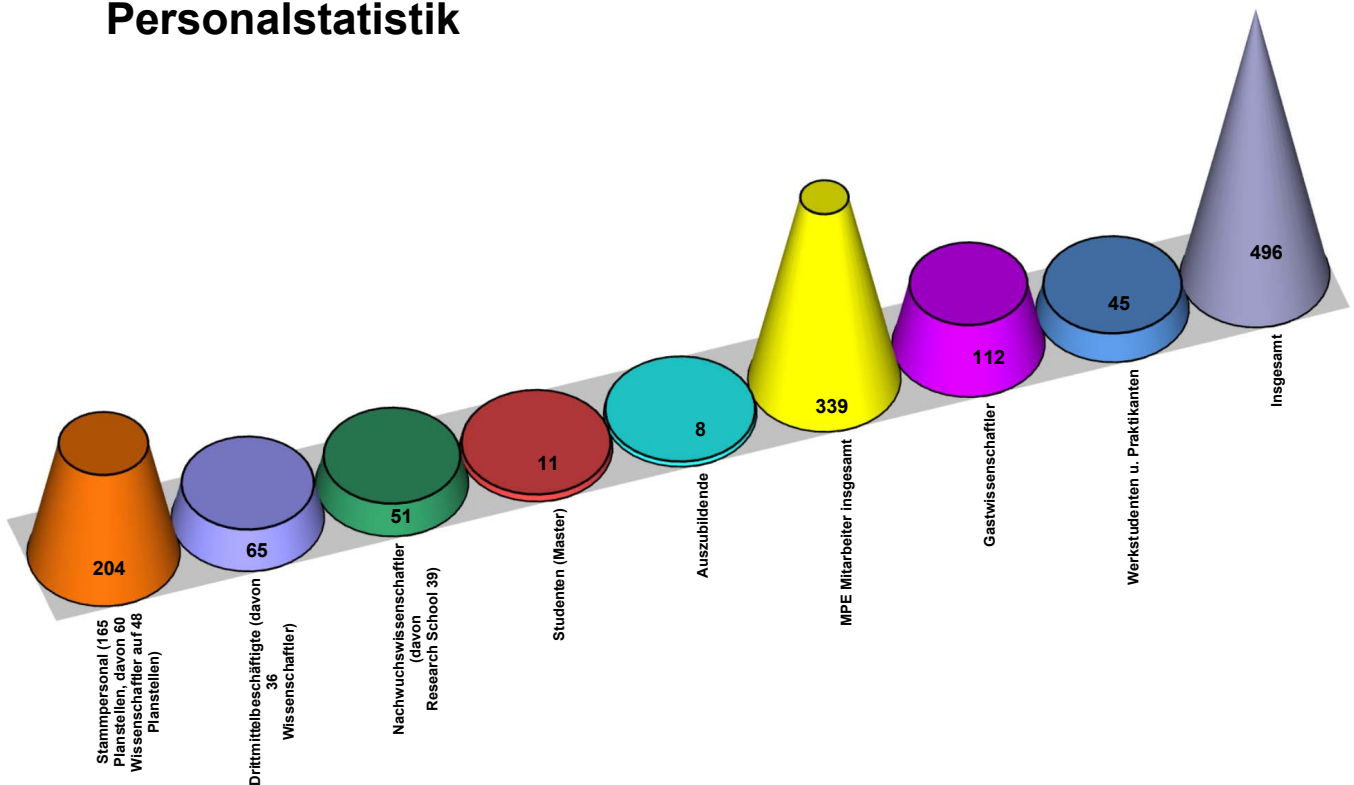
### IMPRS

Hilbert, A.

### Publikationsunterstützung

Hauner, R. (bis 31.07.)

## Personalstatistik

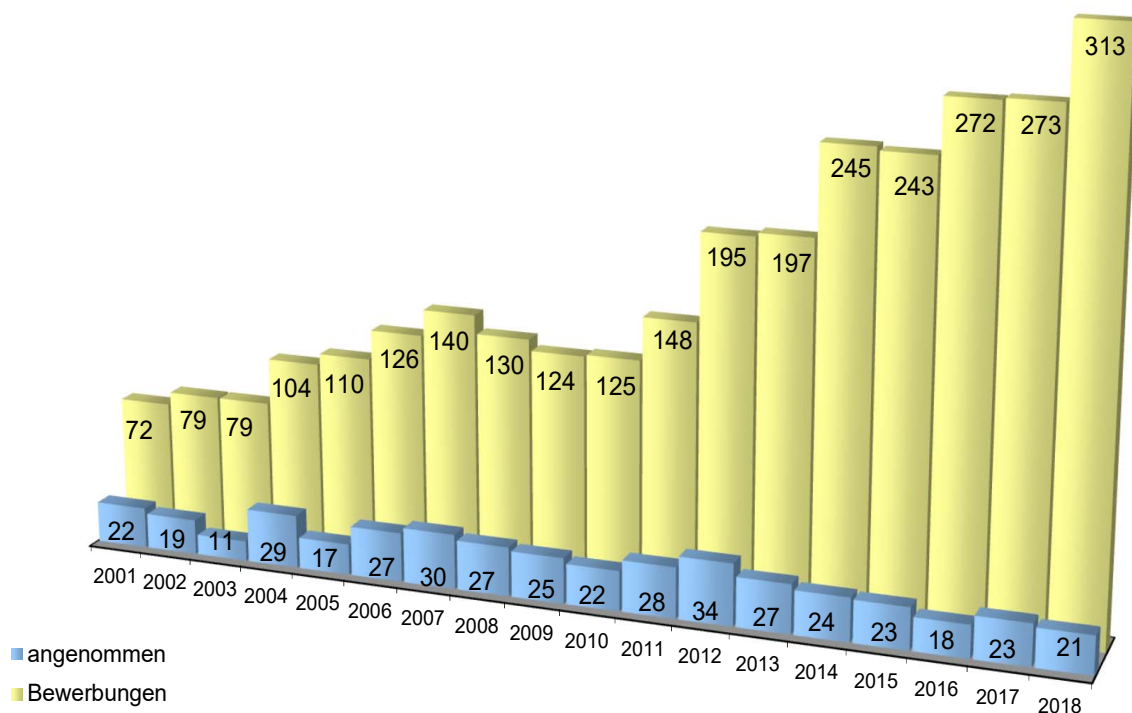


## Internationale Max-Planck Research School (IMPRS) für Astrophysik

Die IMPRS für Astrophysik ist eine Graduiertenschule an der Ludwig-Maximilians-Universität (LMU) München. Sie ist ein gemeinsames Projekt der beiden Max-Planck-Institute MPE und MPA (Max-Planck-Institut für Astrophysik) sowie der Sternwarte der LMU München und der Europäischen Südsternwarte ESO. Im akademischen Jahr 2018 nahmen insgesamt 97 Studenten an dem Programm teil,

davon 38 am MPE. Für das Studienjahr 2018 haben sich 313 Studenten aus insgesamt 51 Ländern beworben. Davon wurden 21 Studenten angenommen, davon 6 am MPE. Aus den lokalen Universitäten kommen in der Regel übers Jahr weitere Doktoranden zum IMPRS Programm dazu, sodass man auf eine durchschnittliche Teilnehmerzahl von 26 Doktoranden pro Jahr kommt.

### IMPRS Bewerbungen seit 2001



Jährliche Bewerbungen für das IMPRS Programm in Garching. Seit dem Start haben sich bis zum Studienjahr 2018 insgesamt 2975 Studenten beworben, 427 davon wurden angenommen.

### Öffentlichkeitsarbeit

Das MPE engagierte sich 2018 durch folgende Aktivitäten in der Öffentlichkeitsarbeit: 25 populär-wissenschaftliche Vorträge durch Wissenschaftler, 11 Pressemitteilungen über wissenschaftliche Ergebnisse, 7 allgemeine Nachrichten (wissenschaftlich, Preise, Auszeichnungen), 21 Institutsführungen (meist naturwissenschaftlich orientierte Schulklassen). Am MPE wurden 12 Schüler- (1 - 2 Wochen) und 2 Hochschulpraktikanten (4 - 8 Wochen) betreut. 42 Personen nahmen am Flüchtlingspraktikum (1-3 Wochen) teil.

Am Girl's Day im März informierten sich 45 Mädchen über das Institut. Weitere Informationen zur Öffentlichkeitsarbeit sind unter:

<http://www.mpe.mpg.de/2305/public-outreach>

zu finden.

# Projekt-Gruppen

(Projektleiter unterstrichen)

## Infrarot- und Submillimeter-Astronomie

Stellvertreter des Gruppendirektors:

Lutz, Tacconi.

### ERIS

A. Buron, Cortes, Ric Davies, M. Deysenroth, Eisenhauer, Feuchtgruber, Gemperlein, Hans, Hartl, H. Huber, Kiener, Kleiser, Mandla, Plattner, C. Rau, Schubert, Sturm, Wiezorrek.

### GRAVITY

Deen, Eisenhauer, Gao, Genzel, Gillessen, Haußmann, Karl, Lippa, T. Ott, Pfuhl, Sturm, Waisberg, Widmann, Wieprecht, Wiezorrek, Zanker-Smith.

### LBT Argos

Barl, Ric Davies, M. Deysenroth, Gemperlein, Kohlmann, Rabien, Rosensteiner, Zanker-Smith, Ziegleder.

### LBT LUCI

Contursi, Eibl, Eisenhauer, Gemperlein, Honsberg, Rabien.

### MICADO

Barl, Ric Davies, Dengler, B. Eder, J. Eder, Garrel, Gemperlein, Hartl, Hörmann, H. Huber, Kleiser, Mandla, Manhart, Plattner, Rabien, Rosensteiner, Schubert, Sturm, Ziegleder.

### Galaktisches Zentrum

Dexter, Eisenhauer, Genzel, Gillessen, Habibi, T. Ott, Pfuhl, Plewa, von Fellenberg, Waisberg, Widmann.

### Galaxienkerne

Contursi, Ric Davies, Dexter, Genzel, Herrera-Camus, Lutz, Schrubba, Shangguan, Shimizu, Sturm, Tacconi, de Zeeuw.

### Galaxien bei hoher Rotverschiebung

Belli, Rebecca Davies, Förster Schreiber, Genzel, Habibi, Lee, Lippa, Lutz, Price, Sturm, Tacconi, Übler.

### Sternentstehung

Cazzoletti, Facchini, Liu, Schrubba, van Dishoeck, Wölfer.

### Theorie

Dexter, Bauböck, Jimenes Rosales, Stock, Waisberg.

## Hochenergie-Astrophysik

ATHENA/Spiegel:

Budau, Burwitz, Hartner, Menz, Passlack.

ATHENA/WFI:

Albrecht, Andritschke, Behrens, Bonholzer, Bornemann, Eder, Emberger, Eraerds, Freyberg, Fürmetz, Haberl, Hälker, Hauser, Kink, Koch, Lederhuber, Manhart, Mican, Meidinger, Nandra, Obergassel, S. Ott, Pietschner, Plattner, A. Rau, Schubert, S. Müller, Müller-Seidlitz, Reiffers, Strecker, Tran, Treberspurg, Tüchler, v. Kienlin.

Chandra

Burwitz, Predehl.

eROSITA

Becker, Boller, Bornemann, Bräuninger, Brunner, Budau, Burghardt, Burwitz, Coutinho, Dennerl, Dittrich, Eder, Eibl, Finoguenov, Freyberg, Friedrich, Fürmetz, Gaida, Goldbrunner, Grossberger, Haberl, Hälker, Hartmann, Hartner, F. Huber, v. Kienlin, Kink, Meidinger, Merloni, Mican, S. Müller, Nandra, Oberauer, Pfeffermann, Pietschner, Predehl, A. Rau, Rohé, Rupprecht, Salvato, Sanders, Schrey, Schuppe, Soller, Yaroshenko.

ROSAT

Boller, Freyberg, Haberl, Trümper.

Swift

Greiner, Schady.

XMM-Newton

Boller, Dennerl, Freyberg, Haberl, Meidinger, Trümper.

Fermi

Collmar, Diehl, Greiner, v. Kienlin.

GROND

Chen, Graham, A. Rau, Schady, Schrey, Schweyer.

INTEGRAL

Diehl, Siegert, v. Kienlin, X.-L. Zhang.

MXT-SVOM

Burwitz, Meidinger, Nandra, A. Rau.

OPTIMA

A. Rau, Schrey, Schweyer.

4MOST

Boller, Dwelly, Merloni.

Aktive Galaxien

Boller, Georgakakis, Merloni, Nandra, Salvato.

Clusters of Galaxies  
Finoguenov, Sanders.

### **Optische und Interpretative Astronomie**

Large Scale Structure, eBoss, HETDEX  
Bender, Farrow, Fabricius, Hopp, Montesano, Paulino-Afonso, Sanchez.

#### **EUCLID**

Bender, Fabricius, Garcia Carpio, Gillhuber, Grupp,  
Guglielmo, Hartung, Kaminski, Penka, Piemonte,  
Raison, Saglia, Steinwagner, Wetzstein.

#### **KMOS**

Beifiori, Bender, Fossati, Galametz, Saglia, Wilman.

#### **MICADO**

Bender, Fabricius, Saglia, Thomas.

#### **PanSTARRS**

Bender, Farrow, Hopp, Saglia.

#### **Galaxy Dynamics**

Bender, Gajda, Gerhard, Khoperskov, Mazzalay, Saglia,  
Thomas, Wegg.

#### **Prime Focus Spectrograph**

Bender, Fabricius, Sanchez.

#### **Stellare Populationen und Galaxienentstehung**

Bender, Hopp, Saglia.

### **Zentrum für astrochemische Studien**

#### **Beobachtungen**

Ali-Lagoa, Choudhury, De Oliveira Alves, Maureira  
Pinochet, Müller, Nagy, Pineda Fornerod, Schmiedeke,  
Segura-Cox.

#### **Theorie**

Gong, Ivlev, Mullins, Shingledecker, Silsbee, Sipilä,  
Szűcs, Zhao.

#### **Labor**

Bizzocchi, Endres, Giuliano, Laas, Lattanzi, Spezzano.

## Lehrveranstaltungen / Seminare

### IMPRS on Astrophysics, Garching

Becker

Doktorandenseminar über aktuelle Themen aus der Astrophysik (WS 17/18)

Böhringer

The Homogeneous Universe and Large Scale Structure (SS 18)

Boller

AGN Physics (WS 18)

### LMU München

Becker

Endstadien der Sternentwicklung (WS 17/18)

Gravitationswellen und deren Nachweis (WS 18/19)

Bender

Astronomisches Kolloquium (WS 17/18)

Astrophysikalisches Grundpraktikum (WS 17/18)

Forschungsprojekt Masterarbeit, Anleitung zum wissenschaftlichen Arbeiten (WS 17/18)

Astrophysikalisches Hauptseminar theoretisch und numerisch orientiert, "Tools in modern astrophysics" (WS 17/18)

Begleitendes Kolloquium zum Astrophysikalisches Hauptseminar theoretisch und numerisch orientiert (WS 17/18)

Astrophysikalisches Hauptseminar experimentell und beobachtungsorientiert, "Tools in modern astrophysics" (WS 17/18)

Begleitendes Kolloquium zum Astrophysikalisches Hauptseminar experimentell und beobachtungsorientiert (WS 17/18)

Projektseminar mit begleitendem Kolloquium "Extragalactic group seminar" (WS 17/18)

Projektseminar mit begleitendem Kolloquium "Gravitational Lensing" (WS 17/18)

Projektseminar mit begleitenden Kolloquium "Galaxies" (WS 17/18)

Projektseminar mit begleitenden Kolloquium aus dem Bereich experimenteller Arbeiten und Instrumentenentwicklung in der Astronomie (WS 17/18)

Projektseminar mit begleitendem Kolloquium, vorbereitendes Kolloquium zur Masterarbeit mit Tutorium, Kolloquium und Tutorium aus dem Bereich der Kosmologie, Anleitung zum wissenschaftlichen Arbeiten (WS 17/18)

Projektseminar mit begleitenden Kolloquium, vorbereitendes Kolloquium zur Masterarbeit mit Tutorium, Kolloquium und Tutorium aus dem Bereich experimenteller Arbeiten, Anleitung zum Wissenschaftlichen Arbeiten (WS 17/18)

Ivlev

Plasma physics for astrophysics (WS 18/19)

### Technische Universität München

Diehl

Astrophysics Seminar "Nuclei in the COSMOS" (WS 17/18, SS 18, WS 18/19)

Observational astrophysics (SS 18)

Eisenhauer

Einführung in die Astrophysik (WS 17/18, WS 18/19)

High Angular Resolution Astronomy: Adaptive Optics and Interferometry (SS 18)

### Chalmers University of Technology

Caselli

Introduction to Astrochemistry (WS 18)

### Goethe-Universität Frankfurt

Boller

Strahlung und Materie (SS 18)

Boller

Verteilungsfunktionen der Astrophysik (SS 18)

### Universität Heidelberg

Dexter

Exploring strong gravity with accreting black holes (April 18)

### Universitat de Barcelona

Alves

Polarization and magnetic fields at disk scales (SS 18)

## Organisation von wissenschaftlichen Seminaren / Konferenzen

A workshop to discuss science/technical aspects of the Atacama Large-Aperture Submm/mm Telescope (AtLAST), Garching, 17.01. - 19.01.2018, Organisation: F. Bertoldi, C. De Breuck, P. Caselli, C. Casey, J. Conway, G. Geach, D. Iono, R. Ivison, P. Klaassen, S. Leurini, T. Mroczkowski, O. Noroozian, D. Riechers, R. Siebenmorgen, L. Testi, A. Wootten.

eBOSS collaboration meeting, MPE, 07.02. - 09.02.2018, Organisation: J. Comparat, A. Merloni, B. Boller, K. Nandra.

664. WE-Heraeus-Seminar on Prebiotic Molecules in Space and Origins of Life on Earth, Bad Honnef, Germany, 19.03. - 23.03.2018, Organisation: P. Caselli, D. Braun, C. Ceccarelli, P. Ehrenfreund, C. Endres.

The Trans-Neptunian Solar System, Coimbra, 26.03. - 29.03.2018, Organisation: A. Barucci, H. Boehnhardt, M. Brown, J. Fernandez, W. Grundy, O. Hainaut, W. Ip, D. Jewitt, A. Morbidelli, T. Müller, K. Noll, N. Peixinho, D. Pralnik, L. Young, J. Watanabe.

Complex Organic Molecules in the Universe: current understanding and perspectives, Special Session SS5, European Week of Astronomy and Space Science, Liverpool, 04.04.2018, Organisation: I. Jimenez-Serra, P. Caselli, S. Viti, L. Testi, J. Martin-Pintado, M. Minissale.

Small Bodies Near and Far (SBNAF) EU H2020 Workshop, Granada, 25.04. - 27.04.2018, Organisation: T. Müller, R. Duffard, P. Santos-Sanz.

Tracing the Flow: Galactic Environments and the Formation of Massive Stars, Lake Windermere, UK, 02.06 - 06.06.2018, Organisation: G. Fuller, S. Breen, C. Brogan, P. Caselli, G. Garay, P. Hennebelle, S. Kurtz, S. Longmore, R. Smith, K. Tatematsu, S. Walch.

KIAA Forum on Gas in Galaxies - Star Formation and Quenching in Galaxies, Kavli Institute for Astronomy and Astrophysics, Peking University, Beijing, China, 18.06. - 22.06.2018, Organisation: J. Wang (chair), L. Staveley-Smith (co-chair), R. Wang (co-chair), Y. Peng (co-chair), A. Saintonge, B. Catinella, F. Bigiel, H. Mo, L.J. Tacconi, M. Krumholz, M. Haynes, M. Putman, M. Zhu, R. Maiolino, T. van der Hulst and Y. Gao.

4th CRISM conference: Cosmic Rays and the InterStellar Medium, Grenoble, 25.06. - 29.06.2018, Organisation: E. Bergin, B. Bertucci, A. Bykov, P. Caselli, R. Lallement, M. Lemoine-Goumard, A. Marcowith, M. Potgieter, P. Salati.

The Laws of Star Formation: From the Cosmic Dawn to the Present Universe, Kavli Institute for Cosmology, University of Cambridge, UK, 02.07. - 06.07.2018, Organisation: D. Calzetti (co-chair), I. De Looze (co-chair), M. Galametz (co-chair), M. Relaño-Pastor (co-Chair), G. Bruzual, F. Combes, A. Fabian, T. Heckman, L.J. Tacconi, S. Viti and A. Whitworth.

COSPAR symposium E1.12 AGN X-Ray Surveys: Soft to Hard and Deep to Wide, Pasadena, USA, 14.07. -

22.07.2018, Organisation: A. Comastri, F. Civano, R. Hickox, B. Lehmer, I. Georgantopoulos, A. Alonso-Herrero, M. Volonteri, F. Harrison, S. Fotopoulou.

The Physics of Galaxy Scaling Relations and the Nature of Dark Matter, Kingston, Canada, 15.07. - 20.07.2018, Organisation: D. Calzetti, S. Courteau, N.M. Förster Schreiber, P. Hopkins, C.-P. Ma, A. Macció, R. Somerville, M. Strauss, F. van den Bosch, M. Volonteri.

15<sup>th</sup> Potsdam Thinkshop: The Role of Feedback in Galaxy Formation: from Small-scale Winds to Large-scale Outflows, Potsdam, Germany, 03.09. - 07.09.2018, Organisation: A. Di Cintio, N.M. Förster Schreiber, J. van Gorkom, A. Kravtsov, N. Libeskind, C. Martin, C. Pfrommer, J.X. Prochaska, P. Richter, L. Sales, I. Smail, V. Springel, M. Steinmetz, R. Teyssier, T. Urrutia, S. Walch, E. Zweibel.

European Planetary Science Congress 2018 (EPSC): Small Bodies (comets, KBOs, rings, asteroids, meteorites, dust) SB2, Berlin, 16.09. - 21.09.2018, Organisation: A. Marciniak, T. Müller, J. Durech.

The Scientific Heritage of Malcolm Walmsley, Firenze, Italy, 01.10. - 02.10.2018, Organisation: R. Cesaroni, D. Galli, P. Caselli, R. Maiolino, K. Menten, T. Ray, L. Testi.

Workshop on Laboratory Astrophysics 2018, Hamburg, Germany, 10.10. - 12.10.2018, Organisation: M. Schnell, T. Giesen, S. Schlemmer, O. Dopfer, K. Menten, P. Caselli, H. Kreckel, T. Henning, C. Jaeger, H. Mutschke.

The Central Arcsecond: Towards Testing General Relativity in the Galactic, Ringberg, Germany, 28.10.- 03.11.2018, Organisation: J. Dexter, F. Eisenhauer, H. Falcke, R. Genzel, A. Ghez, S. Gillessen, D. Haggard, S. Markoff, F. Özel, E. Quataert, R. Sari.

Hendrik van de Hulst Centennial Symposium. The Interstellar Medium of Galaxies: Status and Future Perspectives, Leiden, The Netherlands, 05.11. - 09.11.2018, Organisation: M. Baes, A. Bolatto, C. Carilli, P. Goldsmith, J. van Gorkom, T. Henning, R. Klessen, S. Madden, C. McKee, G. Melnick, T. Onaka, L.J. Tacconi, X. Tielens and T. Troland.

Small Bodies Near and Far (SBNAF) EU H2020 Workshop, Garching, 12.11. - 14.11.2018, Organisation: T. Müller, V. Ali-Lagoa.

AHEAD School X-ray and multi wavelength surveys school, MPE, Garching, 19.11. - 23.11.2018, Organisation: M. Salvato, V. Burwitz, A. Merloni.

KMOS@5: Star and Galaxy Formation in 3D -- Challenges at KMOS 5th year, Garching, Germany, 03.12. - 06.12.2018, Organisation: R. Bender, L. Coccato, J. Corral Santana, R. Davies, C. Evans, N.M. Förster Schreiber, M. Hilker, S. Ramsay, M. Rodrigues, E. Sani, L. Schmidtbreick, R. Sharples.

# Publikationen

Hier präsentieren wir eine tabularische und graphische Zusammenfassung unserer Veröffentlichungen aus 2018. Die Veröffentlichungen werden nach wissenschaftlicher

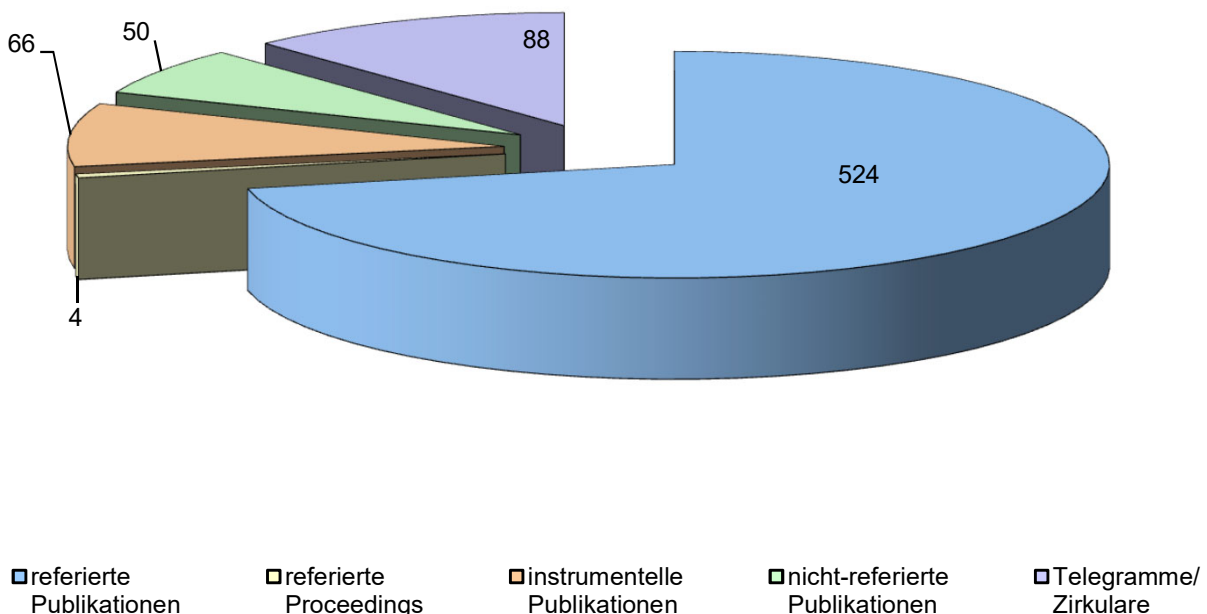
Arbeitsgruppe und Publikationstyp gezählt. Die Gesamtliste unserer Publikationen aus den verschiedenen Kategorien ist nachfolgend aufgeführt.

## Summe der MPE Publikationen in 2018

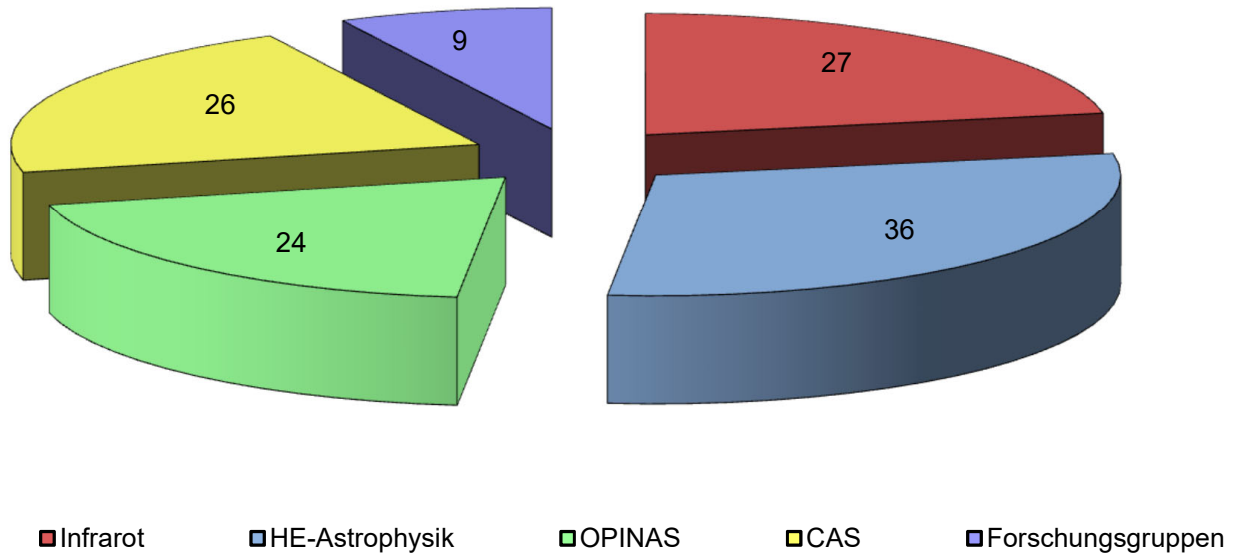
Wissenschaftl. Arbeitsgruppe	referierte Publikationen	referierte Proceedings	Instrument. Publikationen	nicht-referierte Publikationen	Telegramme/ Zirkulare	Vorträge	Poster
IR	27 (136)	0 (0)	8 (26)	5 (17)	1 ( 8)	88 (128)	7
HE Astrophysik	36 (170)	1 (2)	16 (29)	10 (16)	21 (68)	90 (126)	4
OPINAS	24 ( 95)	1 (1)	3 ( 8)	4 ( 4)	1 ( 5)	13 (27)	4
CAS	26 ( 92)	1 (1)	0 ( 3)	5 (13)	1 ( 7)	26 ( 51)	13
Res. Grp	9 ( 31)	0 (0)	0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)	0
<b>Summe</b>	<b>122 (524)</b>	<b>3 (4)</b>	<b>27 (66)</b>	<b>24 (50)</b>	<b>24 (88)</b>	<b>217 (332)</b>	<b>28</b>

Die Zahlen geben die Anzahl der Publikationen mit einem Erstautor vom MPE beziehungsweise die Anzahl der eingeladenen (bei Konferenzen und zu Kolloquien) Vorträge an. Die roten Zahlen in Klammern zeigen die Gesamtzahl der Veröffentlichungen mit MPE-Autorenschaft (inklusive MPE Erstautoren) beziehungsweise die Gesamtzahl der gehaltenen Vorträge. Veröffentlichungen mit Beteiligung aus mehreren Arbeitsgruppen sind bei der Gruppe des führenden Autors gezählt. Bei Postern wurden nur MPE Erstautorenschaften berücksichtigt.

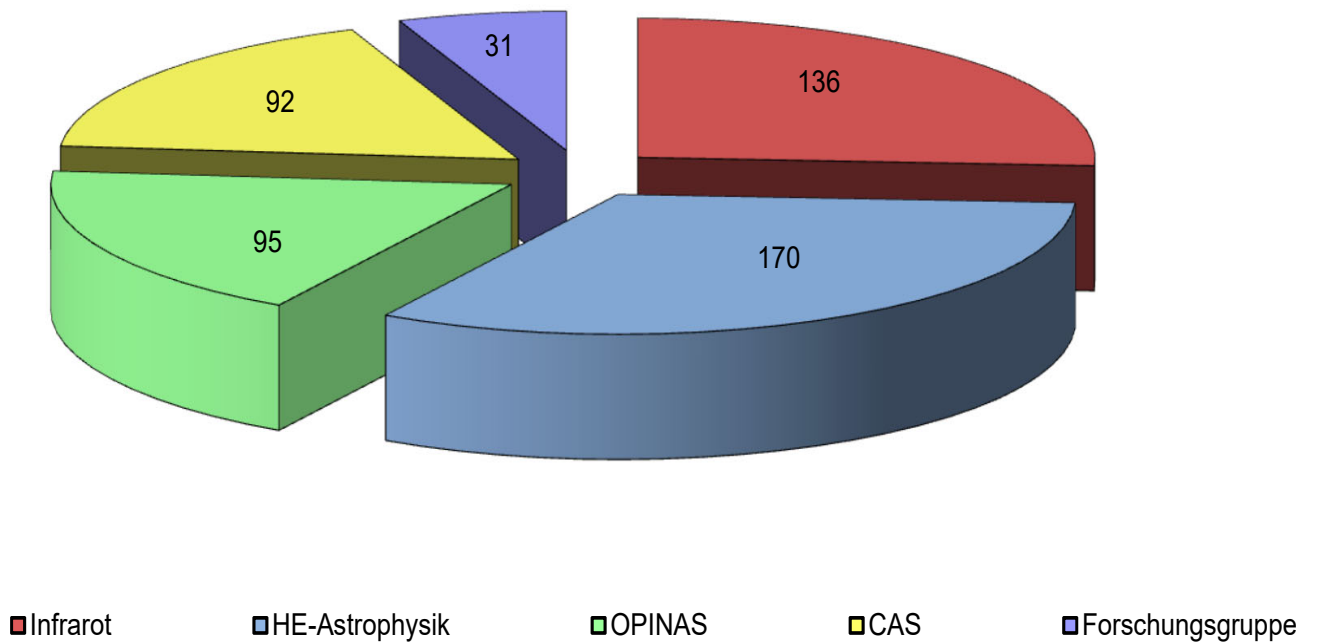
## MPE Publikationen 2018 (nach Typ)



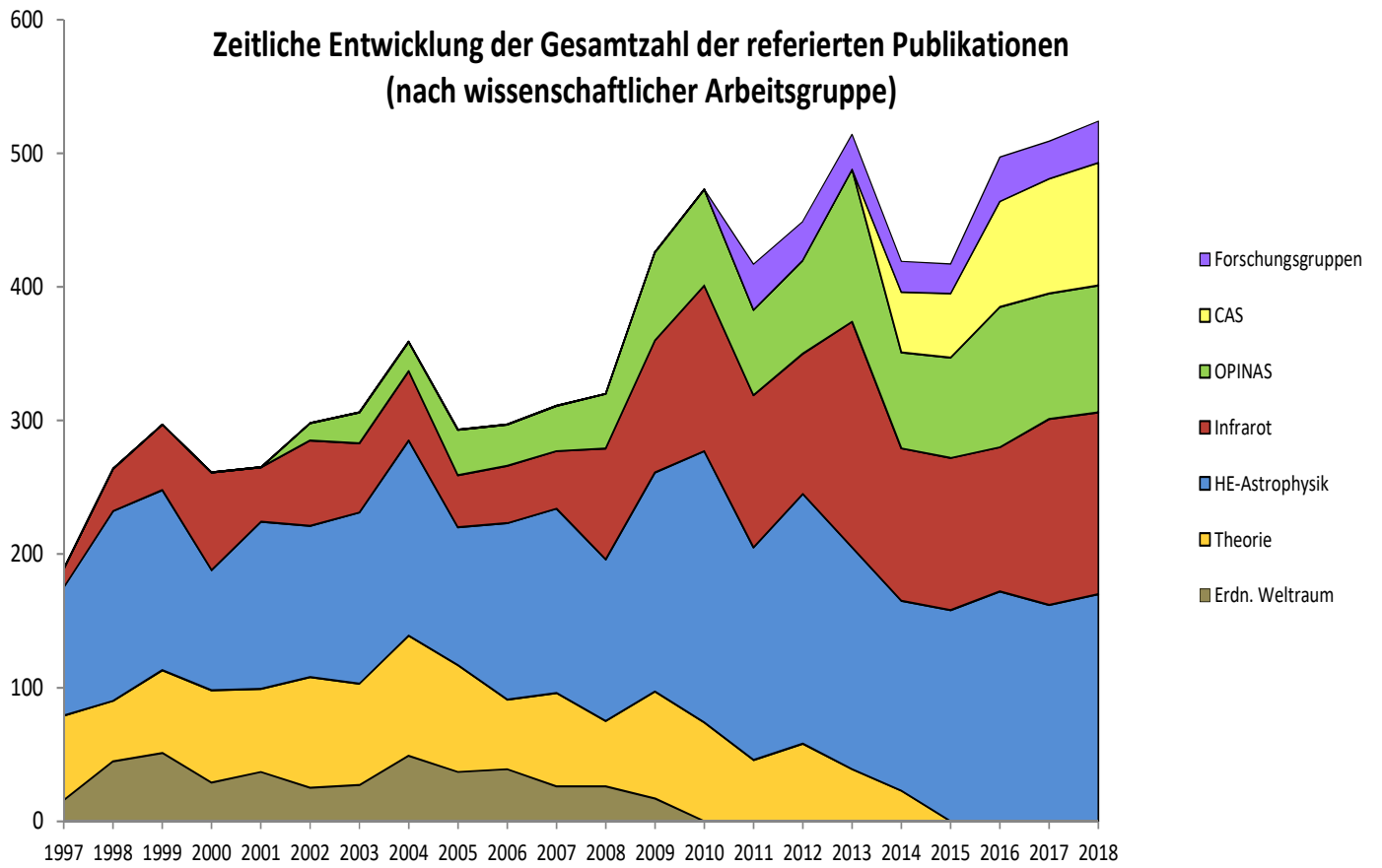
### Referierte Publikationen mit MPE Erstautor in 2018 (nach wissenschaftlicher Arbeitsgruppe)



### Gesamtzahl der referierten MPE Publikationen in 2018 (nach wissenschaftlicher Arbeitsgruppe)







## Referierte Publikationen

- Abbott, T.M.C., F.B. Abdalla, A. Alarcon, ..., D. Gruen, ..., J. Weller, et al.: Dark Energy Survey year 1 results: Cosmological constraints from galaxy clustering and weak lensing. *Physical Review D* 98, 043526 (2018).
- Abbott, T.M.C., F.B. Abdalla, J. Annis, ..., D. Gruen, ..., J.J. Mohr, ..., J. Weller, et al.: Dark Energy Survey Year 1 Results: A Precise  $H_0$  Estimate from DES Y1, BAO and D/H Data. *Mon. Not. R. Astron. Soc.* 480, 3879-3888 (2018).
- Abbott, T.M.C., F.B. Abdalla, S. Allam, ..., D. Gruen, ..., J.J. Mohr, ..., J. Weller, et al.: The Dark Energy Survey: Data Release 1. *Ap. J. Supp. Ser.* 239, 18 (2018).
- Abolfathi, B., D.S. Aguado, G. Aguilar, ..., J. Comparat, ..., D. Erfanianfar, ..., A. Finoguenov, ..., A. Gueguen, ..., K. Nandra, ..., M. Salvato, A.G. Sánchez, et al.: The Fourteenth Data Release of the Sloan Digital Sky Survey: First Spectroscopic data from the extended Baryon Oscillation Spectroscopic Survey and from the second phase of the Apache Point Observatory Galactic Evolution Experiment. *Ap. J. Supp. Ser.*, 235(2): 42 (2018).
- Abuter, R., A. Amorim, M. Bauböck, J.P. Berger, H. Bonnet, W. Brandner, Y. Clénet, V.C. du Foresto, P.T. de Zeeuw, C. Deen, J. Dexter, G. Duvert, A. Eckart, F. Eisenhauer, N.M. Förster Schreiber, P. Garcia, F. Gao, E. Gendron, R. Genzel, S. Gillessen, P. Guajardo, M. Habibi, X. Haubois, T. Henning, S. Hippler, M. Horrobin, A. Huber, A. Jiménez-Rosales, S. Lacour, P. Kervella, S. Lacour, V. Lapeyrère, B. Lazare, J.B. Le Bouquin, P. Léna, M. Lippa, T. Ott, J. Panduro, T. Paumard, K. Perraut, G. Perrin, O. Pfuhl, P.M. Plewa, S. Rabien, G. Rodríguez-Coira, G. Rousset, A. Sternberg, O. Straub, C. Straubmeier, E. Sturm, L.J. Tacconi, F. Vincent, S. von Fellenberg, I. Waisberg, F. Widmann, E. Wieprecht, E. Wozorrek, J. Woillez and S. Yazici: Detection of orbital motions near the last stable circular orbit of the massive black hole SgrA\*. *Astron. Astrophys.* 618: L10 (2018).
- Adami, C., P. Giles, E. Koulouridis, ..., V. Guglielmo, et al.: The XXL Survey XX. The 365 cluster catalogue. *Astron. Astrophys.* 620, 31606, (2018).
- Aguerri, J.A., A. Longobardi, S. Zarattini, A. Kundert, E. D'Onghia and L. Domínguez-Palmero: Fossil group origins - VIII. RX J075243.6+455653 a transitional fossil group. *Astron. Astrophys.* 609: A48 (2018).
- Ahmadi, A., H. Beuther, T. Mottram, ..., S. Feng, et al.: Core fragmentation and Toomre stability analysis of W3(H<sub>2</sub>O) - A case study of the IRAM NOEMA large program CORE. *Astron. Astrophys.* 618: A46 (2018).
- Aird, J., A.L. Coil and A. Georgakakis: X-rays across the galaxy population - II. The distribution of AGN accretion rates as a function of stellar mass and redshift. *Mon. Not. R. Astron. Soc.* 474, 1225-1249 (2018).
- Alig, C., S. Hammer, N. Borodatchenkova, C.L. Dobbs and A. Burkert: Simulating the Impact of the Smith Cloud. *Ap. J. Lett.* 869, L2 (2018).
- Alí-Lagoa, V., T.G. Müller, F. Usui and S. Hasegawa: The AKARI IRC asteroid flux catalogue: updated diameters and albedos. *Astron. Astrophys.* 612, A85 (2018).
- Aly, H., G. Lodato and P. Cazzoletti: On the secular evolution of GG Tau A circumbinary disc: a misaligned disc scenario. *Mon. Not. R. Astron. Soc.* 480(4), 4738-4745 (2018).
- Alonso-Herrero, A., M. Pereira-Santaella, S. García-Burillo, R.I. Davies, F. Combes, D. Asmus, A. Bunker, T. Díaz-Santos, P. Gandhi, O. González-Martín, A. Hernán-Caballero, E. Hicks, S. Hönic, A. Labiano, N.A. Levenson, C. Packham, C. Ramos Almeida, C. Ricci, D. Rigopoulou, D. Rosario, E. Sani and M.J. Ward: Resolving the Nuclear Obscuring Disk in the Compton-thick Seyfert Galaxy NGC 5643 with ALMA. *Ap. J.* 859, 144 (2018).
- Alves, F.O., J.M. Girart, M. Padovani, D. Galli, G.A.P. Franco, P. Caselli, W.H.T. Vlemmings, Q. Zhang and H. Wiesemeyer: Magnetic field in a young circumbinary disk. *Astron. Astrophys.* 616, A56 (2018).
- Amati, L., P. O'Brien, D. Götz, ..., J. Greiner, et al.: The THESEUS space mission concept: science case, design and expected performances. *Adv. Space Res.* 62, 191-244 (2018).
- Amendola, L., S. Appleby, A. Avgoustidis, ..., J. Weller and T. Zlosnik: Cosmology and fundamental physics with the Euclid satellite. *Living Reviews in Relativity* 21, 2 (2018).
- Anathpindika, S., A. Burkert and R. Kuiper: On the star-forming ability of Molecular Clouds. *Mon. Not. R. Astron. Soc.* 474, 1277-1287 (2018).
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## Poster

- Agurto-Gangas, C. et al.: Revealing the dust grain sizes in the envelope of Per-emb-50, Cosmic Dust: origin, applications & implications, Copenhagen, Denmark, June 2018.
- Behrens, A. et al.: Studies of operation modes for the ATHENA WFI detectors, SPIE Astronomical Telescopes + Instrumentation, Austin, USA, June 2018.
- Cazzoletti, P. et al.: CN fluxes and rings in full protoplanetary disks around young stars, Take a Closer Look: The innermost region of protoplanetary discs and its connection to the origin of planets, Garching bei München, Germany, October 2018.
- Cazzoletti, P. et al.: Where do the spirals come from?, Astrochemistry: past present and future, Pasadena, USA, July 2018.
- Chantzos, J. et al.: A study of the  $c\text{-C}_3\text{HD}/c\text{-C}_3\text{H}_2$  ratio in low-mass star forming regions, 10th IRAM millimeter interferometry school, Grenoble, France, October 2018.
- Davies, R. et al.: Both sides of the coin: LLAMA view of active & inactive galaxies, Are AGN Special? The environmental dependence and global impact of AGN activity, Durham, UK, July 2018.
- Endres, C.P.: Collision induced transitions of ammonia studied by chirped pulse Fourier transform microwave spectroscopy, 664. WE-Heraeus-Seminar on Prebiotic Molecules in Space and Origins of Life on Earth, Bad Honnef, Germany, March 2018.
- Endres, C.P.: State-to-State Rotational Rate Coefficients for  $\text{NH}_3\text{-NH}_3$  Collisions obtained with Pump-Probe Chirped-Pulse Experiments, LabAstro 2018, Hamburg, Germany, October 2018.
- Gao, F. et al.: GRAVITY deep imaging reconstruction, SPIE Astronomical Telescopes + Instrumentation 2018, Austin, Texas, USA, June 2018.
- Jimenez-Rosales, A. et al.: Impact of Faraday Effects in Event Horizon Scale GRMHD Images of Sgr A\*, EHT Collaboration Meeting, Nijmegen, Netherlands, November 2018.
- Kellermann, H. et al.: A 4-fiber assembly for simultaneous wavelength calibration of the high-resolution spectrograph FOCES, SPIE 2018, Astronomical Telescopes + Instrumentation, Austin, USA, June 2018.
- Kellermann, H. et al.: Stability of the FOCES spectrograph based on frequency comb time series, Astronomical Telescopes + Instrumentation, SPIE 2018 Austin, Austin, USA, June 2018.
- Müller, B. et al.: Spectroscopic Characterization of Interstellar Ice Analogues, Cosmic Dust: origin, applications & implications, Copenhagen, Denmark, June 2018.
- Müller, B. et al.: Spectroscopic signature of water-based interstellar ice analogues, Workshop on Laboratory Astrophysics 2018, Hamburg, Germany, October 2018.
- Müller, T. et al.: Asteroiden: Gefahr aus dem All?, Astero-idday, ESO-Supernova, Garching, Germany, June 2018.
- Müller, T. et al.: SBNF: Small Bodies Near and Far, Astero-idday, ESO-Supernova, Garching, Germany, June 2018.
- Müller, T. et al.: Small Bodies Near and Far (SBNF): Challenges in the Physical and Thermal Characterization of NEOs, MBAs and TNOs, European Planetary Science Congress (EPSC), Berlin, Germany, September 2018.
- Müller, T. et al.: 'TNOs are cool': Herschel survey of the Transneptunian Population, The Transneptunian Solar System, Coimbra, Portugal, March 2018.
- Obermeier, C. et al.: Following up planet candidates with the Wendelstein observatory, Exoplanets II, Cambridge, UK, July 2018.
- Predehl, P. et al.: eROSITA mated with SRG, SPIE Conference on Space Telescopes and Instrumentation 2018: Ultraviolet to Gamma Ray, Austin/Tx, USA, July 2018.
- Raison, F.: Clustering on two-dimensional stellar kinematics of galaxies, Challenges in 21st Century Cosmology (Cosmo21), Valencia, Spain, May 2018.
- Rau, A.: The Science of the Athena Wide Field Imager, SPIE Astronomical Telescopes + Instrumentation, Austin, USA, June 2018.
- Redaelli, E. et al.:  $^{15}\text{N}$  anti fractionation in prestellar cores, IRAM interferometric school, Grenoble, France, October 2018.
- Redaelli, E. et al.: The dynamics of a young protostellar core, EWASS - European week of astronomy and space science, Liverpool, England, April 2018.
- Segura-Cox, D. et al.: Ringed Substructures in the Dust Disk of Class I Protostar IRS 63, The Wonders of Star Formation, Edinburgh, Scotland, September 2018.
- Shimizu, T.T. et al.: The SINFONI, MUSE, and ALMA View of NGC 5728, Are AGN Special?, Durham, England, July 2018.
- Treberspurg, W. et al.: Energy response of ATHENA WFI prototype detectors, SPIE 10699, Space Telescopes and Instrumentation 2018: Ultraviolet to Gamma Ray, Austin, USA, July 2018.
- Widmann, F. et al.: Improving GRAVITY towards observations of faint targets, SPIE Astronomical Telescopes and Instrumentation, Austin, USA, June 2018.

## Vorträge

- Agurto-Gangas, C.: Revealing the dust grain sizes in the envelope of the Class I protostar Per-emb-50, contributed talk, Second Binational Meeting AAA-SOCHIAS (Argentine Association of Astronomy - Chilean Astronomical Society), La Serena, Chile, October 2018.
- Ali-Lagoa, V.: Thermal properties of large main belt asteroids derived from Herschel PACS data, contributed talk, American Astronomical Society, DPS meeting #50, Knoxville, USA, October 2018.
- Alves, F.O.: Dissecting a young circumstellar disk with ALMA, contributed talk, Chalmers Jubilee Professor Workshop on Fractionation, Astrochemistry and Star/Planet formation (the CICO-VICO-MPE connection), Gothenburg, Sweden, September 2018.
- Alves, F.O.: The chemistry of OMC2-FIR4: iCOMs and S-bearing molecules, contributed talk, SOLIS Meeting, London, England, July 2018.
- Bauböck, M: GRAVITY Flare Modeling, invited talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg, Germany, November 2018.
- Bauböck, M: Modeling Neutron Star Puls Profiles, colloquium, Istanbul University, Istanbul, Turkey, November 2018.
- Bauböck, M: Models of GRAVITY astrometry of Sgr A\*, contributed talk, 42nd COSPAR Assembly, Pasadena, USA, July 2018.
- Bauböck, M: Return Current Heating of Neutron Star Atmospheres, contributed talk, 42nd COSPAR Assembly, Pasadena, USA, July 2018.
- Becker, W.: Exploring the Astrophysics of Neutron Stars with the help of X-ray Observatories, invited talk, 6th International Symposium on Non-equilibrium Dynamics, Varadero, Cuba, May 2018.
- Becker, W.: eROSITA: Status and Future Prospects, contributed talk, 42nd COSPAR Assembly, Pasadena, USA, July 2018.
- Behrens, A.: Investigation of Prototype DEPFET Detectors, contributed talk, 7th Athena WFI Consortium Meeting, Garching, Germany, April 2018.
- Beifiori, A.: The KMOS Cluster Survey - KCS: Tracing the evolution of passive galaxies in clusters at  $1.4 < z < 1.8$ , invited talk, KMOS@5: Star and Galaxy Formation in 3D - Challenges at KMOS 5th Year, Garching, Germany, December 2018.
- Belli, S.: Deep Spectroscopic Observations of Quiescent Galaxies at High Redshift, colloquium, University Observatory Munich (USM), Munich, Germany, November 2018.
- Belli, S.: Stellar Populations of Quiescent Galaxies at High Redshift, invited talk, Birth, life and fate of massive galaxies and their central beating heart, Favignana, Italy, September 2018.
- Bizzocchi, L.: Pure rotational spectrum of  $(^{15}\text{N})\text{ND}$  and isotopic-independent Dunham-type analysis of imidogen radical, contributed talk, The 25th International Conference on High Resolution Molecular Spectroscopy, Bilbao, Spain, September 2018.
- Bizzocchi, L.:  $^{14}\text{N}/^{15}\text{N}$  ratio measurements in pre-stellar cores with  $\text{N}_2\text{H}^+$ : new evidences of  $^{15}\text{N}$ -antifractionation, colloquium, II Italian Workshop on Astrochemistry - Astrochem2@2018, "Chemical Evolution in our Galaxy: Spectroscopy, Observations and Reactivity", Follonica, Italy, June 2018.
- Bizzocchi, L.: Astrochemistry in the lab: rare isotopologues, colloquium, Chalmers Jubilee Professor Workshop on Fractionation, Astrochemistry and Star/Planet formation, Göteborg, Sweden, September 2018.
- Bizzocchi, L.: High-resolution mm/IR spectrum of DC3N: a global ro-vibrational analysis, contributed talk, Workshop on Laboratory Astrophysics 2018, DESY Hamburg, Hamburg, Germany, October 2018.
- Bizzocchi, L.: Sub-millimetre spectroscopy of light N-bearing radicals and ions, invited talk, ASTRO-Winter Modeling, "Advances in computational & experimental modeling: application to astrochemistry", Bologna, Italy, February 2018.
- Boller, Th.: 4MOST Survey Strategy and Survey Optimization, invited talk, 4MOST Science Meeting, Geneva, Switzerland, June 2018.
- Boller, Th.: Accretion disc physics from the largest multi-wavelength study of 2RXS sources, invited talk, Frascati Workshop 2018 on Multifrequency Behaviour of High Energy Cosmic Sources, Palermo, Italy, June 2018.
- Boller, Th.: Gravitational Wave Astrophysics, invited talk, 6th International Symposium on non-equilibrium dynamics, Varadero, Cuba, April 2018.
- Boller, Th.: Limits of the Universe, invited talk, 27th World Congress of Dermatology EADV, Paris, France, September 2018.
- Bonholzer, M.: First tests of large prototype DEPFET detectors for ATHENA's wide field imager, contributed talk, SPIE Astronomical Telescopes + Instrumentation 2018, Austin, Texas, USA, June 2018.
- Bonholzer, M.: Large-area prototype detectors, contributed talk, 7th Athena WFI Consortium Meeting, Garching, Germany, April 2018.
- Caselli, P.: Deuteration and ionisation, invited talk, The Scientific Heritage of Malcolm Walmsley, Florence, Italy, October 2018.
- Caselli, P.: From Interstellar Clouds to Life on Earth, public talk, Chemical evolution in our Galaxy, Follonica, Italy, July 2018.
- Caselli, P.: From pre-stellar cores to protoplanetary disks, invited talk, Virginia Initiative on Cosmic Origins (VICO) Workshop, Charlottesville, USA, November 2018.
- Caselli, P.: Introduction to Astrochemistry, invited talk, 2018 KROME Computational school, Concepcion, Chile, November 2018.
- Caselli, P.: MIR/FIR Astronomy, invited talk, Brainstorming

- meeting on Stratospheric Balloons for Astronomy, Stuttgart, Germany, November 2018.
- Caselli, P.: Our Astrochemical Origins, invited talk, Astrochemistry: Discoveries to inform the chemical sciences and engineering communities, Washington DC, USA, November 2018.
- Caselli, P.: Prestellar chemistry and the role of water: from Herschel to JWST, invited talk, Astrochemistry: Past, Present & Future, Pasadena, USA, July 2018.
- Caselli, P.: The first steps toward pre-biotic molecules at the dawn of star and planet formation, colloquium, University of Amsterdam, Anton Pannekoek Institute of Astronomy, Amsterdam, The Netherlands, May 2018.
- Caselli, P.: The first steps toward pre-biotic molecules at the dawn of star and planet formation, invited talk, Bunsentagung 2018 - Kinetics in the real world, Hannover, Germany, May 2018.
- Caselli, P.: The first steps toward pre-biotic molecules at the dawn of star and planet formation, invited talk, CeNS workshop 2018: Celebrating Nanoscience, Venice, Italy, September 2018.
- Caselli, P.: The importance of cosmic rays in star and planet formation, invited talk, Cosmic rays: the salt of the star formation recipe, Florence, Italy, May 2018.
- Caselli, P.: Water as a tracer of star formation, invited talk, Velocity-Resolved Far-Infrared Imaging Spectroscopy of the Future; A Symposium Honouring Paul F. Goldsmith, Paris, France, October 2018.
- Cazzoletti, P.: Where do the spirals come from? Multi-wavelength, high-resolution study of HD135344B, colloquium, Star and planet formation seminar, ESO, Garching bei München, Germany, November 2018.
- Cazzoletti, P.: Where do the spirals come from? Multi-wavelength, high-resolution study of HD135344B, contributed talk, Star and planet formation in the Southwest 2, Tucson, USA, March 2018.
- Chantzos, J.: Accurate sub-millimeter rest-frequencies for HCCO and DCCO radicals, contributed talk, The 25th International Conference on High Resolution Molecular Spectroscopy, Bilbao, Spain, September 2018.
- Chen, T.-W.: GROND followup of kilonovae, invited talk, Planning ESO observations of future gravitational wave events, Munich, Germany, January 2018.
- Chen, T.-W.: Host and local environment of superluminous supernovae, invited talk, European Week of Astronomy and Space Science, Liverpool, UK, April 2018.
- Chen, T.-W.: Superluminous supernovae and challenges to find them early, invited talk, Transients in New Surveys: the Undiscovered Country, Leiden, Netherlands, July 2018.
- Collmar, W.: Erde, Sonne, Mond und Sterne: Eine Reise ins Weltall, public talk, International Bilingual School Munich, München, Germany, May 2018.
- Collmar, W.: CGRO/COMPTEL Observations of Relativistic Jet Sources at MeV Energies for 9 Years, contributed talk, Monitoring the non-thermal Universe 2018, Cochem, Germany, September 2018.
- Collmar, W.: The Gamma-Ray Sky at MeV Energies as seen by CGRO/COMPTEL, colloquium, Astronomie und Astrophysik Uni Würzburg, Würzburg, Germany, December 2018.
- Comparat, J.: A holistic approach for cosmology with extragalactic surveys, colloquium, Institute for Cosmology and Gravitation, Portsmouth, UK, Februar 2018.
- Comparat, J.: A holistic approach for cosmology with extragalactic surveys, invited talk, Alpine cosmology conference, Val de Vogna, Italy, July 2018.
- Comparat, J.: Cosmology with future spectroscopic surveys of galaxies, invited talk, Societe francaise d'astronomie et d'astrophysique, Bordeaux, France, July 2018.
- Comparat, J.: Stellar population properties for 2 million galaxies from SDSS DR14 and DEEP2 DR4 from full spectral fitting, invited talk, Frontier Research in Astrophysics - III, Mondello, Italy, May 2018.
- Comparat, J.: Sloan Digital Sky Survey IV: Extended Baryonic Oscillation Spectroscopic Survey Emission Line Galaxies Program SDSS-IV/eBOSS ELG, invited talk, Understanding Emission-line galaxies for the next generation of cosmological surveys - Centro de Estudios de Fisica del Cosmos de Aragon, Teruel, Spain, September 2018.
- Comparat, J.: eBOSS Galaxy science SPIDERS clusters, invited talk, eBOSS collaboration meeting, Paris, France, December 2018.
- Davies, R.L.: Ionized Gas Outflows at  $z \sim 2$  with the SINS Survey, contributed talk, A Star Was Born!, Tuscany, Italy, April 2018.
- Davies, R.L.: Properties and Scaling Relations of Ionized Gas Outflows at  $z \sim 1-3$ , contributed talk, The Role of Feedback in Galaxy Formation: From Small-Scale Winds to Large-Scale Outflows, Potsdam, Germany, September 2018.
- Davies, R.L.: Properties and scaling relations of ionized gas outflows at  $z \sim 2$ , contributed talk, KMOS@5: Star and Galaxy Formation in 3D - Challenges at KMOS 5th Year, Munich, Germany, December 2018.
- Davies, R.: A Conference Summary: Is our Changing Look now only Partially Obscured?, invited talk, The many faces of the AGN obscuration, Puerto Varas, Chile, December 2018.
- Davies, R.: ERIS: Revitalising an Adaptive Optics Instrument for the VLT, contributed talk, SPIE, Ground-based and Airborne Instrumentation for Astronomy VII, Austin, USA, June 2018.
- Davies, R.: MICADO: First Light Imager for the ELT, invited talk, Extremely Large Telescope: UK Community Day, London, UK, January 2018.
- Davies, R.: The MICADO first light imager for the ELT: overview, operation, simulation, contributed talk, SPIE, Ground-based and Airborne Instrumentation for Astronomy VII, Austin, USA, June 2018.
- Davies, R.: Where do Seyferts get their Gas?, colloquium, Kapteyn Astronomical Institute, Groningen, The Netherlands, June 2018.
- Del Moro, A.: A broad-band view on the intrinsic properties of the hard X-ray AGN detected by NuSTAR, contributed talk, Local hard X-ray selected AGN across the multi-

wavelength spectrum, Santiago, Chile, March 2018.

Del Moro, A.: Exploring the host galaxy properties of the SPIDERS-DR14 AGN, contributed talk, SDSS collaboration meeting, Seoul, South Korea, June 2018.

Del Moro, A.: QSO Working Group Status, contributed talk, eBOSS collaboration meeting, Garching, Germany, February 2018.

Del Moro, A.: SPIDERS project overview, invited talk, SDSS collaboration meeting, Seoul, South Korea, June 2018.

Del Moro, A.: The host galaxies of X-ray selected AGN in SPIDERS-DR14, contributed talk, SPIDERS/TDSS/SDSS-V collaboration meeting, Garching, Germany, February 2018.

Dennerl, K.: An empirical method for improving the XMM-Newton/EPIC-pn RMF and ARFs, contributed talk, 13th IACHEC Meeting (International Astronomical Consortium for High Energy Calibration), La Tenuta dei Ciclamini, Italy, April 2018.

Dennerl, K.: An empirical method for improving the XMM-Newton/EPIC-pn RMF and ARFs, contributed talk, XMM-Newton EPIC Calibration and Operations Meeting, ESAC, Spain, March 2018.

Dennerl, K.: Status of eROSITA calibrations, contributed talk, eROSITA Working Group Chairs Meeting, Moscow, Russia, November 2018.

Dennerl, K.: eROSITA Event Compression, contributed talk, German eROSITA Consortium Meeting, MPE Garching, Germany, April 2018.

Dexter, J.: Event Horizon Scale Images of M87, invited talk, Event Horizon Telescope Collaboration Meeting 2018, Nijmegen, Netherlands, November 2018.

Dexter, J.: Radiation and accretion physics around Sgr A\*, invited talk, 42nd COSPAR Assembly, Pasadena, USA, July 2018.

Dexter, J.: Radiation and accretion physics around Sgr A\*, invited talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg Castle, Germany, November 2018.

Dexter, J.: Resolving black holes in space and time, colloquium, Dartmouth college, Hanover, USA, February 2018.

Dexter, J.: Resolving black holes in space and time, colloquium, IPAG Grenoble, Grenoble, France, June 2018.

Dexter, J.: Resolving black holes in space and time, colloquium, University of Colorado Boulder, Boulder, USA, March 2018.

Dexter, J.: The resolved size and structure of hot dust in AGN, invited talk, TORUS 2018, Puerto Varas, Chile, December 2018.

de Zeeuw, P.T.: Blaauw Lecture: The World's Most Advanced Eyes on the Sky, colloquium, University of Groningen, Groningen, The Netherlands, October 2018.

de Zeeuw, P.T.: Building the world's most advanced telescopes at ESO, public talk, Leidse Weer en Sterrenkundige Kring, Leiden, The Netherlands, September 2018.

de Zeeuw, P.T.: Hendrik Christoffel van de Hulst, invited talk, H.C. Henk van de Hulst Centenary Workshop, Uni-

versity of Leiden, Leiden, The Netherlands, November 2018.

de Zeeuw, P.T.: Integral-field Spectroscopy of Galaxies, colloquium, Department of Physics, University of Melbourne, Melbourne, Australia, November 2018.

de Zeeuw, P.T.: Integral-field Spectroscopy of Galaxies, colloquium, Kapteyn Institute, Groningen, The Netherlands, June 2018.

de Zeeuw, P.T.: Professor Adriaan Blaauw, public talk, Open Day Blaauw Observatory, University of Groningen, Groningen, The Netherlands, October 2018.

de Zeeuw, P.T.: Study of the Universe, invited talk, Symposium 'Beroepseer', Koninklijke Hollandse Maatschappij van Wetenschappen, Haarlem, The Netherlands, April 2018.

de Zeeuw, P.T.: Telescopes and Instruments for Astronomy, invited talk, NYRIA Workshop, Leiden University, Leiden, The Netherlands, October 2018.

Diehl, R.: Astronomy for cosmic radioactive nuclei, invited talk, ATOMKI/ChETEC Workshop "Nuclear physics in stellar explosions", Debrecen, Hungary, September 2018.

Diehl, R.: Astronomy for cosmic radioactive nuclei, invited talk, Workshop on Radionuclide Astronomy, Los Alamos, USA, August 2018.

Diehl, R.: Conference Summary "Nuclei in the Cosmos", invited talk, Int. Conference "Nuclei in the Cosmos" XV, L'Aquila, Italy, June 2018.

Diehl, R.: Cosmic gamma rays and multi-messenger astrophysics, invited talk, Winter School on Nuclear Astrophysics, Russbach, Austria, March 2018.

Diehl, R.: Gamma rays from gravitational wave source GW170817, invited talk, Asian Gravitational Wave Workshop, Zhuhai, China, April 2018.

Diehl, R.: Gamma-Ray Spectroscopy of Nuclei in the Cosmos, colloquium, CAS/IMP Institute Colloquium, Lanzhou, China, August 2018.

Diehl, R.: Gamma-Ray Spectroscopy, invited talk, International Workshop on Nuclear Astrophysics, Enshi, China, August 2018.

Diehl, R.: Gamma-Ray Spectroscopy: Instruments and Methods, invited talk, Summer School on Nuclear Astrophysics, Enshi, China, August 2018.

Diehl, R.: Gamma-Ray Spectroscopy: Lessons and Open Issues, invited talk, Summer School on Nuclear Astrophysics, Enshi, China, August 2018.

Diehl, R.: Gamma-Ray Spectroscopy: the Context, invited talk, Summer School on Nuclear Astrophysics, Enshi, China, August 2018.

Diehl, R.: Gamma-ray lines from nuclei in cosmic sites, invited talk, Carpathian Summer School of Physics, Sinaia, Romania, July 2018.

Diehl, R.: Gamma-ray lines from nucleosynthesis in cosmic sites, colloquium, TRIUMF Institute Colloquium, Vancouver, Canada, August 2018.

Diehl, R.: Gamma-ray lines from supernovae, contributed talk, Heraeus Seminar "Supernovae - from simulations to observations and nucleosynthesis fingerprints", Konkoly

Observatory, Budapest, Germany, January 2018.

Diehl, R.: Gamma-rays from GW170817, invited talk, ESO Workshop on Gravitational-Wave Source Counterpart Observations, Garching, Germany, January 2018.

Diehl, R.: Learning from cosmic gamma ray observations, invited talk, ECT\* Workshop "Indirect methods in nuclear astrophysics", Trento, Italy, September 2018.

Diehl, R.: Lessons on cosmic nuclei from gamma-ray observations, colloquium, Konkoly Observatory Seminar, Konkoly Observatory, Budapest, Hungary, January 2018.

Diehl, R.: Multi-Messenger Astrophysics, invited talk, KSETA Workshop, Durbach, Germany, February 2018.

Diehl, R.: Nukleare Astrophysik in Deutschland, invited talk, KAT Astroparticle Physics Strategy Workshop, Bad Honnef, Germany, November 2018.

Diehl, R.: Observations of  $^{26}\text{Al}$  and  $^{60}\text{Fe}$  throughout the Galaxy, invited talk, ISSI-BJ Workshop on Radionuclei, Beijing, China, April 2018.

Diehl, R.: Observing cosmic nuclei in gamma rays, colloquium, IHEP Colloquium, Beijing, Germany, March 2018.

Diehl, R.: Overview Research Area G: Origin and evolution of cosmic elements, invited talk, Science Week of the Munich Excellence Cluster "Universe", Seeon, Germany, December 2018.

Diehl, R.: Radioactivities from nucleosynthesis, invited talk, Workshop Tsung Dao Ling Institute "The exploding universe", Shanghai, China, May 2018.

Diehl, R.: Understanding gamma rays from cosmic radioactivities, invited talk, HIAF Workshop, Beijing, China, December 2018.

Diehl, R.: Woher kommt das Eisen in unserem Blut?, public talk, Cocktail Prolonge, Industriekolloquium, Gütersloh, Germany, April 2018.

Diehl, R.: Woher kommt das Eisen in unserem Blut?, public talk, Salonfestival, Gütersloh, Germany, May 2018.

Eisenhauer, F.: Breaking the Limits: Early Science with the GRAVITY Interferometer, invited talk, SPIE Astronomical Telescopes + Instrumentation 2018, Austin, USA, June 2018.

Eisenhauer, F.: Relativity and Stellar Orbits, invited talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg, Germany, October 2018.

Eisenhauer, F.: The S2 Peri-Passage - General Relativistic Effects in Stellar Orbits around the Galactic Center Black Hole, colloquium, Munich Joint Astronomy Colloquium, Garching, Germany, July 2018.

Eisenhauer, F.: Update on the 2018 Galactic Center Experiment, contributed talk, European Southern Observatory, Paranal, Chile, June 2018.

Endres, C.P.: State-to-state rotational rate coefficients for  $\text{NH}_3$ - $\text{NH}_3$  collisions obtained with pump-probe chirped-pulse experiments, contributed talk, 25th International Conference on High Resolution Molecular Spectroscopy, Bilbao, Spain, September 2018.

Erwin, P.: Inner and Outer Rings and the Structure of Galactic Disks, invited talk, Galactic Rings: Signposts of Se-

cular Evolution in Disk Galaxies, Tuscaloosa, USA, May 2018.

Facchini, S.: The molecular view on disk substructures, contributed talk, SPF2: Star and Planet Formation in the Southwest, Oracle, USA, March 2018.

Facchini, S.: Introduction to disk observations, invited talk, RUTD Meeting, Munich, Germany, February 2018.

Facchini, S.: The 2D and 3D structure of protoplanetary disks, invited talk, Center for Space and Habitability, Bern, Switzerland, November 2018.

Facchini, S.: The ALMA view on radial drift in disks: a symptomatic case, contributed talk, Astrochemistry: Past, Present & Future, Pasadena, USA, July 2018.

Facchini, S.: The inner regions of protoplanetary disks: a dynamical perspective, invited talk, ESO Workshop: Take a Closer Look, Garching, Germany, October 2018.

Facchini, S.: The interplay between gas and dust in protoplanetary disks, invited talk, Protoplanetary disks, Rome, Italy, June 2018.

Facchini, S.: Unveiling planet formation processes with ALMA, invited talk, INAF Milan, Milan, Italy, December 2018.

Facchini, S.: Unveiling the impact of new born planets onto the evolution of their natal disks, invited talk, Universe Cluster Science Week, Seeon, Germany, December 2018.

Facchini, S.: The interplay between gas and dust in protoplanetary disks, colloquium, Universtiy Dublin, Dublin, Ireland, June 2018.

Farrow, D.: HETDEX: survey status and cosmological forecasts, invited talk, Understanding Emission-line galaxies for the next generation of cosmological surveys, Teruel, Spain, September 2018.

Friedrich, P.: Astronomie außerhalb des sichtbaren Lichts, public talk, Die MINT-Tagung 2018 des MNU Franken, Nuremberg, Germany, October 2018.

Friedrich, P.: eROSITA - Astronomie im Röntgenlicht, public talk, Regiomontanus-Sternwarte Nürnberg, Nuremberg, Germany, June 2018.

Friedrich, P.: eRosita on SRG, invited talk, High Energy Astrophysics Today and Tomorrow, Moscow, Russia, December 2018.

Förster Schreiber, N.M.: Bulges in high redshift galaxies, invited talk, The Galactic Bulge at the crossroads, Pucón, Chile, December 2018.

Förster Schreiber, N.M.: The KMOS<sup>3D</sup> survey, invited talk, KMOS@5: star and galaxy formation in 3D - Challenges at KMOS 5th year, Garching, Germany, December 2018.

Gao, F.: Imaging the GC with GRAVITY, contributed talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg, Germany, Nov 2018.

Gao, F.: Ten micro-arcsecond astrometry with GRAVITY: first science results, contributed talk, SPIE Astronomical Telescopes + Instrumentation 2018, Austin, Texas, USA, June 2018.

Genzel, R.: Testing General Relativity with Infrared Interferometry of the Massive Black Hole in the Galactic Cen-

ter, invited talk, UC Davis, Davis, California, USA, January 2018.

Genzel, R.: The formation and evolution of star forming galactic disks, colloquium, Leibniz-Institut für Astrophysik, Potsdam, Germany, March 2018.

Genzel, R.: Massreiche Schwarze Löcher und Galaxien, public talk, ESO Supernova Planetarium & Visitor Centre Opening Ceremony, Garching, Germany, May 2018.

Genzel, R.: The Formation and Evolution of Galactic Disks: Feedback & Large Scale Turbulence, invited talk, The Multi-Scale Physics of Star Formation and Feedback during Galaxy Formation, University of Heidelberg, Heidelberg, Germany, June 2018.

Genzel, R.: Galactic dynamics, feedback and dark matter at  $z \sim 0.7$ - $2.7$ , invited talk, The Physics of Galaxy Scaling Relations & the Nature of Dark Matter, Kingston, Canada, July 2018.

Genzel, R.: Census and scaling relations of ionized outflows in  $z=0.7$ - $2.7$  galaxies, invited talk, Santa Cruz Galaxy Workshop 2018, University of California Santa Cruz, Santa Cruz, USA, August 2018.

Genzel, R.: Testing General Relativity with Infrared Interferometry in the Center of the Milky Way, colloquium, TAC Seminar, UC Berkeley Astronomy, Berkeley, August 2018.

Genzel, R.: Resolving the Broad Line Region of the Quasar 3C273 with Near-Infrared Interferometry, colloquium, UC Berkeley Astronomy, Berkeley, USA, August 2018.

Genzel, R.: Testing General Relativity with Infrared Interferometry in the Center of the Milky Way, colloquium, Astronomie à l'Institut de Planétologie et d'Astrophysique de Grenoble, Grenoble, France, September 2018.

Genzel, R.: The Development of IRAM, public talk, Speech on the occasion of the Inauguration of the NOEMA Phase 1 Array, IRAM, Grenoble, France, September 2018.

Genzel, R.: Testing General Relativity with Infrared Interferometry in the Center of the Milky Way, colloquium, Max Planck Institute for Radio Astronomy, Bonn, Germany, October 2018.

Genzel, R.: Das Massreiche Schwarze Loch im Galaktischen Zentrum: Test der Allgemeinen Relativitätstheorie mit Infrarot-Interferometrie, public talk, Deutsches Museum, Munich, Germany, October 2018.

Genzel, R.: Testing General Relativity with Infrared Interferometry in the Center of the Milky Way, invited talk, Universe Excellence Cluster Science Week, Kloster Seeon, Germany, December 2018.

Genzel, R.: MICADO @ EELT, invited talk, RDS (Rat Deutscher Sternwarten)-Workshop on Verbundforschung, Leibniz-Institut für Astrophysik, Potsdam, Germany, December 2018.

Gerhard, O.: Dynamical models and stellar populations of the central regions of M31, contributed talk, PHAT Workshop, Ringberg, Germany, July 2018.

Gerhard, O.: Extracting Physical Parameters from Observations: Dynamical Modelling of the Galactic Bulge and Bar, contributed talk, Aspen Summer Program: Dynamics of the Milky Way in the Era of Gaia, Aspen, USA, September 2018.

Gerhard, O.: The Milky Way's Dark Matter and Stellar Mass Distribution in the Era of Gaia, contributed talk, Excellence Cluster Science Week, Seeon, Germany, December 2018.

Gerhard, O.: The barred inner Milky Way, invited talk, Brouwer Award lecture, Division of Dynamical Astronomy meeting of the American Astronomical Society 2, San Jose, USA, April 2018.

Gerhard, O.: The barred inner region of the Milky Way, colloquium, Max Planck Institute for Radioastronomy, Bonn, Germany, May 2018.

Gerhard, O.: The barred inner regions of the Milky Way and M31, colloquium, Observatoire de Strasbourg, Strasbourg, France, May 2018.

Gerhard, O.: The ePN.S survey: the kinematic diversity of stellar halos, colloquium, Dept. of Physics and Astronomy, John Hopkins Univ., Baltimore, USA, September 2018.

Gerhard, O.: The large-scale structure of the Milky Way's stars and gas, invited talk, 'A Star Was Born', conference in honor of M. Dopita, Spineto, Italy, April 2018.

Gillessen, S.: Das dunkle Herz der Milchstraße, public talk, Planetarium Nürnberg, Nürnberg, Germany, November 2018.

Gillessen, S.: A short update on IR observations of the GC, invited talk, BHCam annual meeting, Bonn, Germany, March 2018.

Gillessen, S.: Detection of a drag force in G2's orbit, invited talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg, Germany, October 2018.

Gillessen, S.: Schwarze Löcher - Science Fiction oder Realität?, public talk, ESM Alumni-Treffen, Köln, Germany, February 2018.

Gillessen, S.: The Galactic Center - a unique astrophysical laboratory, colloquium, Uni Frankfurt, Frankfurt, Germany, April 2018.

Giuliano, B.M.: Direct measurements of the optical properties of CO ice in the millimetre and sub-millimetre range, contributed talk, LabAstro 2018, Hamburg, Germany, October 2018.

Giuliano, B.M.: Imidazole rotation spectrum investigation for astrophysical search, contributed talk, 25th International Conference on High Resolution Molecular Spectroscopy, Bilbao, Spain, September 2018.

Gong, M.: The  $X_{\text{CO}}$  conversion factor from galactic multi-phase ISM simulations, invited talk, Computational Galaxy Formation, Ringberg, Germany, March 2018.

Guglielmo, V.: Calibrating Euclid photometric redshifts with spectroscopy. The VLT Large Program - KMOS<sup>3D</sup>, contributed talk, Euclid OU-PHZ consortium meeting, Geneva, Switzerland, May 2018.

Guglielmo, V.: Calibrating Euclid photometric redshifts with spectroscopy. ESO@VLT Large Program - KMOS, contributed talk, Euclid OU-PHZ consortium meeting, Barcelona, Spain, November 2018.

Haberl, F.: Populations of HMXBs in the Milky Way and the Magellanic Clouds, invited talk, IAU Symposium 346:

- High Mass X-ray Binaries: illuminating the passage from massive binaries to merging compact objects, Vienna, Austria, August 2018.
- Haberl, F.: The XMM-Newton surveys of the Magellanic Clouds, colloquium, Erlangen Centre for Astroparticle Physics, Erlangen, Germany, June 2018.
- Haberl, F.: The XMM-Newton view of the Magellanic Clouds, colloquium, European Space Operations Centre - ESOC, Darmstadt, Germany, May 2018.
- Haberl, F.: The new ULX pulsar in NGC 300 and its fast period evolution, contributed talk, Ultra-luminous X-ray pulsars, Madrid, Spain, June 2018.
- Habibi, M.: Spectroscopic detection of a cusp of giant stars around the central black hole, contributed talk, Survival of Dense Star Clusters in the Milky Way System, Heidelberg, Germany, November 2018.
- Habibi, M.: The 2018 peri-passage of S2: testing general relativity with stars orbiting a supermassive black hole, invited talk, Sigrav 2018: Black holes: Theory and Observations, Pula, Italy, September 2017.
- Habibi, M.: Deep spectroscopy within the central arcsecond, invited talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg Castle, Germany, November 2018.
- Haerendel, G.: Reconnection mediated by Magnetic Fractures and the Solar Flare, contributed talk, TESS Triennial Sun-Earth Summit, Leesburg, Virginia, USA, May 2018.
- Haerendel, G.: Reconnection mediated by Magnetic Fractures and the Solar Flare, contributed talk, 42nd COSPAR Assembly, Pasadena, California, USA, July 2018.
- Haerendel, G.: Dying Flow Bursts as Generators of the Substorm Current Wedge, contributed talk, 42nd COSPAR Assembly, Pasadena, California, USA, July 2018.
- Haerendel, G.: AMPTE - Active Magnetospheric Particle Explorers, Fifty Years at APL - A Celebration of the Career and Contributions of Stamatios (Tom) Krimigis, invited talk, Applied Physics Laboratory-Johns Hopkins University, Laurel, MD, USA, September 2018.
- Haerendel, G.: 50 Years with the Aurora Borealis, invited talk, Physics Department, University of Crete, Iraklion, Greece, October 2018.
- Herrera-Camus, R.: Powerful molecular and ionized outflow in a massive, main-sequence galaxy at the peak of cosmic star formation activity, contributed talk, The Laws of Star Formation: From the Cosmic Dawn to the Present Universe, Cambridge, England, July 2018.
- Hou, J.: OuterRim simulation, post-processing and applications, contributed talk, eBOSS meeting, Paris, France, December 2018.
- Hou, J.: Quasar clustering with SDSS-IV extended Baryon Oscillation Spectroscopic Survey DR14 sample in configuration-space, contributed talk, SDSS-IV Collaboration Meeting 2018, Seoul, South Korea, June 2018.
- Ivlev, A.: Cosmic rays in clouds and disks, invited talk, Core to Disk program, Orsay, France, May 2018.
- Ivlev, A.: Cosmic rays in molecular clouds and disks, invited talk, Department of Physics, University of Hong Kong, Hong Kong, China, November 2018.
- Ivlev, A.: Cosmic-ray ionisation in circumstellar discs, contributed talk, Galileo Galilei Institute for Theoretical Physics, Florence, Italy, May 2018.
- Ivlev, A.: Penetration of Cosmic Rays into Dense Molecular Clouds: Role of Diffuse Envelopes, contributed talk, Cosmic Rays and the Interstellar Medium, Grenoble, France, June 2018.
- Ivlev, A.: Universal energy spectrum of cosmic rays in diffuse molecular clouds: Effect on gamma-ray emission, contributed talk, 42nd COSPAR Assembly, Pasadena, USA, July 2018.
- Jimenez-Rosales, A.: Impact of Faraday Effects in polarised images of Sagittarius A\*, contributed talk, Black Holes as Cosmic Batteries: UHECRs and Multimessenger Astronomy, Iguazu, Brasil, September 2018.
- Jimenez-Rosales, A.: The Impact of Faraday Effects on Polarised Black Hole Images of Sagittarius A\*, contributed talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg, Germany, November 2018.
- Kanbach, G.: How GRB070610 turned into a magnetar candidate, Swift J1955+26, invited talk, Memorial Meeting to celebrate the life and work of Neil Gehrels, Natl. Academy of Sciences, Washington, D.C., USA, May 2018.
- Kanbach, G.: Introduction to gamma-ray detection technology and telescopes (3 lectures), invited talk, Summer School for Nuclear Astrophysics, Wuhan University, School of Physics and Technology, Enshi, China, August 2018.
- Käfer, F.: Towards a characterization of X-ray galaxy clusters for cosmology, invited talk, Space Research Institute of the Russian Academy of Sciences, Moscow, Russia, November 2018.
- Käfer, F.: Towards a proper X-ray galaxy cluster characterisation for cosmology, contributed talk, Alpine Cosmology Workshop, Alagna Valsesia, Italy, July 2018.
- Käfer, F.: Towards a proper X-ray galaxy cluster characterisation for cosmology, contributed talk, European Week of Astronomy and Space Science, Liverpool, United Kingdom, April 2018.
- Lattanzi, V.: Molecular Complexity in Prestellar Cores, contributed talk, 73rd International Symposium on Molecular Spectroscopy, Urbana-Champaign, USA, June 2018.
- Lutz, D.: BAT AGN prefer circumnuclear star formation, contributed talk, Torus 2018 - The many faces of AGN obscuration, Puerto Varas, Chile, December 2018.
- Lutz, D.: BAT AGN prefer circumnuclear star formation, invited talk, Local hard X-ray selected AGN across the multiwavelength spectrum, Santiago, Chile, March 2018.
- Meidinger, N.: Development of the Wide Field Imager Instrument for Athena, contributed talk, SPIE Astronomical Telescopes + Instrumentation, Austin, USA, June 2018.
- Merloni, A.: Coevolution of Supermassive Black Holes and their host galaxies: open questions and prospects for VLBI, invited talk, EWASS Special Session 11, Exploring the Universe: a European vision for the future of VLBI, Liverpool, UK, April 2018.

- Merloni, A.: LOFAR-eROSITA Surveys: Radio-X-rays synergies, invited talk, LOFAR Survey KSP Meeting, Leiden, The Netherlands, October 2018.
- Merloni, A.: Overview of eROSITA, SPIDERS and SPIDERS-II, invited talk, SDSS eBOSS/SPIDERS meeting, Garching, Germany, February 2018.
- Merloni, A.: Understanding AGN evolution with large (X-ray) surveys: current constraints and prospects for eROSITA, invited talk, 13th Italian AGN Meeting, Milan, Italy, October 2018.
- Merloni, A.: Understanding AGN evolution with large X-ray surveys: current constraints and prospects for eROSITA, colloquium, INAF-OAT, Trieste, Italy, March 2018.
- Merloni, A.: Understanding AGN evolution with large X-ray surveys: current constraints and prospects for eROSITA, colloquium, IPMU, Kashiwa, Japan, November 2018.
- Merloni, A.: Understanding AGN evolution with large X-ray surveys: current constraints and prospects for eROSITA, colloquium, NAOJ, Tokyo, Japan, November 2018.
- Merloni, A.: Unveiling the past evolution of the AGN-host galaxy relation with X-ray surveys, invited talk, Massive black holes in evolving galaxies: from quasars to quiescence, Paris, France, June 2018.
- Merloni, A.: eROSITA on SRG, invited talk, Hyper-Suprime Cam Collaboration Meeting, Princeton, USA, May 2018.
- Merloni, A.: eROSITA on SRG: Towards the promised land of high-energy catalogs treasure hunters, invited talk, Treasures hidden in high-energy catalogues, Toulouse, France, May 2018.
- Merloni, A.: eROSITA: Mapping the Hot Universe, invited talk, IAU Symposium 341, Challenges in Panchromatic Galaxy Modeling with Next Generation Facilities, Osaka, Japan, November 2018.
- Müller-Seidlitz, J.: DEPFET Detector – Development, contributed talk, 8th Athena WFI Consortium Meeting, Lisbon, Portugal, November 2018.
- Müller-Seidlitz, J.: Recent improvements on high-speed DEPFET detectors for X-ray astronomy, contributed talk, SPIE Astronomical Telescopes + Instrumentation, Austin/Tx, USA, June 2018.
- Müller-Seidlitz, J.: Spectroscopic DEPFETs at High Frame Rates, invited talk, 22nd International Workshop on DEPFET Detectors and Applications, Ringberg Castle, Kreuth, Germany, April 2018.
- Müller, T.: Asteroid spin properties derived from thermal data, contributed talk, European Planetary Science Congress (EPSC), Berlin, Germany, September 2018.
- Müller, T.: Asteroiden und kleine Körper im Sonnensystem, public talk, European Researcher's Night, ESO Supernova, Garching, Germany, September 2018.
- Müller, T.: Der Eisenmeteorit Muonionalusta, public talk, BMW Individual, Garching, Germany, November 2018.
- Müller, T.: Interpretation of Haumea's thermal emission in the light of the occultation results, contributed talk, The Transneptunian Solar System, Coimbra, Portugal, March 2018.
- Müller, T.: Stratospheric Dust Collection, contributed talk, European Stratospheric Balloon Observatory Workshop, Granada, Spain, December 2018.
- Müller, T.: Unterwegs zum Asteroiden Ryugu, public talk, Bayerischer Rundfunk, Munich, Germany, July 2018.
- Müller, T.: Zwischen den Planeten: Von Asteroiden und Kometen, public talk, Volkssternwarte Munich, Munich, Germany, May 2018.
- Nagy, Z.: The chemical structure of the ISM in star forming regions, colloquium, Konkoly Observatory, Budapest, Hungary, November 2018.
- Nagy, Z.: The chemical structure of the young pre-stellar core L1521E, contributed talk, The Cosmic Cycle of Dust and Gas in the Galaxy, Quy Nhon, Vietnam, July 2018.
- Nandra, K.: Athena Mission Status, invited talk, Athena WFI Consortium Meeting, Lisbon, Portugal, November 2018.
- Nandra, K.: Athena Science activities in the study phase, invited talk, Exploring the Hot and Energetic Universe: The 2nd scientific conference dedicated to the Athena X-ray observatory, Palermo, Italy, September 2018.
- Nandra, K.: eROSITA: Cosmology and astrophysics with the next generation X-ray all-sky survey, invited talk, ASA Annual Scientific Meeting 2018, Melbourne, Australia, June 2018.
- Nandra, K.: Athena: observing the hot and energetic Universe with ESA's next generation X-ray observatory, invited talk, SPIE Astronomical Telescopes + Instrumentation, Austin, Texas, USA, June 2018.
- Nandra, K.: SDD detector development for eXTP, invited talk, eXTP Consortium Meeting, Xiamen, China, May 2018.
- Nandra, K.: Athena: ESA's next generation X-ray observatory, invited talk, High Energy Astrophysics in the 2020s and beyond, Rosemont, Illinois, USA, March 2018.
- Pfuhl, O.: Detection of orbital motions near the last stable circular orbit of the massive black hole SgrA\*, invited talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg, Germany, November 2018.
- Pfuhl, O.: Ein Stern wird rot... und gibt Einstein recht, public talk, Cafe & Kosmos, Munich, Germany, September 2018.
- Pfuhl, O.: GRAVITY: a new era for optical interferometry, invited talk, SPIE Astronomical Telescopes and Instrumentation, Austin Texas, USA, June 2018.
- Pfuhl, O.: Observing the universe in motion with GRAVITY, invited talk, ESO Garching, Garching, Germany, February 2018.
- Pfuhl, O.: The S2 Peri-Passage - General Relativistic Effects in Stellar Orbits around the Galactic Center Black Hole, colloquium, IAU General Assembly, Plenary talk, Vienna, Austria, August 2018.
- Pfuhl, O.: GRAVITY & AILSkyInterferometer, invited talk, Rat deutscher Sternwarten - Workshop, Potsdam, Germany, December 2018.
- Pineda, J.E.: The GBT Ammonia Survey: Dense Gas Kinematic Property and the Properties of Dense Cores, contributed talk, Early Phases of Star Formation 2018, Ringberg, Germany, May 2018.



- Pineda, J.E.: Using interferometers to constrain dense cores and disk formation, invited talk, Harvard-Smithsonian Center for Astrophysics, Cambridge, USA, May 2018.
- Predehl, P.: eROSITA on SRG, invited talk, Exploring the Hot and Energetic Universe: The second scientific conference dedicated to the Athena X-ray observatory, Palermo, Italy, September 2018.
- Predehl, P.: eROSITA – Das Röntgenteleskop auf der Deutsch/Russischen Raumfahrtmission SRG, invited talk, DGLR-Kongress 2018, Friedrichshafen, Germany, September 2018.
- Price, S.H.: Probing disk stability and turbulence from  $z \sim 0.6$ -2.6 with KMOS, contributed talk, KMOS@5: Star and Galaxy Formation in 3D - Challenges at KMOS 5th Year, Garching, Germany, December 2018.
- Price, S.H.: Structures and Masses of Star-Forming Galaxies at  $1.4 < z < 3.8$  with MOSDEF & CANDELS, contributed talk, Santa Cruz Galaxy Workshop, Santa Cruz, California, USA, August 2018.
- Pulsoni, C.: The ePN.S ETG survey – Kinematic diversity and angular momentum at large radii, contributed talk, IAU General Assembly Focus Meeting FM6, Vienna, Austria, August 2018.
- Pulsoni, C.: The extended Planetary Nebula Spectrograph (ePN.S) early-type galaxy survey: The kinematic diversity of stellar halos and the relation between halo transition scale and stellar mass, contributed talk, Stellar halos across the cosmos, Heidelberg, Germany, July 2018.
- Rau, A.: WFI Science Team Overview, contributed talk, WFI Consortium Meeting, Garching, Germany, March 2018.
- Rau, A.: Exploring the Hot and Energetic Universe with Athena, colloquium, Erlangen Centre for Astrophysics, Erlangen, Germany, January 2018.
- Rau, A.: Status report on WFI, invited talk, Preparing the science of galaxy clusters & WHIM with Athena, Sexten, Italy, January 2018.
- Rau, A.: The Wide Field Imager, invited talk, Exploring the Hot and Energetic Universe: The 2nd scientific conference dedicated to the Athena X-ray observatory, Palermo, Italy, September 2018.
- Rau, A.: WFI Science Team Activity Overview, contributed talk, WFI Consortium Meeting #8, Lisbon, Portugal, November 2018.
- Rau, A.: WFI Status Update, invited talk, X-IFU Consortium Week, Geneva, Switzerland, September 2018.
- Rau, A.: WFI Update, invited talk, X-IFU Week, Paris, France, March 2018.
- Redaelli, E.: 15-N in low-mass star forming regions, contributed talk, Workshop on Fraction, astrochemistry and star/planet formation, Gothenburg, Sweden, September 2018.
- Redaelli, E.: Molecules in Space, invited talk, International Conference of Young Astrophysicists and Astronomers 2018, Padova, Italy, June 2018.
- Salvato, M.: AGN studies in the era of all-Sky surveys, colloquium, INAF-OAT, Trieste, Italy, May 2018.
- Salvato, M.: Counterpart associations in the All-sky surveys era, invited talk, Treasures hidden in high-energy catalogues, Toulouse, France, May 2018.
- Salvato, M.: My work as a scientist, public talk, Elementary School, Padova, Italy, November 2018.
- Salvato, M.: NWay and the counterparts associations in the all-sky X-ray surveys era, colloquium, Brera Observatory, Milano, Italy, November 2018.
- Salvato, M.: Past to Future: from ROSAT to eROSITA, invited talk, AGN X-ray surveys: soft to hard and deep to wide, 42nd COSPAR Assembly, Pasadena, USA, July 2018.
- Salvato, M.: ROSAT and XMMSLEW2 counterparts using Nway - An accurate algorithm to pair sources simultaneously between N catalogs, invited talk, Bayesian Forum, Garching, Germany, January 2018.
- Salvato, M.: The eROSITA all-sky surveys, colloquium, CEA Saclay, Saclay, France, March 2018.
- Salvato, M.: What if it was an AGN and I did not know it, invited talk, The Accretion History of AGNs, Miami, USA, October 2018.
- Salvato, M.: eROSITA All-Sky Survey and the synergism with SPHEREx, invited talk, SPHEREx synergies, Washington, USA, January 2018.
- Salvato, M.: eROSITA and Australia: strengthening the partnership, invited talk, ASA2018, Melbourne, Australia, June 2018.
- Salvato, M.: The eROSITA All-Sky Survey and synergism with J-PAS, invited talk, 16th J-PAS Collaboration Meeting - Pathfinder science, Teruel, Spain, May 2018.
- Sanchez, A.G.: Baryon acoustic oscillations, invited talk, LAPIS 2018: Cosmology in the era of large surveys, La Plata, Argentina, April 2018.
- Sanchez, A.G.: Cosmology dependence of the covariance matrix, contributed talk, Euclid consortium annual meeting, Bonn, Germany, June 2018.
- Sanchez, A.G.: Plans for the Inter Science Working Group on the Likelihood, invited talk, Euclid Consortium Annual Meeting, Bonn, Germany, June 2018.
- Sanchez, A.G.: Redshift space distortions, invited talk, LAPIS 2018: Cosmology in the era of large surveys, La Plata, Argentina, April 2018.
- Sanders, J.S.: Cool X-ray emitting gas and feedback in the Centaurus cluster, invited talk, Multiphase AGN Feeding and Feedback, Sesto, Italy, July 2018.
- Sanders, J.S.: Exploring fundamental physics with the Athena X-ray observatory, invited talk, Royal Society meeting on X-ray astronomy and fundamental physics, Milton Keynes, UK, October 2018.
- Sanders, J.S.: Measuring bulk flows in the ICM of the Perseus and Coma clusters using XMM-Newton, contributed talk, MPA/ESO ICM physics and modelling meeting, Garching, Germany, October 2018.
- Sanders, J.S.: The deep Chandra view of the core of the Perseus cluster, invited talk, IAUS 342: Perseus in Sicily: from black hole to cluster outskirts, Noto, Italy, May 2018.
- Sanders, J.S.: X-ray measurements of velocities in clu-

- sters using gratings and CCDs, invited talk, SnowCluster - The Physics of Galaxy Clusters, Snowbird, USA, March 2018.
- Schruba, A.: Is Star Formation Regulated by Cloud-scale Properties?, invited talk, Multi-scale Physics of Star Formation and Feedback during Galaxy Evolution, Heidelberg, Germany, June 2018.
- Schruba, A.: Physical Processes that Regulate Star Formation in Nearby Galaxies, contributed talk, The Laws of Star Formation, Cambridge, UK, July 2018.
- Schruba, A.: Resolving Star Formation in the Nearby Universe, colloquium, Physics & Astronomy Seminar, Cardiff, UK, November 2018.
- Schruba, A.: The Interstellar Medium of Nearby Galaxies at High Physical Detail, invited talk, EWASS, Liverpool, UK, April 2018.
- Shimizu, T.T.: The LLAMA Project: A SINFONI Study of Gas Outflows and Feeding in Local, X-ray Selected AGN, invited talk, 231st Meeting of the AAS, Washington D.C., USA, January 2018.
- Shimizu, T.T.: Type 1 AGN with Massive Absorbing Columns, contributed talk, Local hard X-ray selected AGN across the multi-wavelength spectrum, Santiago, Chile, March 2018.
- Sipilä, O.: Hydrodynamical models of pre-stellar core collapse: abundances and line emission of deuterated species, invited talk, Workshop on fractionation, astrochemistry and star/planet formation, Gothenburg, Sweden, September 2018.
- Sipilä, O.: Models of isotope and spin-state chemistry in star-forming clouds, colloquium, SFB 956 Colloquium, Cologne, Germany, November 2018.
- Sipilä, O.: Species-to-species rate coefficients for the  $\text{H}_3^+ + \text{H}_2$  reacting system, invited talk, Our Astro-Chemical History: Past, Present, and Future, Hof van Saksen, Netherlands, September 2018.
- Spezzano, S.: High Resolution Spectroscopy of Unstable Species at the Centre for Astrochemical Studies, invited talk, Astrochem2@2018: Chemical Evolution in our Galaxy: Spectroscopy, Observations and Reactivity, Follonica, Italy, June 2018.
- Sturm, E.: Resolving AGN central engines with GRAVITY - The BLR in the Quasar 3C 273, invited talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg Castle, Germany, October 2018.
- Sturm, E.: Resolving AGN central engines with GRAVITY - The BLR in the Quasar 3C 273, invited talk, Torus 2018 - The many faces of AGN obscuration, Puerto Varas, Chile, December 2018.
- Tacconi, L.J.: The Early Evolution of Galactic Disks: Gas, Star Formation & Feedback, invited talk, Past, Current and Future Galaxy Surveys, University of Massachusetts, Amherst, Massachusetts, USA, October 2018.
- Tacconi, L.J.: The Early Evolution of Galactic Disks: Gas & Star Formation, invited talk, Multiscale Views of Star Formation, Hengstberger Symposium, Heidelberg, Germany, June 2018.
- Tacconi, L.J.: The Physics of Star Formation and the Galaxy Main Sequence, invited talk, The Physics of Galaxy Scaling Relations, Kingston, Ontario, Canada, July 2018.
- Treberspurg, W.T.: Detector development for the WFI of Athena, invited talk, 13th Trento Workshop on Advanced Silicon Radiation Detectors, Munich, Germany, February 2018.
- Treberspurg, W.T.: Detector status, contributed talk, 8th WFI Consortium Meeting, Lisbon, Portugal, November 2018.
- Trümper, J.: Remembering Yasuo Tanaka, invited talk, Memorial Meeting, Tokyo, Japan, May 2018.
- Trümper, J.: Der Urknall und andere Explosionen im Kosmos, public talk, Mittwochskreis im IBZ München, München, Germany, May 2018.
- Trümper, J.: Learning about the Universe - the development of X-ray astronomy, invited talk, Munich Aerospace Summer School, Glonn, Germany, July 2018.
- Trümper, J.: Compact galactic objects, invited talk, EXOSAT Reunion at ESAC, Madrid, Spain, July 2018.
- Übler, H.D.N.: "Observing" TNG kinematics at  $z=2$ , contributed talk, IllustrisTNG Science Workshop, MPA Garching, Garching, Germany, October 2018.
- Übler, H.D.N.: Dark Matter in high- $z$  SFGs: Constraints from the Evolution of the Tully-Fisher Relation from  $z\sim 2.3$  to  $z\sim 0.9$ , contributed talk, The Physics of Galaxy Scaling Relations and the Nature of Dark Matter, Kingston, Canada, July 2018.
- Übler, H.D.N.: Galaxien in Raum und Zeit, public talk, Max Planck Day, Munich, Germany, September 2018.
- Übler, H.D.N.: Ionized and molecular gas kinematics in a  $z=1.4$  star-forming galaxy, invited talk, 'Gas Matters' talk series, ESO Garching, Garching, Germany, January 2018.
- Übler, H.D.N.: Kinematics and scaling relations of star-forming galaxies at  $z=0.6-2.6$  with KMOS, contributed talk, KMOS@5, ESO Garching, Garching, Germany, December 2018.
- Übler, H.D.N.: Velocity dispersions in star-forming galaxies at  $z\sim 1-2$ , contributed talk, Santa Cruz Galaxy Workshop, Santa Cruz, California, USA, August 2018.
- van Dishoeck, E.F.: Astronomy and the IAU in the next century, invited talk, IAU Symposium 349 Under One Sky, Vienna, Austria, August 2018.
- van Dishoeck, E.F.: Building stars, planets and the ingredients for life in space, colloquium, Kavli Lecture, Amsterdam, Netherlands, October 2018.
- van Dishoeck, E.F.: Building stars, planets and the ingredients for life in space, invited talk, International Space University, Delft, Netherlands, June 2018.
- van Dishoeck, E.F.: Building stars, planets and the ingredients for life in space, invited talk, Space symposium, Free University, Amsterdam, Netherlands, November 2018.
- van Dishoeck, E.F.: Building stars, planets and the ingredients for life in space, invited talk, Universal roadmap to the origin of life, Lorentz Center workshop, Leiden, Netherlands, October 2018.

- van Dishoeck, E.F.: Building stars, planets and the ingredients for life in space, public talk, Sturm public lecture, Wesleyan, USA, March 2018.
- van Dishoeck, E.F.: Chemical processes and evolution from clouds to disks, invited talk, Heraeus Astrobiology school, Bad Honnef, Germany, March 2018.
- van Dishoeck, E.F.: Chemical processes and evolution from clouds to disks, public talk, Science cocktails, Paradiso Lecture, Amsterdam, Netherlands, October 2018.
- van Dishoeck, E.F.: Chemical processes between the stars, invited talk, Holland Research School Molecular Chemistry conference, Leiden, Netherlands, November 2018.
- van Dishoeck, E.F.: Gas versus dust distributions in disks, contributed talk, Harvard CFA ITC lunch, Cambridge, USA, March 2018.
- van Dishoeck, E.F.: Molecules from clouds to disks and planets, colloquium, Harvard CFA colloquium, Cambridge, USA, March 2018.
- van Dishoeck, E.F.: Molecules from clouds to disks and planets, colloquium, Kavli Prize colloquium, IMAPP, Nijmegen, Netherlands, December 2018.
- van Dishoeck, E.F.: Molecules from clouds to disks and planets, invited talk, Kavli Prize symposium, Oslo, Norway, September 2018.
- van Dishoeck, E.F.: O<sub>2</sub> and its relation to H<sub>2</sub>O: from clouds to comets, invited talk, Conference on interstellar O<sub>2</sub> in honor of Paul Goldsmith, Paris, France, October 2018.
- van Dishoeck, E.F.: Photon-induced chemistry in astrophysics, colloquium, Dalgarno lecture 1, Harvard-CFA, Cambridge, USA, March 2018.
- van Dishoeck, E.F.: The IAU Strategic Plan 2020-2030, invited talk, IAU General Assembly XXX, Vienna, Netherlands, August 2018.
- van Dishoeck, E.F.: Water from clouds to planet-forming disks, colloquium, This week's discoveries, Leiden, Netherlands, December 2018.
- van Dishoeck, E.F.: Water in space: how, when and where?, colloquium, Dalgarno Lecture 2, Harvard-CFA, Cambridge, USA, March 2018.
- van Dishoeck, E.F.: Where is the volatile carbon in disks?, invited talk, Astrochemistry: past and present, COST action, Assen, Netherlands, September 2018.
- van Dishoeck, E.F.: Zooming into planet-forming zones of disks with ALMA, colloquium, Wesleyan University, Wesleyan, USA, March 2018.
- van Dishoeck, E.F.: Zooming into planet-forming zones of disks with ALMA, colloquium, Hong Kong University, Hong Kong, China, September 2018.
- van Dishoeck, E.F.: Zooming into planet-forming zones of disks with ALMA, colloquium, IPAG, Grenoble, France, November 2018.
- van Dishoeck, E.F.: Zooming into planet-forming zones of disks with ALMA, colloquium, NAOJ, Tokyo, Japan, September 2018.
- van Dishoeck, E.F.: A taster of JWST science, invited talk, IAU Focus Meeting 15: Science with JWST, Vienna, Austria, August 2018.
- von Kienlin, A.: Evaluation of the ATHENA/WFI instrumental background, contributed talk, SPIE Astronomical Telescopes and Instrumentation, Austin, USA, June 2018.
- von Kienlin, A.: Fermi/GBM's key role at the dawn of the Era of Multimessenger Astronomy, invited talk, IWARA2018 - 8th International Workshop on Astronomy and Relativistic Astrophysics, Ollantaytambo, Peru, September 2018.
- von Kienlin, A.: Multi-Messenger Astronomie - Gravitationswellen und Gammastrahlenausbruch erstmals gleichzeitig beobachtet, public talk, Mitgliederversammlung der Internationalen Amateursternwarte (IAS)eV, Schriesheim, Germany, March 2018.
- von Kienlin, A.: Multi-Messenger Astronomie - Gravitationswellen und Gammastrahlenausbruch erstmals gleichzeitig beobachtet, public talk, Amateurastronomen Max Valier, Bolzano, Italy, April 2018.
- von Kienlin, A.: The Fermi Gamma-ray Burst Monitor - from the beginning and its path through the last 10 years, invited talk, Fermi Open Day, Pisa, Italy, March 2018.
- von Kienlin, A.: The First Detection of Gravitational Waves and Electromagnetic Radiation: GW170817/GRB 170817A, invited talk, Mondello Workshop 2018: Frontier Research in Astrophysics - III, Palermo, Italy, May 2018.
- Waisberg, I.: GRAVITY: SS 433, invited talk, The Central Arcsecond: Towards Testing General Relativity in the Galactic Center, Ringberg, Germany, October 2018.
- Waisberg, I.: Optical Interferometry of HMXBs: Resolving Wind, Disk and Jet Outflows at Sub milliarcsecond Scale, contributed talk, IAU Symposium, Vienna, Austria, August 2018.
- Waisberg, I.: Optical Interferometry of a Microquasar: Resolving Super-Eddington Outflows in SS 433, contributed talk, Breaking the Limits 2018: Super-Eddington Accretion onto Compact Objects, Castiadas, Italy, October 2018.
- Waisberg, I.: Optical Interferometry of a Microquasar: Resolving Super-Eddington Outflows in SS 433, contributed talk, 42nd COSPAR Assembly, Pasadena, USA, July 2018.
- Wilman, D.J.: Accurate H $\alpha$  Galaxy Sizes and Star-Formation Induced Galaxy Growth with KMOS3D, contributed talk, KMOS@5, ESO, Garching, Germany, December 2018.
- Zhao, B.: Protostellar Disk Formation & Fragmentation Enabled by Removal of Small Dust Grains, invited talk, Core to Disk Program, Paris, France, May 2018.
- Zhao, B.: Protostellar Disk Formation & Fragmentation Enabled by Removal of Small Dust Grains, colloquium, University of Virginia, Charlottesville, Virginia, USA, October 2018.

## Dissertationen

Blaña Diaz, M.: Dynamics of the bar and the bulge of the Andromeda galaxy M31. Ludwig-Maximilians-Universität München 2018.

Chacon-Tanarro, A.: Observational studies of a dense cloud core on the verge of star formation. Ludwig-Maximilians-Universität München 2018.

Finozzi, F.: Triaxial models of massive elliptical galaxies. Ludwig-Maximilians-Universität München 2018.

Guglielmo, V.: Groups and clusters of galaxies in the XXL Survey. Dipartimento di Fisica ed Astronomia, Università degli studi di Padova, INAF-OaPd (Padova, Italy), and Université de Aix Marseille, LAM (Marseille, France) 2018.

Hartke, J.: Substructures, accretion events, and surrounding diffuse intra-group light in bright early-type galaxies. Ludwig-Maximilians-Universität München 2018.

Lippa, M. A.: Interferometry in astronomy. Ludwig-Maximilians-Universität München 2018.

Plewa, P. M.: The galactic center in motion. Ludwig-Maximilians-Universität München 2018.

Söldner-Remboldt, I.: The velocity ellipsoid of elliptical galaxies. Ludwig-Maximilians-Universität München 2018.

Sokolov, V.: Early stages of massive star formation. Ludwig-Maximilians-Universität München 2018.

## Masterarbeiten

Chaturvedi, A.: Understanding Galaxy ESO325-G004 using SINFONI and MUSE spectroscopy. Laboratoire d'Astrophysique de Marseille 2018.

Grabichler, J.: Design and development of an electrical drive train operated in cryogenic and space environment. Technische Universität München 2018.

Hochstaetter, F.: Test and implementation of a guiding camera for FOCES at the 2m Wendelstein telescope. Ludwig-Maximilians-Universität München 2018.

Karl, M.: Multiple Star Systems in the Orion Nebula. Technische Universität München 2018.

Kohlmann, C.: A CMOS based MASS turbulence profiler for the LBT. Ludwig-Maximilians-Universität München 2018.

Mehrgan, K.: The faint center of Holm15A - The dynamical fingerprints of the largest supermassive black hole known

so far?. Technische Universität München 2018.

Murrell, G.G.: Dark matter halo in the dwarf elliptical galaxy VCC2048. University College Dublin 2018.

Rodrigues dos Santos, G.M.: Simulation of eROSITA observations of supernova remnant candidates. Ludwig-Maximilians-Universität München 2018.

Stock, M.R.: Spectro-Interferometric Signatures of the Broad Line Regions in Active Galactic Nuclei. Technische Universität München 2018.

Vignola, M.: Constraining the Initial Mass Function of the giant early-type galaxies NGC 1332 and NGC 7619. Università di Bologna 2018.

von Fellenberg, S.D.: A new Far Infrared Window into the Galactic Center - A Detection of Sgr A\* in the Far Infrared. Technische Universität München 2018.

## Bachelorarbeiten

Blumhoff, M.: Sternentstehungsgeschichte des Universums. Ludwig-Maximilians-Universität München 2018.

Gindl, S.: Planetenentstehung: Modelle und Instrumente. Ludwig-Maximilians-Universität München 2018.

Lipka, M.: Supermassive schwarze Löcher in Galaxienzentren und ihre Masse. Ludwig-Maximilians-Universität München 2018.

Rieth, F.: Wachstumsrate kosmischer Strukturen hergeleitet durch die SDSS-III BOSS DR12 Datensätze. Ludwig-Maximilians-Universität München 2018.

Rottstock, H.: Dunkle Materie in elliptischen Galaxien. Ludwig-Maximilians-Universität München 2018.

Steiger, B.: Faser Fabry-Perot Interferometer als Kalibrierungsquelle für astronomische Spectrographen. Ludwig-Maximilians-Universität München 2018.

Zoeller, R.: Massenbestimmung von supermassereichen schwarzen Löchern in kompakten elliptischen Galaxien. Ludwig-Maximilians-Universität München 2018.

# Kollaborationen / Wissenstransfer

## Wissenschaftliche Kollaborationen nach Ländern



### Argentinien

Instituto Argentino de Radioastronomia, Berazategui:  
CAS-Observations.

### Australien

Australian National University, Canberra: Galaxienentstehung.

Monash University, Melbourne: Nukleare Astrophysik.

Swinburne University of Technology, Victoria: Millisecond Pulsars.

University of Western Sydney: Magellanic Clouds.

### Belgien

CSL Liège, Katholieke Universiteit Leuven: INTEGRAL-Spectrometer SPI.

Université de Liège: CAS-Observations.

### Brasilien

IAG Universidad de Sao Paulo: PFS

Laboratorio Nacional de Astrofisica: PFS

Universidad de Sao Paulo: Galaxienentstehung.

Observatorio Nacional, Rio de Janeiro: DES.

Centro Brasileiro de Pesquisas, Rio de Janeiro: DES.

Universidade Federal de Minas Gerais, Belo Horizonte:  
CAS-Observations.

Universidade Federal do Rio, Rio de Janeiro: DES.

Universidade Federal do Rio Grande do Sul: Nearby Active Galaxies.

### Canada

Dunlap Observatory, Richmond Hill: First Hydrostatic Cores (FHSCs).

NRC - Herzberg Astronomy and Astrophysics, Ottawa:  
CAS Observations.

University of Alberta, Edmonton: CAS-Observations.

University of Victoria, Victoria: CAS-Observations.

University of Western Ontario, London: CAS-Observations.

### Chile

Universidad de Chile, Santiago de Chile: CAS-Observations.

Universidad de Concepcion: Röntgen-Doppelsternsysteme; CAS-Observations.

Universidad Catolica Santiago: Röntgen-Doppelsternsysteme; Galaktisches Zentrum.

### China

Donghua University, Shanghai: CAS-Theory.

Institute for High-Energy Physics (IHEP), Peking: Gammaquellen mit COMPTEL und INTEGRAL; Einstein Probe; eXTP.

National Astronomical Observatories of China: PFS.

Kalvi Institute for Astronomy and Astrophysics at Peking University, Beijing: PFS; CAS-Observations.

Shanghai Jiao Tong University: PFS.

Tsinghua University: PFS

University of Hongkong: Strahlungsmechanismen von Pulsaren im Röntgen- und Gammabereich.

University of Science and Technology of China: PFS.

Xiamen University: PFS.

### Dänemark

Dänemarks Technische Universität: ATHENA.

### Deutschland

Astrophysikalisches Institut Potsdam: eROSITA; XMM-Newton; OPTIMA; ARGOS; HETDEX; 4MOST.

Deutsches Elektronen-Synchrotron, Hamburg: CAS-Laboratory.

European Southern Observatory (ESO), Garching: GRAVITY; Galaxienentstehung; Nukleare Astrophysik; MICADO; ERIS; Black Hole Cam; Infrared Dark Clouds; CAS-Observations; CAS-Theory.

Fraunhofer Institut für Integrierte Schaltungen, Erlangen: Mikroelektronikentwicklungen; ATHENA.

Heinrich-Heine-Universität, Düsseldorf: Soft Matter Physics.

Institut für Astronomie und Astrophysik Tübingen (IAAT): XMM-Newton; eROSITA; ATHENA.

Institut für Astrophysik Göttingen: MICADO.

Institut für Festkörperphysik und Werkstoff-Forschung, Dresden: Entwicklung weichmagnetischer Werkstoffe.

Institut für Materialphysik im Weltraum, Köln: Glasübergänge.

Landessternwarte Heidelberg-Königstuhl: Nahinfrarotspektrograph LUCI für LBT; Galaxienentstehung; ARGOS.

Laser Zentrum Hannover: Dichroics for ARGOS; Anti-Reflection Coating ERIS.

Ludwig-Maximilians-Universität (Universitätssternwarte), München: MICADO; HETDEX; eROSITA; CAS-Theory.

Ludwig-Maximilians-Universität, München: CAS-Theory; CAS-Observations.

Max-Planck-Institut für Astronomie, Heidelberg: GRAVITY; LUCI; PanSTARRS; SDSS; ARGOS; MICADO; EUCLID; CAS-Observations.

Max-Planck-Institut für Astrophysik, Garching: SDSS;

OPTIMA; eROSITA; PFS.

Max-Planck-Institut für Gravitationsphysik, Potsdam: Black Hole Cam.

Max-Planck-Institut für Physik, Werner Heisenberg Institut, München: MPI Halbleiterlabor; Athena.

Max-Planck-Institut für Radioastronomie, Bonn: ARGOS; Black Hole Cam; CAS-Observations.

Physikalisch-Technische Bundesanstalt Berlin: eROSITA.

Technische Universität Berlin: Interstellares Medium.

Technische Universität Darmstadt: CAST.

Technische Universität München: Nukleare Astrophysik.

Thüringer Landessternwarte Tautenburg: GROND; Gamma-Ray Bursts.

Universität Bochum: LUCI.

Universität Bonn: Test von Pixeldetektoren für ATHENA; eROSITA; EUCLID; CAS Observations.

Universität Düsseldorf: ERC Advanced Grant; CAS-Theory.

Universität Erlangen (ECAP): eROSITA; ATHENA.

Universität Hamburg: eROSITA; OPTIMA (Flarestars).

Universität Heidelberg: ATHENA; XFEL

Universität Jena: Isolierte Neutronensterne; Nukleare Astrophysik.

Universität Köln: Galaktisches Zentrum; GRAVITY; CAS-Observations; CAS-Theory; CAS-Laboratory.

Universität Mannheim: ATHENA; XFEL.

Universität Stuttgart: CAS-Observations.

Universität Würzburg: AGADE.

### Finnland

University of Helsinki, Helsinki: CAS-Theory; CAS-Observations.

### Frankreich

Aix-Marseille University, Marseille: CAS-Theory.

CEA, Saclay: INTEGRAL-Spektrometer SPI; EUCLID; SVOM; ATHENA.

Centre d'Etude Spatiale des Rayonnements (UPS), Toulouse: INTEGRAL-Spektrometer SPI.

IAP Paris: Nukleare Astrophysik.

IPAG Grenoble: GRAVITY; MICADO; CAS-Observations.

IRAM, Saint-Martin-d'Hères: CAS-Observations.

Laboratoire d'Astrophysique de Marseille (LAM): EUCLID; Gamma-Ray Bursts; PFS.

Laboratoire Univers et Particules de Montpellier, Montpellier: Cosmic-ray propagation in molecular clouds.

Observatoire de Paris (GEPI): MICADO; Gravity.

Observatoire de Paris (LESIA): MICADO; GRAVITY.

Observatoire de Paris, Paris: CAS-Theory.

Observatoire de Paris-Meudon: GRAVITY, Galaktisches Zentrum.

Université de Lyon, Lyon: CAS-Observations.

### Griechenland

University of Crete and Foundation for Research and Technology Hellas (FORTH), Heraklion: Skinakas Sternwarte; Röntgendoppelsternsysteme; OPTIMA Photometer; Röntgen-AGN.

National Observatory of Athens, Athens: Athena.

### Großbritannien

Queen's University, Belfast: PanSTARRS.

John Moores University, Liverpool: Himmelsdurchmusterung Galaxienhaufen; Infrared Dark Clouds.

Open University, Milton Keynes: Kataklysmische Variablen; Novae; ATHENA.

Rutherford Appleton Laboratory, Council for the Central Laboratory of the Research Councils, Swindon: SIS-Junctions.

SKA Organisation, Jodrell Bank Observatory, Macclesfield: CAS-Observations.

United Kingdom Astronomy Technology Centre (UKATC): EUCLID; ERIS.

University of Cambridge: DES, CAS-Observations.

University College London, London: High Energy Pulsars; EUCLID; DES.

University of Durham: PanSTARRS.

University of Edinburgh: DES; PanSTARRS.

University of Leeds, Leeds: CAS-Theory.

University of Leicester: XMM-Newton; ATHENA; Swift; CAS-Observations.

University of Nottingham: DES.

University of Portsmouth: DES.

University of Sussex, Brighton: DES.

University of Southampton: Magellanic Clouds.

### Indien

Tata Institute of Fundamental Research, Mumbai: CAS-Observations.

### Irland

National University of Ireland, Galway: High Time Resolution Astronomy.

University College Dublin: Fermi/GBM.

### Israel

School of Physics and Astronomy, Wise Observatory, Tel Aviv: Aktive Galaxien; Interstellares Medium; Galaxienentwicklung.

Weizmann Institut, Rehovot: Galaktisches Zentrum.

### Italien

Brera Astronomical Observatory: Himmelsdurchmusterung Galaxienhaufen.

IFCAI-CNR Palermo: XMM-Newton Beobachtungen von Neutronensternen und Pulsaren.

INAF (Istituto Nazionale di Astrofisica): ATHENA, EUCLID.

INAF Arcetri, Florence: ARGOS; LBT; ERIS; CAS-Observations; CAS-Theory.

INAF Padua: LBT; MICADO; ERIS.

INAF Roma: LBT; Nukleare Astrophysik.

INAF Teramo: ERIS.

INAF Trieste: Gamma-Ray Bursts; Fermi/LAT.

INFN Frascati: SIDDHARTA.

Osservatorio Astrofisico di Catania: CAS-Theory; CAS-Laboratory.

University of Bologna: EUCLID; CAS-Laboratory.

### Japan

Academia Sinica, Japan: PFS

National Astronomical Observatory of Japan, Mitaka/Tokio: CAS-Observations; Galaxienentwicklung; PFS.

Institute of Space and Astronautical Science, Kanagawa; CAS-Observations.

Institute of Physical and Chemical Research, Saitama: CAS-Observations.

Tokio Institute of Technology (TITECH), Ookayama: ASCA/XMM-Newton Beobachtungen von AGN.

University of Osaka: Astro-H.

University of Tokyo, Tokyo: PFS.

University of Tokyo, Institutes for Advanced Study (UTIAS): PFS

Tohoku University, Sendai: Galaxienentwicklung.

### Niederlande

ESTEC, Noordwijk: XMM-Newton; INTEGRAL; EUCLID; ATHENA.

JIVE Dwingeloo: Black Hole Cam.

NOVA (Leiden, Groningen, Amsterdam): MICADO; ERIS.

Leiden University, Leiden: CAS-Observations; CAS-Theory.

Radboud University, Nijmegen: Black Hole Cam.

SRON, Utrecht: Chandra-LETG.

University of Groningen, Kapteyn Institute: Rekonstruktion der Dichteverteilung im Universum; EUCLID; Dynamical-Chemical Models; CAS-Theory.

### Österreich

Institut für Weltraumforschung, Graz: ATHENA WFI.

Universität und TU Wien: MICADO; ATHENA.

Universität Innsbruck: MICADO.

Universität Linz: MICADO.

RICAM Linz: MICADO.

**Polen**

Adam Mickiewicz University, Poznań: CAS-Observations.  
 Nicolaus Copernicus University, Torun: Pulsars Astronomical Centers; ATHENA; CAS-Observations.  
 Space Research Center (CBK), Warschau: ATHENA WFI.  
 University Zielona Gora: OPTIMA.

**Portugal**

SIM Lissabon und Porto: GRAVITY.  
 Observatorio Astronomico de Lisboa, Lisbon: ATHENA.

**Russland**

Baumann Moscow State Technical University, Moscow: Stark gekoppelte Systeme; Time-domain spectroscopy; CAS-Theory; CAS-Laboratory.  
 Institute of Astronomy, Moscow: CAS-Theory.  
 Lebedev Institute of Physics, Moscow: CAS-Theory.  
 Prokhorov General Physics Institute, Moscow: CAS-Theory; CAS-Laboratory.  
 Space Research Institute (IKI) of the Russian Academy of Science, Moscow: eROSITA/Spektrum Röntgen-Gamma.  
 Skobeltsyn Institute of Nuclear Physics, Moscow: Nukleare Astrophysik; Gamma-Ray Bursts; AGADE.  
 Ural Federal University, Yekaterinburg: CAS-Theory.

**Schweden**

Chalmers University of Technology, Onsala Space Observatory: CAS-Observations.  
 University Lund/Observatory: OPTIMA.

**Schweiz**

CERN, Geneva: CAST.  
 ETH Zürich: ERIS; CAS-Observations.  
 Observatoire de Genève Sauverny, Geneva: ISDC/INTEGRAL; Nukleare Astrophysik; EUCLID.  
 Universität Basel: Nukleare Astrophysik.  
 University of Geneva: ATHENA.  
 University of Zurich: Infrared Dark Clouds.

**Spanien**

Centro de Investigaciones Energeticas, Medioambientales y Tecnológicas, Madrid: DES.  
 Centro de Astrobiología, Madrid: CAS-Laboratory.  
 ESAC, Madrid: XMM-Newton Science Operations Center; INTEGRAL Science Operations Center.  
 Instituto de Astrofísica de Andalucía (CSIC), Granada: CAS-Observations.  
 Instituto de Astrofísica de Canarias, La Laguna: CAS-Observations.  
 Instituto de Ciencias del Espacio, Bellaterra: DES.

Instituto de Ciències de l'Espai, Cerdanyola del Vallès: CAS-Observations.

Institut de Física d'Altes Energies, Barcelona: DES, EUCLID.

Universidad Autónoma de Madrid: CAS-Observations.  
 Universität Valencia, Department de Astronomia, Valencia: INTEGRAL-Spektrometer SPI.  
 Universidad de Zaragoza: CAST.

Observatorio Astronomico de Mallorca: Novae; Kometen.  
 Observatorio Astronómico Nacional, Madrid: CAS-Observations.

**South Korea**

Korea Astronomy and Space Science Institute, Daejeon: CAS-Observations.

**Taiwan**

Academia Sinica Institute of Astronomy and Astrophysics (ASIAA), Taipei: CAS-Theory; PFS.  
 National Central University, Chungli; PanSTARRS.

**Tschechien**

Charles University, Prague: CAS-Observations.

**Ungarn**

Konkoly Observatory of the Hungarian Academy of Sciences, Budapest: CAS-Observations.

**USA**

Argonne National Laboratory: DES.  
 Boston University, Boston: CAS-Observations.  
 Brookhaven National Laboratory: strahlenharte JFET-Elektronik; strahlenharte Detektoren.  
 California Inst. of Technology, Pasadena: X-ray Survey, PFS.  
 CfA, Cambridge: ATHENA/WFI; XMM-Newton/Chandra Kalibration.  
 Clemson University: Gamma-Ray Bursts; Nukleare Astrophysik; CAS-Theory.  
 Fermilab, Batavia: DES.  
 Harvard University: PanSTARRS.  
 Harvard-Smithsonian Center for Astrophysics, Cambridge: CAS-Observations, CAS-Laboratory, CAS-Theory.  
 Haystack Observatory, Massachusetts Institute of Technology, Westford: CAS-Theory.  
 Institute for Astronomy, Hawaii, Honolulu: Galaxienentstehung; PanSTARRS; NIR Kamera für Wendelstein.  
 Jet Propulsion Laboratory, Pasadena: EUCLID; CAS-Observations.  
 Johns Hopkins University: PanSTARRS, PFS.  
 Kalvi Institute for the Physics and Mathematics of the



Universe: PFS

Marshall Space Flight Center, Huntsville: Fermi Gamma-Ray Burst Monitor; XMM-Newton und Chandra Beobachtungen von Neutronensternen, Pulsaren und Supernova-Überresten.

MIT, Cambridge: ATHENA WFI.

National Center for Supercomputing Applications, Urbana: CAS-Observations.

NASA/Ames Research Center, Mofett Field (CA): MHD Shocks.

NASA/Goddard Space Flight Center, Greenbelt (MD): INTEGRAL-Spektrometer SPI; Swift; CAS-Theory; CAS-Observations.

NASA/Jet Propulsion Laboratory, Pasadena: PFS; CAS-Observations.

National Radio Astronomy Observatory, Charlottesville: CAS-Theory; CAS-Observations.

National Radio Astronomy Observatory, Socorro, New Mexico: CAS-Observations.

NOAO, Tucson: DES.

Ohio State University, Columbus: DES; LBT.

Pacific Northwest National Laboratory (PNNL), Richland: CAST.

Pennsylvania State University: HETDEX; Swift; ATHENA.

Princeton University: PFS; CAS-Theory.

Research Corporation, Tucson: LBT.

Rice University, Houston: CAS-Observations.

San Jose State University: MHD shocks.

SLAC, Stanford: CAMP; DES; ATHENA.

Smithsonian Astrophysical Observatory, Cambridge: Chandra-LETGS; PanSTARRS; Röntgendoppelsterne in M31; Athena.

Space Telescope Science Institute, Baltimore: Galaxienentstehung; PanSTARRS; Turbulence; CAS-Observations.

Stanford University: DES; Fermi/LAT; Fermi/GBM.

State University of New York at Fredonia: CAS-Observations.

Texas A & M University, College Station: DES.

Texas State University, San Marcos: HETDEX.

University of Arizona, Tucson: Kosmische Strahlung; Planetenentstehung; LBT; ARGOS; CAS-Observations; CAS-Theory.

University of California, Berkeley: MPG/UCB-Kollaboration; FAST; INTEGRAL-Spektrometer SPI; Superbubbles.

University of California, Santa Cruz: DES.

University of California, San Diego: CAS-Observations.

University of Chicago, Chicago: CAS-Observations; DES.

University of Colorado, Boulder (Co): Superbubbles.

University of Florida, Gainesville: Infrared Dark Clouds.

University of Illinois at Urbana-Champaign: DES; CAS-Observations.

University of Michigan, Ann Arbor: DES; CAS-Observations.

University of Oklahoma, Norman: CAS-Observations.

University of Pennsylvania: DES.

University of Pittsburgh: Galaxienentstehung.

University of Texas, Austin: Galaxienentstehung; HETDEX.

University of Toledo: Galaxienentstehung; CAS-Observations.

University of Virginia, Charlottesville: CAS-Theory, CAS-Observations.

Yale University, New Haven: CAS-Observations.

## Multinationale Kollaborationen - Projekte

ARGOS - Laserleitstern für das LBT: Arcetri Observatory, Italy; AIP, LSW Heidelberg, MPIA, MPIfR, Germany; University of Arizona, USA.

ASPI - The International Wave Consortium: CNR-IFSI Frascati, Italy; LPCE/CNRS Orleans, France; Dept. of Automatic Control and Systems University of Sheffield, UK.

ATHENA - Advanced Telescope for High Energy Astrophysics: Dänemarks Technische Universität, Dänemark; Nikolaus Kopernikus Astronomical Center, Polen; Universität Wien, Österreich; IWF, Graz; INAF Italy, Italy; CEA Frankreich, Frankreich; University of Leicester, Open University, UK; Institut für Astronomie und Astrophysik Tübingen, Erlangen Centre for Astroparticle Physics (ECAP), Germany; ESA; NOA, Greece; Universität Geneva, Schweiz; Institute for Astrophysics, Portugal.

BOSS - Baryon Oscillation Spectroscopic Survey: SDSS-IV Collaboration.

Chandra: Marshall Space Flight Center Huntsville, Massachusetts Institute of Technology Cambridge, Smithsonian Astrophysical Observatory Cambridge, USA; Space Research Institute Utrecht, The Netherlands; Universität Hamburg, Germany.

COSMOS - Cosmological Evolution Survey: INAF-Osservatorio Astronomico di Bologna, INAF-Osservatorio Astronomico di Roma, INAF-Osservatorio Astrofisico di Arcetri, INAF/IASF-CNR, Sezione di Milano, IRA-INAFF, Bologna, Dipartimento di Astronomia, Università Padova, Dipartimento di Fisica, Università degli Studi Roma Tre, Italy; Harvard-Smithsonian Centre for Astrophysics, Cambridge, Dept. of Physics, Carnegie Mellon University, Pittsburg, Institute for Astronomy, University of Hawaii, California Institute of Technology, Pasadena, Dept. of Astronomy, Yale University, USA; INTEGRAL Science Data Centre, Versoix, Switzerland; Laboratoire d'Astrophysique de Marseille, France.

DES - Dark Energy Survey: LMU München, Excellence Cluster Universe, Germany; The Fermi National Accelerator Laboratory (Fermilab), University of Chicago, NOAO, University of Michigan, University of Pennsylvania, University of Illinois at Urbana-Champaign, Ohio State University, Texas A&M University, University of California Santa Cruz, Stanford University, SLAC National Accelerator Laboratory, The Lawrence Berkeley National Laboratory, Argonne National Laboratory, USA; University College London, University of Cambridge, University of Edinburgh, University of Portsmouth, University of Sussex, University of Nottingham, UK; Observatorio Nacional, Centro Brasileiro de Pesquisas Físicas, Universidade Federal do Rio, Brasilien; Instituto de Ciencias dei Espacio, Institut de Física d'Altes Energies, Centro de Investigaciones Energéticas Medioambientales y Tecnológicas, Spain.

eBOSS - SDSS-IV Extended Baryon Oscillation Spectroscopic Survey: Carnegie Mellon University (CMU), University of Colorado Boulder, Harvard-Smithsonian Center for Astrophysics Participation Group, Johns Hopkins University, Kalvi Institute for the Physics and Mathematics

of the Universe, New Meico State University, New York University, The Ohio State University, Penn State University, University of Utah, University of Wisconsin, Yale University, USA; Max-Planck-Institut fuer Astrophysik (MPA Garching), Max-Planck-Institut für extraterrestrische Physik (MPE), Max-Planck-Institut für Astronomie (MPIA Heidelberg), Germany; National Astronomical Observatories of China, Shanghai Astronomical Observatory, China; United Kingdom Participation Group, University of Portsmouth, UK.

ERIS - Enhanced Resolution Imager and Spectograph for the VLT: ESO, Germany; ETH Zürich, Switzerland; INAF Arcetri (with OAA, OATe and OAPd), Italy; UKATC Edinburgh, Scotland; NOVA Leiden, The Netherlands.

eROSITA - extended Roentgen Survey with an Imaging Telescope Array: AIP Potsdam, Universität Tübingen, Universität Bonn, Universität Erlangen, Universität Hamburg, Remeis-Sternwarte Bamberg, MPA Garching, LMU (USM) München, Germany; IKI Moskau, Russia.

EUCLID - ESA Mission to map the Dark Energy: ESA; CEA Saclay, LAM, France; University Bologna, INAF, Italy; MSSL, Durham University, UKATC UK; STScI, USA; MPIA Heidelberg, Universität Bonn, Germany.

Fermi/GBM - Fermi Gamma-Ray Burst Monitor: Marshall Space Flight Center Huntsville, University of Huntsville, USA.

Fermi/LAT - Fermi Gamma-Ray Large Area Space Telescope: Stanford University Palo Alto, Naval Research Laboratory Washington DC, Sonoma State University Rohnert Park, Lockheed Martin Corporation Palo Alto, University of California Santa Cruz, University of Chicago, University of Maryland Greenbelt, NASA Ames Research Center Moffett Field, NASA Goddard Space Flight Center for High Energy Astrophysics Greenbelt, Boston University, University of Utah Salt Lake City, University of Washington Seattle, SLAC Particle Astrophysics Group Palo Alto, USA; ICTP and INFN Trieste, Istituto Nazionale di Fisica Nucleare Trieste, Italy; University of Tokyo, Japan; CEA Saclay, France.

GRAVITY - Instrument for VLT Interferometry: MPIA Heidelberg, Universität Köln, ESO, Garching, Germany; SIM Lissabon und Porto, Portugal; IPAG, Grenoble, Observatoire de Paris / Meudon (LESIA), France.

HETDEX - Hobby-Eberly Telescope Dark Energy Experiment: University of Texas, Austin, Pennsylvania State University, Texas A&M University, USA; AIP Potsdam, LMU, USM, Germany.

INTAS - Cooperation of Western and Eastern European Scientists: France, Germany, Norway, Russia.

ISDC - INTEGRAL Science Data Centre: Observatoire de Geneva Sauverny, Switzerland; Service d'Astrophysique Centre d'Etudes de Saclay, France; Rutherford Appleton Laboratory Oxon Dept. of Physics University Southampton, UK; Institut für Astronomie und Astrophysik Tübingen

Germany; Danish Space Research Institute Lyngby, Denmark; University College Dublin, Ireland; Istituto di Fisica Milano, Istituto di Astrofisica Spaziale Frascati, Italy; N. Copernicus Astronomical Center Warsaw, Poland; Space Research Institute of the Russian Academy of Sciences Moscow, Russia; Laboratory for High Energy Astrophysics GSFC Greenbelt, USA.

INTEGRAL-Spectrometer SPI: Centre d'Etude Spatiale des Rayonnements (CESR) Toulouse, CEA Saclay Gif-sur-Yvette, France; University de Valencia Burjassot, Spain.

LBT - Large Binocular Telescope Project: MPIA Heidelberg, MPIfR Bonn, Landessternwarte Heidelberg Königstuhl, AIP, Germany; University of Arizona, Tucson, Ohio State University, Columbus, Research Corporation, USA; INAF, Italy.

LUCI (Instrument for LBT): LSW Heidelberg, MPIA, Universität Bochum, Germany.

MICADO - Multi-Adaptive Optics Imaging Camera for Deep Observations: LMU (USM), MPIA Heidelberg, IFA Göttingen, Germany; INAF-OAPD Padova, Italy; A\* (an Austrian partnership comprising the University of Vienna, the University of Innsbruck, the University of Graz, and the University of Linz [with RICAM Linz]; specific contributions to MICADO come from Vienna/Innsbruck/Linz), Austria; NOVA (a federation several astronomical institutes; specific contributions to MICADO come from the University of Groningen, the University of Leiden, and the NOVA optical/infrared instrumentation group based at ASTRON in Dwingeloo), The Netherlands; CNRS/INSU (representing LESIA, GEPI and IPAG), Paris, France.

MXT - Microchannel X-Ray Telescope for Gamma-Ray Bursts: CEA, Saclay, France; University of Leicester, UK.

OPTIMA: AIP, MPI für Astrophysik, Universität Hamburg, Germany; University of Crete, Greece; University Zielona Gora, Poland; University Lund/Observatory, Schweden.

PanSTARRS - Panoramic Survey Telescope & Rapid Response System: MPIA Heidelberg, Germany, University of Hawaii, Harvard University, Johns Hopkins Univ. Baltimore, MD, USA; Universities of Durham, Edinburgh, Belfast, UK.

PFS - The Subaru Prime Focus Spectrograph Collaboration: Kalvi Institute for the Physics and Mathematics of the Universe, California Institute of Technology, NASA Jet

Propulsion Laboratory, Princeton University, Johns Hopkins University, USA; The University of Tokyo Institutes for Advanced Study (UTIAS), University of Tokyo, National Astronomical Observatory of Japan, Academia Sinica, Japan; Institute of Astronomy and Astrophysics (ASIAA), Taiwan; Laboratoire d'Astrophysique de Marseille, France; Brazilian Consortium: IAG Universidad de Sao Paulo, Laboratorio Nacional de Astrofisica, Brazil; Max-Planck Society, Max-Planck-Institut für Astrophysik (MPA, Garching), Max-Planck-Institut für extraterrestrische Physik (MPE), Germany; Chinese Consortium: Shanghai Jiao Tong University, National Astronomical Observatories of China, Tsinghua University, The University of Science and Technology of China, Xiamen University, Peking University, China.

SDSS - Sloan Digital Sky Survey: MPA Garching, MPIA Heidelberg, Germany; Univ. of Washington, Seattle, Fermi National Accelerator Laboratory, Batavia, University of Michigan, Ann Arbor, Carnegie Mellon University, Pittsburgh, Penn State University, University Park, Princeton University Observatory, Princeton, The Institute of Advanced Study Princeton, Space Telescope Science Institute, Baltimore, Johns Hopkins Univ. Baltimore, USA.

Swift - Gamma-Ray Burst Mission: NASA/GSFC Greenbelt, Penn State University, USA; University of Leicester, Mullard Space Science Laboratory London, UK; Osservatorio Astronomico Brera, Italy.

XMM-Newton/SSC (Survey Science Center): AIP, Germany; SAP Saclay, CDS Strasbourg, CESR Toulouse, France; University of Leicester, Institute of Astronomy Cambridge, MSSL London, UK.

XMM-Newton/EPIC (European Photo Imaging Camera): SAP Saclay, IAS Orsay, CESR Toulouse, France; University of Leicester, University Birmingham, UK; CNR Mailand-Palermo-Bologna-Frascati, Osservatorio Astronomico Mailand, Italy; Institut für Astronomie und Astrophysik Tübingen, Germany.

## Industrielle Kollaborationen

3d shape GmbH, Erlangen: Metrology for slumped glass mirror study.

4D Engineering, Gilching, Germany: Software development for GRAVITY.

ABN GmbH, Neuried: Ongoing servicing of the MPE test facility PANTER.

Absolut-System, Seyssinet-Pariset, France: 40K cooling system MICADO.

AC Tech GmbH, Freiberg: ERIS Konus.

ACM GmbH, Naumburg - Acktar Ltd., Kiryat-Gat, Isreal: Schwärzen für EUCLID und ERIS.

af inventions, Braunschweig: FPGA Programmierung für eROSITA.

Airbus Defense and Space, Munich: EUCLID design study, eROSITA.

Array Electronics, Egmating: DAQ development OPTIMA.

Bach Research, Boulder, USA: High resolution grating for ERIS.

BASF Coatings AG, Münster: Investigations on the scattering properties of micro particles.

Bräuninger & Konstruktionen, Neuried: Construction and manufacturing of laboratory equipment.

BRUNSON - VMT GmbH, Bruchsal: Optische Geräte und Zubehör.

Buchberger GmbH, Tuchenbach: Manufacturing of parts for PANTER manipulators, ERIS telescope flange.

Christian Rehm - ISKON, Isen: Design and mechanical engineering

CryoVac GmbH, Troisdorf: MICADO Cryosat Study.

Dico-Solutions, München: Elektronikentwicklung für eROSITA.

ECM Engineered Ceramic Materials GmbH, Moosinning: Hersteller von CESIC.

EATON Powering Business Worldwide, Camarillo, CA, USA: Actuators separation-nuts for eROSITA.

ESL GmbH, Berlin: Manufacturing of circuit boards.

Fraunhofer IOF, Jena: Mirror development for MICADO.

Freyer GmbH, Tuningen: PANTER.

GEWO Feinmechanik GmbH, Wörth/Hörlkofen: Mechanische Fertigung, ERIS.

Gräfe Spezialoptik GmbH, Camburg: Zerodur-Materialbearbeitung und -Lieferant..

Hans Englert GmbH, Berlin: Manufacturing of front panels and metering devices.

Hochschule München, Laserlabor, Prof. Heinz Huber, München: Materialbearbeitung mit Ultrakurzpulsar laser.

Ingenieurbüro Buttler, Essen: Development of front-end electronics for ATHENA and eROSITA.

Ingenieurbüro Josef Eder, Hilgertshausen: System engineering for eROSITA, ATHENA, ERIS.

Ingenieurbüro Weisz, München: Design and mechanical engineering for ERIS and MICADO.

IRIDIAN Spectral Technologies, Ottawa, Ontario, Canada: ERIS Filters.

Kampf Telescope Optics (KTO), München: Design & System Engineering for MICADO.

KAON GmbH, München: Consulting for cryogenic systems.

Korth Kristalle GmbH, Kiel: Lenses for ERIS Spectrometer.

Kinkele GmbH & Co. KG, Ochsenfurt: ERIS Struktur.

LT Ultra, Herdwangen-Schönach: Spiegelhersteller.

M-Industrieverpackung GmbH, Sulzemoos: ERIS Transportcontainer.

OHB System AG, München: EUCLID design study.

Peter Feckl Maschinenbau GmbH, Forstern: Mechanische Fertigung, ERIS.

Sacher Lasertechnik, Marburg: Metrology Laser for GRAVITY.

Safran Reosc, Saint-Pierre-du-Perray, France: Mirror development MICADO.

## Aktivitäten im Wissenstransfer

Durch unsere vielen Kooperationen mit anderen Forschungseinrichtungen und der Industrie ergibt sich ein natürlicher Wissenstransfer. Dies gilt auch bei der Vergabe von Aufträgen an die Industrie. Im Gegensatz dazu sind im Folgenden Lizenzen, Kooperationen mit Universitäten und erteilte Patente aufgeführt.

### A) Lizenzen

Baader Planetarium GmbH, Mammendorf: Reflexionsgitter Spectrograph für Lehrzwecke.

Baader Planetarium GmbH, Mammendorf: Baches Echelle Spectrograph.

### B) Kooperationen mit Universitäten (vertraglich)

Detektorentwicklung:

Universität Mannheim, ASIC Entwicklung.

Politecnico di Milano, Analog-Elektronik Entwicklung.

University Stanford, Analog-Elektronik Entwicklung.

### C) Patente - Aktivitäten in 2018

Das MPE hielt Ende 2018 insgesamt 10 Patente.