Curriculum Vitae

Prof. Dr. Dominik R. G. Schleicher
tenure-track professor
Dr. rer. nat.

Universidad de Concepciòn
Departamento de Astronomìa
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Chile

Personal data

Date of birth:	14.06.1981
Place of birth:	Bamberg
Nationality:	German
private address:	Tucapel no. 90 depto. 1607, Concepciòn, Chile

Education and working experience

since 03/2015	**Tenure-track professor for Astrophysics** at the Universidad de Concepción, Chile
11/2014	Visit as a **distinguished scientist** at the Scuola Normale Superiore de Pisa, Italy
06/2011-02/2015	**Junior professor for cosmology with emphasys on cosmological structure formation** at the Institute for Astrophysics, Georg-August-Universität Göttingen
09/2009 - 05/2011	**ESO - ALMA Fellow** at Leiden Observatory, the Netherlands
06 - 08/2009	Postdoc at the Center for Astronomy at the University of Heidelberg / Institute for Theoretical Astrophysics
11/2007 - 06/2009	PhD at the Center for Astronomy at the University of Heidelberg / Institute for Theoretical Astrophysics Topic: **"The early universe: Probing primordial magnetic fields, dark matter models and the first supermassive black holes"** Supervision: Prof. Dr. R.S. Klessen, Prof. Dr. M. Bartelmann Final grade: *"summa cum laude"*
11/2007 - 06/2009	Member of the Heidelberg Graduate School for Fundamental Physics (HGSFP)

10/2002 - 10/2007	**Diploma in Physics** at the University of Heidelberg Thesis topic: **"Primordial Chemistry and the Formation of the First Supermassive Black Holes"** Supervision: Prof. Dr. M. Camenzind, Prof. Dr. R.S. Klessen Final grade: *"very good"*
09/2004 - 03/2005	Participation in the Astroparticle Program at SISSA (Trieste, Italy)
07/2001	Abitur (Final grade: *"excellent"*)

Main research interests

- Formation and accretion of supermassive black holes
- Formation of extremely metal poor stars
- Origin and amplification of magnetic fields
- Eclipsing time variations in post-common-envelope systems

Former group members

- Dr. Stefano Bovino, Hamburg Observatory, Germany
- Dr. Pedro Capelo, University of Zürich, Switzerland
- Dr. Muhammad Latif, IAP Paris, France
- Wara Chamani, IAG Göttingen, Germany
- Stephanie Dörschner, IAG Göttingen, Germany
- Philipp Grete, IAG Göttingen, Germany
- Felix Lemke, IAG Göttingen, Germany
- Tim Lichtenberg, ETH Zürich, Switzerland
- Remudin Reshid Mekuria, University of the Witwatersrand, South Africa
- Kai Rodenbeck, MPS Göttingen, Germany
- Caroline Van Borm, University of Groningen, the Netherlands

Publications

I have a total number of 66 refereed publications, 15 as a first author, 3 reviews and 45 without my PhD supervisor.

Refereed publications

Submitted publications

- Schober, J.; **Schleicher**, D. R. G.; Klessen, R. S., 2016. "Galactic synchrotron emission and the FIR-radio correlation at high redshift", ApJ, submitted (arXiv:1603.02693)
- Grete, P.; Vlaykov, D.; Schmidt, W.; **Schleicher**, D.R.G., 2016. "A priori comparison of subgrid-scale closures for magnetohydrodynamic turbulence", Physics of Plasmas, submitted
- Vlaykov, D.; Grete, P.; Schmidt, W.; **Schleicher**, D.R.G., 2016. "A structural method for the derivation of nonlinear compressible magnetohydrodynamic closures", Physics of Plasmas, submitted
- Bovino, S.; Grassi, T.; **Schleicher**, D. R. G.; Banerjee, R., 2016. "The formation of the primitive star SDSS J102915+172927: effect of the dust mass and the grain-size distribution", ApJ, submitted (arXiv:1601.04525)
- Latif, M. A.; Omukai, K.; Habouzit, M.; **Schleicher**, D. R. G.; Volonteri, M., 2016. "Impact of dust cooling on direct collapse black hole formation", ApJ, submitted (arXiv:1509.07034)

Accepted publications

- Bovino, S.; Grassi, T.; Capelo, P. R.; **Schleicher**, D. R. G.; Banerjee, R., 2016. "A chemical model for the interstellar medium in galaxies", A&A, accepted (arXiv:1510.07016)
- Latif, M. A.; **Schleicher**, D. R. G.; Hartwig, T., 2016. "Witnessing the birth of a supermassive protostar", MNRAS, 458, 233
- Völschow, M.; **Schleicher**, D. R. G.; Perdelwitz, V.; Banerjee, R., 2015. "Eclipsing time variations in close binary systems: Planetary hypothesis vs. Applegate mechanism", A&A, 587, 34
- Latif, M. A.; **Schleicher**, D. R. G., 2016. "Magnetic fields in primordial accretion disks", A&A, 585, 151
- Schober, J.; **Schleicher**, D. R. G.; Federrath, C.; Bovino, S.; Klessen, R. S., 2015. "Saturation of the turbulent dynamo", Physical Review E, 92, 3010
- Bandyopadhyay, B.; **Schleicher**, D.R.G., 2015. "Helium reionization in the presence of self-annihilating clumpy dark matter", Physical Review D, 92, 3508

- **Schleicher**, D.R.G.; Dreizler, S.; Völschow, M.; Banerjee, R.; Hessman, F.V., 2015. "Planet formation in post-common-envelope binaries", Astronomical Notes, 336, 458
- Latif, M.A.; **Schleicher**, D.R.G., 2015. "The formation of massive primordial stars in rapidly rotating disks", A&A, 578, 118
- Lichtenberg, T.; **Schleicher**, D.R.G., 2014. "Modeling gravitational instabilities in compact and massive protoplanetary disks with adaptive mesh refinement techniques", A&A, 579, 32
- Grete, P.; Vlaykov, D.; Schmidt, W.; **Schleicher**, D.R.G.; Federrath, C., 2015. "Nonlinear closures for scale separation in supersonic, magnetohydrodynamic turbulence", NJP, 17, 023070
- Latif, M.A.; **Schleicher**, D.R.G., 2014. "Disk fragmentation and the formation of population III stars", MNRAS, 449, 77
- Federrath, C.; Schober, J.; Bovino, S.; **Schleicher**, D.R.G., 2014. "The Turbulent Dynamo in Highly Compressible Supersonic Plasmas", ApJ, 797, 19
- Latif, M. A.; Bovino, S.; Grassi, T.; **Schleicher**, D.R.G.; Spaans, M., 2014. "How realistic UV spectra and X-rays suppress the abundance of direct collapse black holes", MNRAS, 446, 3163
- Schober, J.; **Schleicher**, D.R.G.; Klessen, R.S., 2015. "X-Ray Emission from Star-Forming Galaxies - Signatures of Cosmic Rays and Magnetic Fields", MNRAS, 446, 2
- Latif, M. A.; **Schleicher**, D.R.G.; Bovino, S.; Grassi, T.; Spaans, M., 2014. "The formation of massive primordial stars in the presence of moderate UV backgrounds", ApJ, 792, 78
- Bovino, S.; Grassi, T.; **Schleicher**, D.R.G.; Latif, M. A., 2014. "Formation of carbon-enhanced metal-poor stars in the presence of far ultraviolet radiation", ApJL, 790, 35
- Ferrara, A.; Salvadori, S.; Yue, B., **Schleicher**, D.R.G., 2014. "Initial mass function of intermediate mass black hole seeds", MNRAS, 443, 2410
- Latif, M. A.; Bovino, S.; Van Borm, C.; Grassi, T.; **Schleicher**, D.R.G.; Spaans, M., 2014. "A UV flux constraint on the formation of direct collapse black holes", MNRAS, 443, 1979
- Peters, T.; **Schleicher**, D.R.G.; Smith, R.; Schmidt, W.; Klessen, R.S., 2014. "Low-metallicity star formation: Relative impact of metals and magnetic fields", MNRAS, 442, 3112
- Planelles, S.; **Schleicher**, D. R. G.; Bykov, A. M., 2014. "Large-Scale Structure Formation: from the first non-linear objects to massive galaxy clusters", Space Science Reviews, Space Science Reviews, tmp., 12 (arXiv:1404.3956)
- Wagstaff, J. M.; Banerjee, R.; **Schleicher**, D.; Sigl, G., 2014. "Magnetic field amplification by the small-scale dynamo in the early Universe", Phys. Rev. D, 89, 103001

- Bovino, S.; Latif, M. A.; Grassi, T.; **Schleicher**, D.R.G., 2014. "Dark-matter halo mergers as a fertile environment for low-mass Population III star formation", MNRAS, 441, 2181
- Latif, M.A.; Niemeyer, J.; **Schleicher**, D.R.G., 2014. "Impact of baryonic streaming velocities on the formation of supermassive black holes via direct collapse", MNRAS, 440, 2969
- Latif, M.A.; **Schleicher**, D.R.G.; Schmidt, W., 2014. "Magnetic fields during the formation of supermassive black holes", MNRAS, 440, 1551
- Seifried, D.; Banerjee, R.; **Schleicher**, D.R.G., 2014. "Supernova explosions in magnetized, primordial dark matter halos", MNRAS, 440, 24
- Grassi, T.; Bovino, S.; **Schleicher**, D.R.G.; Prieto, J.; Seifried, D.; Simoncini, E.; Gianturco, F. A., 2014. "KROME - a package to embed chemistry in astrophysical simulations", MNRAS, 439, 2386
- **Schleicher**, D.R.G.; Dreizler, S., 2014. "Planet formation from the ejecta of common envelopes", A&A, 563, 61
- Bovino, S.; **Schleicher**, D.R.G.; Grassi, T., 2014. "Primordial star formation: relative impact of H2 three-body rates and initial conditions", A&A, 561, 13
- Schober, J.; **Schleicher**, D.R.G.; Klessen, R.S, 2013. "Magnetic Field Amplification in Young Galaxies", A&A, 560, 87
- Latif, M.A.; **Schleicher**, D.R.G.; Schmidt, W.; Niemeyer, J., 2013e. "The characteristic black hole mass resulting from direct collapse in the early universe", MNRAS, 436, 2989
- Wutschik, S.; **Schleicher**, D.R.G., Palmer, T. S., 2013. "Star formation and accretion in the circumnuclear disks of active galaxies", A&A, 560, 34
- **Schleicher**, D.R.G.; Palla, F.; Ferrara, A.; Galli, D.; Latif, M., 2013. "Massive black hole factories: Supermassive and quasi-star formation in primordial halos", A&A, 558, A59
- **Schleicher**, D.R.G.; Beck, R., 2013. "A new interpretation of the far-infrared - radio correlation and the expected breakdown at high redshift", A&A, 556, 142
- Latif, M.A.; **Schleicher**, D.R.G.; Schmidt, W.; Niemeyer, J., 2013d. "The formation of massive Population III stars in the presence of turbulence", ApJ, 722, L3
- Latif, M.A.; **Schleicher**, D.R.G.; Schmidt, W.; Niemeyer, J., 2013c. "Black hole formation in the early Universe", MNRAS, 433, 1607
- Latif, M. A.; **Schleicher**, D.R.G.; Schmidt, W.; Niemeyer, J., 2013b. "The small-scale dynamo and the amplification of magnetic fields in massive primordial haloes", MNRAS, 432, 688
- Bovino, S.; Grassi, T.; Latif, M. A.; **Schleicher**, D. R. G., 2013. "Impact of an accurate modelling of primordial chemistry in high-resolution studies", MNRAS, 434, L36

- Grassi, T.; Bovino, S.; **Schleicher**, D.R.G.; Gianturco, F.A., 2013. ”Chemical complexity in astrophysical simulations: optimization and reduction techniques”, MNRAS, 431, 1659
- Latif, M.; **Schleicher**, D.R.G.; Schmidt, W.; Niemeyer, J., 2013a. ”High resolution studies of massive primordial haloes”, MNRAS, 430, 588
- Bovino, S.; **Schleicher**, D.R.G.; Schober, J., 2013. ”Turbulent magnetic field amplification from the smallest to the largest magnetic Prandtl numbers: Implications of the turbulent spectra”, New Journal of Physics, 15, 013055
- **Schleicher**, D.R.G.; Schober, J.; Federrath, C.; Bovino, S.; Schmidt, W., 2013. ”The small-scale dynamo: Breaking universality at high Mach numbers”, New Journal of Physics, 15, 023017
- Ryu, D.; **Schleicher**, D.R.G.; Treumann, R.A.; Tsagas, C.G.; Widrow, L.M., 2012. "Magnetic fields in the large-scale structure of the Universe", in "Large-scale magnetic fields in the Universe". Space Science Reviews, Vol. 166, p. 1. Editors: A. Balogh, R. Beck, A. Bykov, A. Shukurov, R. Treumann, L. Widrow
- Widrow, L.M.; Ryu, D.; **Schleicher**, D.R.G.; Subramanian, K.; Tsagas, C.G; Treumann, R.A., 2012. "The first magnetic fields", in "Large-scale magnetic fields in the Universe", Space Science Reviews, Vol. 166, 37. Editors: A. Balogh, R. Beck, A. Bykov, A. Shukurov, R. Treumann, L. Widrow
- Schober, J.; **Schleicher**, D.R.G.; Bovino, S.; Klessen, R.S., 2012. ”The small-scale dynamo at low magnetic Prandtl numbers”, Physical Reviews E, 86, 066412
- Smith, R.J.; Iocco, F.; Glover, S.C.O.; **Schleicher**, D.R.G.; Klessen, R.S.; Hirano, S.; Yoshida, N., 2012. ”WIMP dark matter and first stars: Suppression of fragmentation in primordial star formation’, ApJ, 761, 154
- Peters, T.; **Schleicher**, D.R.G.; Klessen, R.S.; Banerjee, R.; Federrath, C.; Smith, R.; Sur, S., 2012. ”The impact of thermodynamics on gravitational collapse: filament formation and magnetic field amplification”, ApJ, 760, L28
- Hocuk, S.; **Schleicher**, D.R.G.; Spaans, M.; Cazaux, S., 2012. ”The impact of magnetic fields on the IMF in star-forming clouds near a supermassive black hole”, A&A, 545, A46
- Schober, J.; **Schleicher**, D.R.G.; Federrath, C.; Glover, S.C.O.; Klessen, R.S.; Banerjee, R., 2012. ”The small-scale dynamo and non-ideal magnetohydrodynamics in primordial star formation”, ApJ, 754, 99
- Latif, M., **Schleicher**, D.R.G., Spaans, M., 2012. ”The implications of dust for high-redshift protogalaxies and the formation of binary disks", A&A, 540, A101
- Schober, J.; **Schleicher**, D.R.G.; Federrath, C.; Klessen, R.S.; Banerjee, R., 2012. "Magnetic field amplification by small-scale dynamo action: Dependence on turbulence models, Reynolds and Prandtl numbers", Physical Reviews E, 85, 026303

- Sur, S.; Federrath, C.; **Schleicher**, D.R.G.; Banerjee, R.; Klessen, R.S., 2012. "Magnetic field amplification by gravity-driven turbulence – Influence of initial conditions and saturation field strengths", MNRAS, 423, 3148
- **Schleicher**, D.R.G.; Miniati, F., 2011. "Primordial magnetic field constraints from the end of reionization", MNRAS Letters, 418, L143
- Federrath, C.; Chabrier, G.; Schober, J.; Banerjee, R.; Klessen, R.S.; **Schleicher**, D.R.G., 2011. "Mach number dependence of turbulent magnetic field amplification: solenoidal versus compressive flows", Physical Review Letters, vol. 107, id. 114504
- Latif, M.; **Schleicher**, D.R.G.; Spaans, M.; Zaroubi, S., 2011. ”Lyman alpha emission from the first galaxies: Implications of UV backgrounds and the formation of molecules”, A&A, 532, A66
- Federrath, C.; Sur, S.; **Schleicher**, D.R.G.; Banerjee, R.; Klessen, R.S., 2011. "A new Jeans resolution criterion for (M)HD simulations of self-gravitating gas: Application to magnetic field amplification by gravity-driven turbulence", ApJ, 731, L62
- Latif, M.; **Schleicher**, D.R.G.; Spaans, M.; Zaroubi, S., 2011. ”Lyman alpha emission from the first galaxies: Signatures of accretion and infall in the presence of line trapping”, MNRAS Letters, 413, L33
- Sur, S.; **Schleicher**, D.R.G.; Banerjee, R.; Federrath, C.; Klessen, R.S., 2010. "The generation of strong magnetic fields during the formation of the first stars", ApJ, 721, L134
- **Schleicher**, D.R.G.; Banerjee, R.; Sur, S.; Arshakian, T. G.; Klessen, R.S.; Beck, R.; Spaans, M., 2010. "Small-scale dynamo action during the formation of the first stars and galaxies", A&A, 522, 115
- **Schleicher**, D.R.G.; Spaans, M.; Glover, S.C.O., 2010. "Black hole formation in primordial galaxies: Chemical and radiative conditions", ApJ, 712, L69
- **Schleicher**, D.R.G; Spaans, M.; Klessen, R.S., 2010. "Probing high-redshift quasars with ALMA. I. Expected observables and potential number of sources", A&A, 513, 7
- **Schleicher**, D.R.G; Galli, D.; Glover, S.C.O.; Banerjee, R.; Palla, F.; Schneider, R.; Klessen, R.S., 2009. "The influence of magnetic fields on the thermodynamics of primordial star formation", ApJ, 703, 1096
- **Schleicher**, D.R.G.; Banerjee, R.; Klessen, R.S., 2009, "Dark Stars: Implications and constraints from cosmic reionization and extragalactic background radiation", Phys. Rev. D, 79, 04351
- **Schleicher**, D.R.G.; Glover, S.C.O.; Banerjee, R.; Klessen, R.S., 2009. "Cosmic constraints rule out s-wave annihilation of light dark matter", Phys. Rev. D, 79, 023515
- **Schleicher**, D.R.G.; Banerjee, R.; Klessen, R.S., 2009, "Influence of primordial magnetic fields on 21 cm emission", ApJ, 692, 236

- **Schleicher**, D.R.G.; Galli, D.; Palla, F.; Camenzind, M.; Klessen, R.S.; Bartelmann, M.; Glover, S. C. O., 2008. "Effects of primordial chemistry on the cosmic microwave background", A&A, 490, 521
- **Schleicher**, D.R.G.; Banerjee, R.; Klessen, R.S., 2008. "Reionization - A probe for the stellar population and the physics of the early universe", Phys. Rev. D 78, 083005

Non-refereed publications

- Agudo, I.; Boettcher, M.; Falcke, H.; Georganopoulos, M.; Ghisellini, G.; Giovannini, G.; Giroletti, M.; Gomez, J.L.; Gurvits, L.; Laing, R.; Lister, M.; Marti, J.-M.; Meyer, E. T.; Mizuno, Y.; O'Sullivan, S.; Padovani, P.; Paragi, Z.; Perucho, M.; **Schleicher**, D.R.G.; Stawarz, L.; Vlahakis, N.; Wardle, J., 2015. "Studies of Relativistic Jets in Active Galactic Nuclei with SKA", Proceedings 'Advancing Astrophysics with the SKA (arXiv:1501.00420)
- Taylor, A.R.; Agudo, I.; Akahori, T.; Beck, R.; Gaensler, B.; Heald, G.; Johnston-Hollitt, M.; Langer, M.; Rudnick, L.; Ryu, D.; Scaife, A.; **Schleicher**, D.R.G.; Stil, J., 2015. "SKA Deep Polarization and Cosmic Magnetism", Proceedings 'Advancing Astrophysics with the SKA (AASKA14)' (arXiv:1501.02298)
- **Schleicher**, D.R.G.; Latif, M.; Schober, J.; Schmidt, W.; Bovino, S.; Federrath, C.; Niemeyer, J.; Banerjee, R.; Klessen, R. S., 2012. "Magnetic fields during high redshift structure formation", AN, 334, 531
- Schober, J.; **Schleicher**, D.R.G.; Klessen, R.S.; Federrath, C.; Bovino, S.; Glover, S.; Banerjee, R., 2012. "Small-scale dynamo action in primordial halos", IAU Symposium 294 (arXiv:1210.7751)
- Banerjee, R.; Sur, S.; Federrath, C.; **Schleicher**, D.R.G.; Klessen, R.S., 2012. "Generation of strong magnetic fields via the small-scale dynamo during the formation of the first stars", NIC Symposium Proceedings 2012, NIC Series Volume 45, Editors:. K. Binder, G. Münster, M. Kremer
- **Schleicher**, D.R.G.; Schober, J.; Federrath, C.; Miniati, F.; Banerjee, R.; Klessen, R.S., 2011. "Magnetic fields in the first galaxies: Dynamo amplification and limits from reionization", Proceedings of the "Magnetic Fields in the Universe III: From Laboratory and Stars to Primordial Structures" (Zakopane, Poland). Editors: M. Soida, K. Otmianowska-Mazur, E.M. de Gouveia Dal Pino, A. Lazarian (arXiv:1110.2880)
- Sur, S.; Federrath, C.; **Schleicher**, D.R.G.; Banerjee, R.; Klessen, R.S., 2011. "Magnetic Field Generation During the Formation of the First Stars", ASP Conference Proceedings, Vol. 453. Editors: R. Capuzzo-Dolcetta, M. Limongi, A. Tornambe
- **Schleicher**, D.R.G.; Shetty, R.; Hocuk, S.; Banerjee, R.; Spaans, M.; Klessen, R.S., 2011. "Modeling the circumnuclear accretion disk around supermassive black

holes", in "Science and Supercomputing in Europe, report 2011", CINECA, Bologna, Italy. Editor: Silvia Monfardini

- **Schleicher**, D.R.G.; Sur, S.; Banerjee, R.; Klessen, R.S.; Federrath, C.; Arshakian, T.; Beck, R.; Spaans, M., 2010. "Magnetic fields during primordial star formation", Proceedings of the "Cosmic Radiation Fields: Sources in the early Universe". Editors: Martin Raue (chair), Tanja Kneiske, Dieter Horns, Dominik Elsaesser, Peter Hauschildt
- Sur, S.; Banerjee, R.; Klessen, R.S.; **Schleicher**, D.R.G.; Federrath, C., 2010. "The generation of strong magnetic fields during the formation of the first stars", Proceedings of the "Cosmic Radiation Fields: Sources in the early Universe". Editors: Martin Raue (chair), Tanja Kneiske, Dieter Horns, Dominik Elsaesser, Peter Hauschildt
- **Schleicher**, D.R.G.; Banerjee, R.; Sur, S.; Glover, S.C.O.; Spaans, M., 2010. "The formation of supermassive black holes in the first galaxies", AIP conference proceedings "First Stars and Galaxies: Challenges in the Next Decade"
- **Schleicher**, D.R.G.; Banerjee, R.; Glover, S.C.O.; Galli, D.; Palla, F.; Schneider, R.; Klessen, R. S., 2010. "Primordial magnetic fields: Reionization constraints and implications for the first stars", AIP conference proceedings "First Stars and Galaxies: Challenges in the Next Decade"
- **Schleicher**, D.R.G.; Spaans, M.; Klessen, R. S., 2009. "Detecting the first quasars with ALMA", in "Highlights of Astronomy", Vol. 14, Proceedings for the IAU General Assembly 2009, Symposium 267
- **Schleicher**, D.R.G.; Banerjee, R.; Galli, D.; Glover, S.C.O.; Palla, F.; Schneider, R.; Klessen, R.S., 2009. "Magnetic fields at the end of the dark ages", in "Highlights of Astronomy", Vol. 14, Proceedings for the IAU General Assembly 2009, Joint discussion 12
- **Schleicher**, D.R.G.; Spaans, M.; Klessen, R.S., 2009. "Detecting the first quasars with ALMA", in "Highlights of Astronomy", Vol. 14, Proceedings for the IAU General Assembly 2009, Joint discussion 14
- Greif, T. H.; **Schleicher**, D.R.G.; Johnson, J. L.; Jappsen, A.-K.; Klessen, R. S.; Clark, P. C.; Glover, S.C.O.; Stacy, A.; Bromm, V., 2008. "The formation of the first galaxies and the transition to low-mass star formation", IAU Symp., Vol. 255, p. 33-48
- **Schleicher**, D.R.G., 2008. "Supermassive black hole formation", in "Science and Supercomputing in Europe, report 2008", CINECA, Bologna, Italy, Editor: Silvia Monfardini
- **Schleicher**, D.R.G. & Camenzind, M., 2007. "Formation of the First Supermassive Black Holes in the Early Universe", in "High Performance Computing in Science and Engineering", Garching/Munich, Germany. Editors: S. Wagner, M. Steinmetz, A. Bode

Popular science publications

- **Schleicher**, D.R.G., 2015. ”Gibt es eine zweite Generation von Planeten”, Sterne und Weltraum, 08, 28
- **Schleicher**, D.R.G., 2006. ”Großwetterlage auf Titan: Permanenter Nieselregen ... mit gelegentlichen Wolkenbrüchen”, Sterne und Weltraum, 11, 12
- **Schleicher**, D.R.G., 2006. ”Wie Elliptische Galaxien Form annehmen”, Sterne und Weltraum, 10, 19
- **Schleicher**, D.R.G., 2006. ”Gammablitze als Standardkerzen. Dunkle Energie mit anziehender Wirkung?”, Sterne und Weltraum, 08, 19

Third-party funding

since 09/2014	DFG project ”The low-metallicity ISM: From high-redshift to the local Universe” (Banerjee, Bovino, Schleicher) in the DFG priority program 1573 ”The Physics of the Interstellar Medium”. 3-year postdoc position for Stefano Bovino plus 3-year PhD position, relocated to Hamburg Observatory after my move to Concepción
01/2012-12/2015	DFG project "MHD turbulence and the origin of supermassive black holes" (Schleicher & Niemeyer) in the Collaborative Research Center 963 ”Astrophysical Flow Instabilities and Turbulence”. Obtained funding: 1 postdoc position (four years)
09/2011-05/2015	DFG project "The low-metallicity ISM: Metal enrichment, chemistry, feedback and magnetic fields" (Schleicher, Banerjee & Klessen) in the DFG priority program 1573 ”The Physics of the Interstellar Medium”. Obtained funding: 1 postdoc position (three years) in Göttingen, 1 PhD position each in Hamburg and Heidelberg
09/2009-05/2011	ESO - ALMA Fellowship at Leiden Observatory
06/2009-05/2011	DFG project "Predicting star formation and metal enrichment in quasars for high-redshift ALMA observations” in the framework of the DFG priority program 1177 ”Witnesses of Cosmic History: Formation and evolution of black holes, galaxies and their environment" (formal PI: Ralf Klessen. Own contribution: proposal writing). Obtained funding: 1 postdoc position (two years)
11/2007-05/2009	LGFG stipend for PhD studies at the University of Heidelberg
10/2002-10/2007	Stipend for excellent students from the Bavarian state

Supercomputing time

since 01/2015	North-German Supercomputing Alliance (HLRN), project ”A priori and a posteriori testing of subgrid-scale closures in compressible MHD turbulence” (Grete, Vlaykov, Schmidt & Schleicher). CPU time: 100 kNPL (~ 2 million CPU hours)
since 10/2014	North-German Supercomputing Alliance (HLRN), project ”The first hundred supermassive black holes in the early Universe” (Latif, Schleicher, Schmidt & Niemeyer). CPU time: 100 kNPL (~ 2 million CPU hours)
since 10/2014	North-German Supercomputing Alliance (HLRN), project ”Formation of extremely metal-poor stars via dust-induced fragmentation” (Bovino, Schleicher, Latif & Grassi). CPU time: 100 kNPL (~ 2 million CPU hours)
03/2013-05/2014	PRACE project ”Dynamo Action in Compressible Turbulent Plasmas” (Federrath, Schober, Klessen, Girichidis, Banerjee, Schleicher). CPU time: 6.5 million CPU hours on SuperMUC
01/2013-09/2014	North-German Supercomputing Alliance (HLRN), project ”The formation of supermassive black holes in the early Universe” (Latif, Schleicher, Schmidt & Niemeyer). CPU time: 100 kNPL (~ 2 million CPU hours)
09/2012-06/2013	North-German Supercomputing Alliance (HLRN), project ”The formation of primordial stars and supermassive black holes in the early Universe” (Latif, Schleicher, Schmidt & Niemeyer). CPU time: 60 kNPL (~ 1.2 million CPU hours)
10/2010-10/2012	Jülich Supercomputing Centre (JSC), JUGENE, project "Exploring magnetic fields during primordial star formation with high resolution" (Banerjee, Schleicher, Sur, Federrath & Klessen). CPU time: 18 million CPU hours
10/2010-09/2011	LRZ Garching, project "Magnetic fields during the formation of the first stars in the Universe" (Sur, Schleicher, Banerjee, Federrath & Klessen). CPU time: 1.44 million CPU hours
03-04/2010	HPC Europa2, "Simulating the Central Regions of Active Galaxies at High Redshift" (Schleicher). CPU time: 50k CPU hours
2007-2010	LRZ Garching, project "Formation of the First Supermassive Black Holes in the Early Universe" (Schleicher & Camenzind). CPU time: 275k CPU hours

10-12/2007	HPC Europa, project "Supermassive Black Hole Formation" (Schleicher). CPU time: ca. 3k CPU hours. 10-12/2007

Organisation of workshops

KROME Computational School 2015

Website:	http://www.kromepackage.org/bootcamp/
Place & date:	Copenhagen, July 20-24 2015
Organisation:	S. Bovino, T. Grassi, T. Haugbolle, D. Schleicher
Funding:	STARPLAN Copenhagen, University of Copenhagen

KROME Computational School 2014

Website:	http://kromepackage.org/bootcamp/2014/
Place & date:	Göttingen, September 17-19 2014
Organisation:	S. Bovino, T. Grassi, D. Schleicher
Funding:	SPP 1573

Cosmic Magnetic Fields, Splinter meeting at the annual fall meeting of the ”Astronomische Gesellschaft” 2013

Website:	www.astro.physik.uni-goettingen.de/∼dschleic/cosmic_magnetic_fields.html
Place & date:	Tübingen, September 24 2013
Convenors:	R. Banerjee, R. Beck, D. Schleicher

The low-metallicity ISM: Chemistry, Turbulence and Magnetic Fields

Place & date:	Göttingen, Physics Faculty, October 8-12 2012
LOC:	S. Bovino, M. Latif, D. Schleicher, W. Schmidt
SOC:	R. Banerjee, R. Beck, S. Cazaux, C. Federrath, D. Galli, S. Glover, R. Klessen, F. Palla, D. Schleicher, W. Schmidt, R. Schneider, M. Spaans
Funding:	SPP 1573, SFB 963
Website:	http://low-met.uni-goettingen.de/

FLASH Workshop 2012

Place & date:	Hamburger Sternwarte, Feb. 15-16 2012
LOC/SOC:	R. Banerjee, D. Schleicher
Funding:	SFB 676
Website:	http://www.hs.uni-hamburg.de/DE/Ins/Flash-WS/index.html

Selected talks

03/2016	Invited plenary talk ”Structure Formation in the Early Universe’, XIII Annual Meeting of the Chilean Astronomical Society (SOCHIAS), Antofagasta, Chile
12/2015	Contributed talk ”Origin of stars and black holes at high redshift”, Korea-Chile workshop 2015, Santiago, Chile
07/2015	Invited talk ”Black hole formation via direct collapse: Successes and Problems”, Guillermo Haro Workshop "Formation and Fueling of Supermassive Black Hole Seeds" , Tonantzintla, Puebla, Mexico
05/2015	Invited talk ”Modeling chemistry in hydrodynamical simulations with KROME”, Workshop on Numerical Models and Simulations, Universidad Andres Bello, Santiago, Chile
03/2015	Contributed talk ”Black hole formation in the early Universe”, Unveiling the AGN/Galaxy Evolution Connection, Puerto Varas, Chile
01/2015	Invited seminar talk ”The chemical evolution in self-gravitating primordial disks”, IAP Paris, France
09/2014	Invited plenary talk ”Planet Formation in Post Common Envelope Binaries’ at the ”Herbsttagung der Astronomischen Gesellschaft 2014”, Bamberg
09/2014	Contributed talk ”Planets in post common envelope binaries”, Planet formation and evolution 2014, Kiel
08/2014	Invited seminar talk ”Star formation in the early Universe: Primordial stars, metal-poor stars and the progenitors of supermassive black holes”, Universidad de Concepcion
06/2014	Invited seminar talk ”Star formation in the early Universe”, School of Physics and Astronomy, Leeds
04/2014	Invited colloquium talk ”Magnetic fields and the origin of the far-infrared - radio correlation”, Victoria University of Wellington

03/2014	Invited seminar talk ”Origin of the first supermassive black holes”, Institute for Theoretical Physics and Astrophysics, Kiel
03/2014	Invited seminar talk ”Formation of the first supermassive black holes”, ENS, Paris
02/2014	Contributed talk ”The origin of high-redshift magnetic fields and the far-infrared-radio correlation”, German SKA Science Meeting, Bielefeld
02/2014	Invited colloquium talk ”High-redshift structure formation: From the first stars to the first supermassive black holes”, Astronomical Institute, Ruhr-Universität Bochum
10/2013	Contributed talk ”The far-infrared - radio correlation: Star formation and magnetic field amplification in the ISM”, conference on ”Physical Processes in the ISM”, MPE Garching
10/2013	Invited lecture ”Turbulence and magnetic fields during high-redshift structure formation”, conference on ”Astrophysical Turbulence: From Galaxies to Planets”, Dresden
06/2013	Contributed talk ”Black hole formation in the presence of high accretion rates”, Workshop ”Cosmic Dawn”, Ringberg castle
04/2013	Invited talk ”Structure formation in the early Universe” at the ISSI Bern Workshop ”Multiscale structure formation and dynamics in cosmic plasmas”, Bern, Switzerland
03/2013	Invited colloquium talk ”Black hole formation in the high-redshift Universe” at the Osservatorio Astrofisico di Arcetri, Florence, Italy
09/2012	Invited plenary talk ”Star formation and magnetic fields in the early Universe” at the ”Herbsttagung der Astronomischen Gesellschaft 2012”, Hamburg
05/2012	Invited colloquium talk ”Star formation in the early Universe”, Astrophysical colloquium, Hamburg Observatory
04/2012	Colloquium talk ”Die Physik des frühen Universums”, faculty of physics, Göttingen, Germany
03/2012	Contributed talk ”Turbulent magnetic field amplification in the first galaxies” at the conference ”Turbulence in Cosmic Structure Formation”, Tempe, Arizona
02/2012	Invited talk "The Chemistry during the Formation of the First Protogalaxies" at the FLASH Workshop 2012, Hamburg Observatory, Germany

08/2011	Invited talk "Magnetic Fields in the Epoch of Reionization and the First Galaxies" at the conference ”Magnetic Fields in the Universe III”, Zakopane, Poland
07/2011	Invited lecture "Magnetic fields in the Epoch of Reionization" at the Summer school "Magnetic Fields: From Star-forming Regions to Galaxy Clusters and Beyond" of the DFG research unit 1254, Ringberg castle, Germany
07/2011	Invited lecture "Star formation Now and Then: Impact of Magnetic Fields" at the Summer school "Magnetic Fields: From Star-forming Regions to Galaxy Clusters and Beyond" of the DFG research unit 1254, Ringberg castle, Germany
06/2011	Invited talk "Magnetic fields during the formation of the first stars and galaxies" at the ”First Galaxies Workshop”, Ringberg castle, Germany
11/2010	Contributed talk "The role of magnetic fields during primordial star formation" at the workshop Cosmic Radiation Fields, Hamburg
09/2010	Invited talk "Magnetic Fields during primordial star formation" at the IMPRS summer school *"First Stars and Cosmic Reionization"*, Heidelberg, Germany
09/2010	Invited colloquium talk "Dynamos during primordial star formation", Institut Astrophysique de Paris, Paris, France
06/2010	Contributed talk "The formation of seed black holes in the cosmic dark ages" at the ESO Workshop "Central massive objects", ESO, Garching, Germany
06/2010	Invited talk "Dynamos during primordial star formation" at the Kavli Institute for Particle Astrophysics and Cosmology, Stanford, USA
03/2010	Contributed talk "The formation of high-z black holes and future probes with ALMA" at the conference "The first galaxies", Austin, Texas
03/2010	Invited talk "Implications of magnetic fields for reionization and primordial star formation" at the ISSI Bern workshop *"Magnetic fields in the Universe"*, Bern, Switzerland
11/2009	Invited colloquium talk "Magnetic fields in the postrecombination universe", MPIfR, Bonn, Germany
06/2009	Contributed talk "Primordial Magnetic Fields: Influence on reionization and the first stars" at the conference ”Cosmological Magnetic Fields”, Ascona, Switzerland

Memberships in scientific organisations

- Member of the ”Sociedad Chilena de Astronomia” (SOCHIAS, Chilean Astronomical Socienty)
- Member of the ”Deutscher Hochschulverband” (DHV, German Association of University Professors and Lecturers)
- Member of the ”Deutsche Gesellschaft Juniorprofessur e.V.” (DGJ, German Association of Junior Professors)
- Member of the ”Deutsche Physikalische Gesellschaft” (German Physical Society)
- Member of the ”Astronomische Gesellschaft” (German Astronomical Society)

Teaching experience

Teaching at the Universidad de Concepciòn:

- March-June 2016:
  Cosmologìa / Cosmología Observacional (compulsary course, 5 hours per week):
  Lecturer: D. Schleicher
  Content: Friedmann equations, cosmological parameters, observational probes, inflation, inhomogeneous Universe, formation of structures
- August-November 2015:
  Cosmologìa Computacional (elective course, 2 hours per week):
  Lecturer: D. Schleicher
  Content: Numerical methods for computational cosmology, including N-body techniques, gravity solvers and hydrodynamics

I have taught the following lectures at the University of Göttingen from the winter semester 2011/12 to the winter semester 2014/15:

- WS 2014/15:
  - **Compact Objects in Astrophysics** (seminar, 2 hours per week):
    Lecturer: D. Schleicher
    Content: White dwarfs, neutron stars, black holes and their astrophysical applications
- SS 2014:
  - **Computational Physics** (lecture with tutorial, 4 hours per week):
    Lecturers: D. Schleicher, W. Schmidt
    Content: Numerical methods for physical applications
    Own contribution: 2 hours per week

  - **Advanced introduction to astrophysics, part 2** (lecture with tutorial, 2 hours per week):
    Lecturer: D. Schleicher
    Content: introduction to extragalactic astrophysics and cosmology

- WS 2013/14:
  - **Computational Cosmology** (lecture with tutorial, 4 hours per week):
    Lecturers: D. Schleicher, W. Schmidt
    Content: Numerical methods for cosmological simulations.
    Own contribution: 2 hours per week
  - **Advanced introduction to astro- and geophysics** (lecture with tutorial, 4 hours per week):
    Lecturers: K. Bahr, D. Schleicher
    Content: advanced introduction to astro- and geophysics
    Own contribution: main organization, introduction to astrophysics (2 hours per week).

- SS 2013:
  - **Computational Physics** (lecture with tutorial, 4 hours per week):
    Lecturers: D. Schleicher, W. Schmidt
    Content: advanced numerical methods (ODEs & PDEs)
    Own contribution: 2 SWS
  - **Advanced introduction to astrophysics, part 2** (lecture with tutorial, 2 hours per week):
    Lecturer: D. Schleicher
    Content: introduction to extragalactic astrophysics and cosmology

- WS 2012/13:
  - **Computational Cosmology** (lecture with tutorial, 4 hours per week):
    Lecturers: D. Schleicher, W. Schmidt
    Content: numerical methods for cosmological simulations
    Own contribution: 2 hours per week
  - **Advanced introduction to astro- and geophysics** (lecture, 4 hours per week):
    Lecturers: K. Bahr, D. Schleicher, A. Tilgner
    Content: advanced introduction to astro- and geophysics
    Own contribution: main organization, introduction to astrophysics (2 hours per week).

- SS 2012:
  - **Computational Physics** (lecture with tutorial, 4 hours per week):
    Lecturers: D. Schleicher, W. Schmidt
    Content: advanced numerical methods (ODEs & PDEs)
    Own contribution: 2 hours per week

  - **Introduction to Theoretical Astrophysics** (seminar, 2 hours per week):
    Lecturer: D. Schleicher
    Content: theoretical astrophysics

- WS 2011/12:
  - **Cosmological Structure Formation** (lecture, 2 hours per week):
    Lecturer: D. Schleicher
    Content: structure formation theory
  - **The origin and evolution of supermassive black holes** (seminar, 2 hours per week):
    Lecturer: D. Schleicher
    Content: models and probes for the evolution of supermassive black holes
  - **Advanced introduction to astro- and geophysics** (lecture, 4 hours per week):
    Lecturers: K. Bahr, T. Battefeld, V. Bothmer, S. Dreizler, L. Gizon, W. Glatzel, W. Kollatschny, A. Reiners, D. Schleicher, S. Schuh, F. Simpson, A. Tilgner
    Own contribution: 4 lectures on cosmic structure formation

- SS 2008:
  - **Tutorial for the lecture "Computational Physics"** (Prof. Dr. Rainer Spurzem & Prof. Dr. Ralf Klessen, Uni Heidelberg)

- SS 2007:
  - **Tutorial for the lecture "Statistical Physics"** (Prof. Dr. Christof Wetterich, Uni Heidelberg)

Supervision of students

PhD students

since 02/2014	Main supervisor of Philipp Grete at the Institute for Astrophysics, Göttingen. Topic: "Turbulent magnetic field amplification via the small-scale dynamo"
since 03/2013	Main supervisor of Caroline Van Borm (double-degree program, joint project with Prof. Marco Spaans, University of Groningen). Topic: "Black holes in young galaxies"
since 09/2011	Main supervisor of Stephanie Dörschner at the Institute for Astrophysics, Göttingen. Topic: "Black holes in circumnuclear accretion disks"
since 10/2012	Second supervisor of Jan Frederik Engels at the Institute for Astrophysics, Göttingen. Topic: "Hydrodynamical interactions of young galaxies with the intergalactic medium"

01/2012-10/2014	Second supervisor of Jennifer Schober at ZAH / ITA, Heidelberg. Topic: ”Turbulent magnetic field amplification in the early Universe”
10/2011-12/2014	Second supervisor of Christoph Behrens at the Institute for Astrophysics, Göttingen. Topic: ”Lyman Alpha emission on cosmological scales”
11/2011	Member of the examination committee for Dr. Seyit Hocuk, Kapteyn Astronomical Institute, Groningen. Topic: ”Star formation under extreme conditions”
09/2011	Member of the examination committee for Dr. Muhammad Abdul Latif, Kapteyn Astronomical Institute, Groningen. Topic: ”The formation of the first galaxies”

Bachelor / Master / diploma students

11/2013-01/2015	Main supervisor for the Master thesis (physics) of Kai Rodenbeck at the Institute for Astrophysics, Göttingen. Topic: ”Magnetic field amplification during galaxy mergers”
05-10/2014	Main supervisor for the Master thesis (Astromundus) of Paola Chamani at the Institute for Astrophysics, Göttingen. Topic: ”Star formation and accretion power of supermassive black holes in circumnuclear disks”
05-10/2014	Main supervisor for the Bachelor thesis (physics) of Felix Lemke at the Institute for Astrophysics, Göttingen. Topic: ”Evolution of supermassive primordial stars”
10/2013-07/2014	Main supervisor for the Master thesis (physics) of Tim Lichtenberg at the Institute for Astrophysics, Göttingen. Topic: ”Modeling Gravitational Instabilities in Compact and Massive Protoplanetary Disks with Adaptive Mesh Refinement Techniques”
05-12/2013	Main supervisor for the Master thesis (scientific computing) of Philipp Grete at the Institute for Astrophysics, Göttingen. Topic: ”Subgrid-scale models for cosmological magneto-hydrodynamical simulations”
09/2012-05/2013	Main supervisor for the Bachelor thesis (physics) of Philipp Grete at the Institute for Astrophysics, Göttingen. Topic: ”Simulations of cosmological magneto-hydrodynamics”
11/2011-09/2012	Main supervisor for the Master thesis (Astromundus) of Remudin Reshid Mekuria at the Institute for Astrophysics, Göttingen. Topic: ”Turbulence and magnetic fields in galaxy clusters”

03-08/2012	Main supervisor for the Bachelor thesis (physics) of Kai Rodenbeck at the Institute for Astrophysics, Göttingen. Topic: ”Magnetic fields in primordial disks”
06/2013-05/2014	Second supervisor for the Master thesis (physics) of Monika A. Ziebart at the Institute for Astrophysics, Göttingen. Topic: ”Influence of anisotropic emission of Lyman-α emitters on the statistic of galaxy surveys”
03-08/2013	Second supervisor for the Master thesis (Astromundus) of Cosmos Dumba at the Institute for Astrophysics, Göttingen. Topic: ”Probing the accretion disk winds in AGN”
05-09/2012	Second supervisor for the Master thesis (Astromundus) of Zahra Alvi at the Institute for Astrophysics, Göttingen. Topic: ”Growth of supermassive black holes on cosmological timescales”
11/2011-10/2012	Second supervisor for the Master thesis (physics) of Jan Frederik Engels at the Institute for Astrophysics, Göttingen. Topic: ”Modelling of massive neutrinos in simulations of the Lyman Alpha forest”
06/2011-03/2012	Second supervisor for the diploma thesis (physics) of Steffen Klemer at the Institute for Astrophysics, Göttingen. Topic: ”Non-Gaussian initial conditions in cosmological N-body simulations”

Public talks

02/2016	Public talk at ACUPARI, Cusco, Peru: ”El nacimiento de las primeras estrellas”
02/2015	Invited talk in the lecture series 2015 of the Astronomie Stiftung Trebur: ”Planeten in kompakten Binärsystemen: Überleben und Neuentstehung beim Tod eines Sterns”
01/2015	Invited talk in the lecture series ”Wissenschaft allgemeinverständlich” at the Hildesheimer Gesellschaft für Astronomie e.V.: ”Die Geburt der ersten Sterne”
09/2013	Public talk at the Institute for Astrophysics, Göttingen: ”Der Ursprung supermassereicher Schwarzer Löcher”
01/2013	Invited public talk in the lecture series ”Faszinierendes Weltall” (Förderkreis Planetarium Göttingen e.V.): ”Dunkle Materie und die Entstehung der ersten kosmischen Strukturen”
11/2012	Public talk at the ”Nacht des Wissens 2012”: ”Nobelpreis für Physik 2011: Vom Urknall zur beschleunigten Expansion des Universums”

04/2012	Public talk at the National Astronomy Day in Göttingen: ”Schwarze Löcher im frühen Universum”
01/2012	Invited colloquium talk at the HAWK Fachhochschule Göttingen: ”Nobelpreis 2011: Vom Urknall zur beschleunigten Expansion des Universums”
11/2011	Bier & Brezel talk at the Faculty of Physics, Göttingen: ”Strukturentstehung im frühen Universum: Vom Urknall zu den ersten Sternen und Galaxien”
09/2011	Public talk at the Institute for Astrophysics, Göttingen: ”Magnetfelder im frühen Universum”

Concepción, March 14 2016

Dominik Schleicher