

CURRICULUM VITAE

Dr. Markus Kissler-Patig

Status: March 2007



SUMMARY

- Name:** Patig, born as Kissler
- First name:** Markus
- Current Post:** Faculty Member (Full Astronomer) at the European Southern Observatory
- Current Responsibilities:** Instrument Scientist for three near-infrared instruments for the VLT (SINFONI, HAWK-I, KMOS); Chair of the ESO Astronomy Faculty ; Member of the ELT Science Working Group.
- Education:** PhD: Feb.1997 (Bonn, ESO), Postdocs: 1997/1998 at University of California Observatories; 1999/2000 at the European Southern Observatory; Faculty since March 2000 at ESO (Assistant 2000-2002, Associate 2003-2004; Full Astronomer since August 2004); Habilitation at the LMU München July 2005–June 2007.
- Publications:** Author of 59 refereed papers (over half as first or second author), first/only editor of two conference proceedings, over 60 contributions to proceedings, H-index of 26.
- Observing Time:** PI/Co-I of over 60 successful observing proposals on major facilities (VLT, Keck, HST), e.g. successful proposals as PI in the last HST Cycle and last ESO period; Co-I of an ESO large program starting in March 07; successful without interruption as PI/Co-I on ESO telescopes since 16 semesters.
- Student Supervision:** Supervised five PhD studies, currently supervising two PhD students (in second and third year), key responsibility in the Fellowship and Studentship program of ESO Garching (incl. IMPRS) for 6 years.
- Awards:** Ludwig Biermann-Preis der Astronomischen Gesellschaft (1999); DFG Grants; NSF Grants (~360.000 US\$); European Research Training Network in Integral Field Spectroscopy: Euro3D (Co-I, Task leader, ~ 1.3 million Euros); Cluster of Excellence in Fundamental Physics (Co-I, Project Leader, ~ 35 million Euros).

1 PERSONAL

Name: Patig, born as Kissler
First name: Markus
Publishing as: Markus Kissler-Patig
Phone/Email: +49-89-32006244 / mkissler@eso.org
Date of birth: August 21st, 1970
Place of Birth: Chêne-Bougeries / Geneva / Switzerland
Citizenship: German
Family status: Married to Annegret Patig (born April 15th, 1966; Editorial Journalist/SWR)
Children: Emily (born July 6th, 1996), Alice Carolin (born May 29th, 1998)
Mia Anna (born September 6th, 2002), Jona Benjamin (born August 6th, 2004)

Languages: Native French and German speaker,
fluent in English (current working language), knowledge of Spanish and Russian

Hobbies: Sports (swimming, football, tennis), Cycling/tandem tours
Strategy board games, Drawing/Sketching (Cartoons, BD)

2 EDUCATION

High-School Degrees

1980 – 1988: Collège et Lycée International de Ferney–Voltaire (France)

- French Baccalauréat (scientific branch) **and** the German Allgemeine Hochschulreife

Under-Graduate Studies

Oct 1988 – Oct 1993: Diplom/Master in Physics at the University of Bonn

Diplom/Master in Physics, Master Thesis in Astronomy (both "sehr gut", grade A)

- CERN summer school for high energy physics, Jul-Sep 1990; Research assistant at the Sternwarte Bonn from Oct 1991 to Oct 1992.

Graduate Studies

Oct 1993 – Mar 1994: PhD Student at the Sternwarte Bonn

with Dr.T.Richtler, PhD on "Globular Cluster Systems, Clues to Galaxy Formation and Evolution".

- Canary Islands Winter School on "The Formation of Galaxies", Dec 1993.

Mar 1994 – Mar 1996: Studentship at the European Southern Observatory, Garching

with Dr.G.Meylan

- Member of the NTT Telescope team lead by Dr.D.Baade, later Dr.J.Spyromilio; Introducing astronomer to remote control observations with the NTT Telescope, under supervision of Dr.A.Zijlstra from Jul 1994 to Mar 1996.

Mar 1996 – Feb 1997: PhD Student at the Sternwarte Bonn

in the frame of the DFG Graduierten Kolleg "The Magellanic Clouds and other dwarf galaxies"

- **Doctor Rer.Nat. Summa cum Laude** (PhD with highest distinction), February 1997.

3 EMPLOYMENT HISTORY

Post-doctoral positions

Mar 1997 – Oct 1998: Postdoctoral Researcher at the University of California Observatories/Lick observatory

Mentor: Prof.J.P.Brodie

- Winner of a Feodor-Lynen Stipendium from the Alexander von Humboldt Foundation for the year 1998 (salary and research grant).
- Co-author on National Science Foundation (NSF) grant rewarded with 360.000 US\$.

Nov 1998 – Feb 2000: Fellowship at the European Southern Observatory

Mentor: Prof.A.Renzini

- Winner of the 1999 Ludwig-Biermann-Preis of the Astronomische Gesellschaft (German Astronomical Society), rewarding an outstanding young German astronomer each year.

Faculty member at ESO

Mar 2000 – Dec 2002: Assistant Astronomer at the European Southern Observatory

- Instrument Scientist in the Optical Instrumentation Department (Mar 2000 – Dec 2003), scientific responsible for VIMOS (visual wide-field imager and multi-object spectrograph) and SINFONI (AO assisted NIR integral-field spectrograph)
- Member of the Fellow and Student Selection Committee (FSSC) for ESO Garching (2000–2007). Chair of the FSSC from Jan 2002 until Dec 2006.
- ESO Team Leader for the Euro3D Research Training Network (RTN), aiming at promoting 3D spectroscopy in Europe (2002–2006).

Jan 2003 – Aug 2004: Associate Astronomer at the European Southern Observatory

- Instrument Scientist in the Infrared Instrumentation and Detectors Group (since Jan 04), scientific responsible for SINFONI, HAWK-I (wide-field NIR imager) and KMOS (NIR multi-object spectrograph)
- Coordinator for ESO and member of the executive committee of the International Max-Planck Research School (IMPRS) in Astronomy and Astrophysics (Graduate School of the four Institutions: ESO, MPA, MPE and LMU Observatory) from Jan 2003 until Dec 2006.

Aug 2004 – present: Full Astronomer at the European Southern Observatory

- Member of the European Extremely Large Telescope Science Working Group (since Jan 2006).
- Reviewer for Instrument Design Concepts for the Thirty Meter Telescope, Spring 2006
- Habilitation at the LMU München Jul 2005–Jun 2007 (expected)
- Co-I and Project Leader in the Cluster of Excellence for Fundamental Physics (Network on the Garching Campus funded with ~ 35 million Euros over 5 years in the frame of the German Excellence initiative – www.universe-cluster.de)
- Chair of the ESO Astronomy Faculty, since January 2007.

4 PROFESSIONAL EXPERIENCE

Student Supervision

- Current supervision of the PhD students (for which I obtained grants from the IMPRS and ESO):
 - *Daniella Villegas* (ESO student from the Universidad Catolica, Chile), started in October 2005
 - *Marcelo Mora* (International Max-Planck Research School, IMPRS), started in September 2004
- Past supervision of the PhD students (for which I obtained grants from the DFG, the IMPRS and ESO):
 - *Nathan Bastian* (ESO student from Sterrewacht Utrecht), graduated in April 2005 (currently post-doc at the CfA, Harvard).
 - *Maren Hempel* (International Max-Planck Research School), graduated in October 2004 (first post-doc at Michigan State, currently post-doctoral at U. of Florida)
 - *Thomas H. Puzia* (Sternwarte München, Germany), graduated in October 2003 (first ESA fellow at the STScI, now Plaskett fellow at NRC-HIA)
 - (partial supervision) *Linda L. Schroder* (UC Santa Cruz, USA), graduated in July 2002
 - (partial supervision) *Sandra Chapelon* (LAS, Marseille, France), graduated in July 2001
- Supervision of Master thesis and pre-diploma students at the Sternwarte Bonn until 1999 (small research projects before the Master Thesis)

Teaching/Education

Educational activities:

- Teaching two semesters the applied astronomy class in the frame of the Habilitation at the LMU in 2007
- Teaching replacements for Prof. J.P. Brodie in the Introductory Astronomy Class for undergraduates at the University of California, Santa Cruz, in 1997/1998.
- Numerous lectures/interventions at Volkssternwarten, schools and kindergarten for basic astronomy courses and astronomy/science promotion.
- Co-supervision of the observational Praktika of the Sternwarte Bonn in 1996 and 1997. Conducted as one week praktika at the Sternwarte Hoher List.

Institutional activities:

- Reviver and organizer (1998-2001) of the current ESO Monday Journal Club.
- Initiator and organizer (2001/2002) of the ESO Monthly "Wine & Cheese" meetings.
- Initiator and organizer (since 2001) of the monthly meetings of the Instrumentation Division.

External activities:

- Swimming coach and teacher (~ 10h/week from 1989 until 1994; 1h/week in 2005 and 2006)

Instrumentation Experience

- Instrument scientist for SINFONI (adaptive optics supported NIR integral-field spectrograph; in operation since April 2005), HAWK-I (wide-field NIR imager; to be commissioned in June 2007), and KMOS (NIR multi-object spectrograph; Final Design Review in summer 2007).
- Co-instrument scientist of VIMOS (a visual wide-field imager and multi-object spectrograph; in operations since April 2003).
- Over 200 nights/days of interventions at the Paranal Observatory for VIMOS and SINFONI re-integration, commissioning, upgrades.
- Coordinating scientist between the Adaptive Optics and Laser Guide Star projects at ESO from October 2000 until December 2002.
- Member of the board that defined the Science Cases for Multi-Conjugate Adaptive Optics for GEMINI (incl. retreat held at the Center for Adaptive Optics, UC Santa Cruz in Oct 2001).
- Member of the Euro3D Research Training Network (RTN, financed by the EU); Author of about 1/3 of the successful RTN proposal (~ 1.3 Million Euros). Work-package coordinator of the Euro3D data format and software standards; lead author of the Euro3D data format definition.
- Invited reviewer for the conceptual design studies of instruments for the Thirty Meter Telescope (TMT), spring 2006.

Telescope Operations and Support

- Six months transfer to join the *Science Operations Department* at the Paranal Observatory (from 1.1.03 until 30.6.03), during the start-up of VIMOS. About 80 nights/days of regular operations support.
- Member of the Science Verification teams (1999, 2000, 2003, 2004) for the ISAAC, FORS1, FORS2, VIMOS and SINFONI instruments on the VLT; defining/conducting scientific programs of broad public interest with public data release.
- Introducing astronomer to remote control observations and member of the 3.5m NTT Telescope Team from July 1994 to March 1996.

5 SCIENTIFIC ACTIVITIES

Publication Record / Refereeing Activities

Publication record:

See attachment – 59 refereed publications, over half (30) as first or second author in a variety of fields from star cluster formation/complexes, star cluster systems and galaxy formation & evolution, galaxy dynamics, stellar population models.

Over 1700 citations – Top cited article with 100+ citations: Gebhardt & Kissler-Patig 1999, AJ 118, 1526; top first author article with 100+ citations: Kissler-Patig et al. 1998, AJ 115, 105 – over 15 articles cited more than 40 times

Also author of over 60 non-refereed contributions, editor of two conference proceedings (one as single editor), 1 invited review article.

Observing Programs

- Awarded observing time at major observatories as Principle Investigator (PI) and Co-Investigator (Co-I) on a regular basis since over 10 years: first successful proposals in 1993 and 1995; successful without interruption on ESO telescopes since 16 periods.

Mostly using the ESO VLT : 40+ ESO proposals (of which 30+ for the VLT with the instruments FORS, VIMOS, SINFONI, NACO, UVES/FLAMES, ISAAC, and VISIR).

Last successful proposals as **PI**:

- NACO/VLT (078.B-0641, Nov 2007): Intermediate-mass Black Holes in the Center of Globular Clusters (Kissler-Patig & Gebhardt)
 - VIMOS/VLT (077.B-0184, Apr-Oct 2006): The Products of Star Formation in Violent Merger Events (Kissler-Patig, Bastian, Emsellem, Larsen, Maraston, Mora)
 - ACS/HST (10550, Sep 2005-Sep 2006): The Nature of LSB galaxies revealed by their Globular Clusters (Kissler-Patig, Jordán, Goudfrooij, Zwaan)
- Broad observational experience in optical/infrared photometry and low- to high-resolution spectroscopy. Conducted observations at the 10m Keck (LRIS, NRIC), 8m VLT (FORS, VIMOS, ISAAC, SINFONI, NACO, UVES, FLAMES), 3.5m NTT (EMMI, SOFI), 3.5m Calar Alto (PF Camera, MAGIC), 3m Lick Observatory (LRIC), 100” Las Campanas, 2.5m NOT/La Palma, 2.2m Pic du Midi, 0.9m CTIO .

Peer Reviews

- Regular Refereeing activities for the Journals: Astronomy & Astrophysics, Astronomical Journal, Astrophysical Journal and Astronomische Nachrichten.
- Regularly peer reviewing grant proposals for FONDECYT (Chile), PPARC (UK), NSERC (Canada).
- Reviewing observing proposals for PPARC (UK) [WHT, AAT].

Conferences / Colloquia

- Gave over 30 invited/conference talks in the past 10 years; as well as numerous poster presentations
- Single organizer of the ESO workshop “Globular Cluster Systems”, in August 2002
- Co-organizer of the two ESO workshops: “12 Questions on Star and massive Star Cluster Formation” in July 2007 and “Science Perspectives for 3D Spectroscopy” in October 2005
- Co-organized the topical session: From ancient globular clusters to young star clusters, at the meeting of the AAS, Chicago, June 1999
- Member of several Science Organizing Committee (last: “Globular Clusters – Guide to Galaxies”, Concepción March 2006).

Research Collaborations

- Current main collaborations with:
 - a team around S.S.Larsen (Utrecht), N.Bastian (UCL/CfA) and F.Schweizer (Carnegie),
 - the group around Profs. D.Minniti and M.Zoccali at the Universidad Católica (Chile),
 - the group around Profs. D.Geisler and T.Richtler at the Universidad de Concepción (Chile),
 - the group of P.Goudfrooij (STScI),
 - the group of B.Miller (Gemini South, Chile).
 - Prof.K.Gebhardt (U.Texas, Austin), D.Thomas and C.Maraston (U. of Portsmouth), A.Jórdan and S.Mieske (ESO),
- Current involvement in Large programs/projects:
 - Involved in the Chilean large effort FOCUS, dedicated to the study of the Fornax Galaxy cluster (star clusters, galaxy populations and dynamics, intra-cluster medium) with observations across southern observatories,
 - Co-I of the SINFONI ESO Large Program to follow-up the VVDS (VIRMOS very deep survey) with the goal to obtain dynamics of galaxies in the redshift range 1.5-3.5 (starting in P79).
 - Member of the European ELT Science Working Group (SWG), composing the science case for the ESO-lead ELT.
 - Co-I and Project Leader of the Cluster of Excellence for Fundamental Physics (www.universe-cluster.de)