

# List of publications

The five most important publications are indicated by a preceding (!).

1. C. Feller, A. Pommerol, A. Lethuillier, B. Gundlach, N. Hänni, B. Hänni, N. Jäggi, M. Kaminek, and the CoPhyLab Team. *Spectro-photometric properties of CoPhyLab's dust mixtures*. Mon. Not. R. Astron. Soc. (2023) under revision.
2. (!) N. Hänni, K. Altwegg, D. Baklouti, M. Combi, S. A. Fuselier, J. De Keyser, D. R. Müller, M. Rubin, and S. F. Wampfler. *Oxygen-bearing organic molecules in comet 67P's dusty coma: first evidence for abundant heterocycles*. Astron. Astroph. (2023) accepted.
3. A. Mahjoub, K. Altwegg, M. J. Poston, M. Rubin, R. Hodyss, M. Choukroun, B. L. Ehlmann, N. Hänni, M. E. Brown, J. Blacksberg, J. M. Eiler, and K. P. Hand. *Complex organosulfur molecules on comet 67P: Evidence from the ROSINA measurements and insights from laboratory simulations*. Sci. Adv. (2023) 9, eadh0394;  
<https://doi.org/10.1126/sciadv.adh0394>.
4. B. Pestoni, K. Altwegg, V. Della Corte, N. Hänni, A. Longobardo, D. R. Müller, A. Rotundi, M. Rubin, and S. Wampfler. *Multi-instrument analysis of 67P/Churyumov-Gerasimenko coma particles: COPS-GIADA data fusion*. Astron. Astroph. (2023) 671, A168;  
<https://doi.org/10.1051/0004-6361/202245279>.
5. (!) N. Hänni, K. Altwegg, M. Combi, S. A. Fuselier, J. De Keyser, M. Rubin, and S. F. Wampfler. *Identification and characterization of a new ensemble of cometary organic molecules*. Nat. Commun. (2022) 13, 3639;  
<https://doi.org/10.1038/s41467-022-31346-9>.
6. D. R. Müller, K. Altwegg, J. J. Berthelier, M. Combi, J. De Keyser, S. A. Fuselier, N. Hänni, B. Pestoni, M. Rubin, I. R. H. G. Schroeder I, and S. F. Wampfler. *High D/H ratios in water and alkanes in comet 67P/Churyumov-Gerasimenko measured with the Rosetta/ROSINA DFMS*. Astron. Astroph. (2022) 662, A69;  
<https://doi.org/10.1051/0004-6361/202142922>.
7. K. Altwegg, M. Combi, S. A. Fuselier, N. Hänni, J. De Keyser, A. Mahjoub, D. R. Müller, B. Pestoni, M. Rubin, and S. F. Wampfler. *Abundant ammonium hydrosulphide embedded in cometary dust grains*. Mon. Not. R. Astron. Soc. (2022) 516, 3900-3910;  
<https://doi.org/10.1093/mnras/stac2440>.

8. A. Lethuillier, C. Feller, E. Kaufmann, P. Becerra, [N. Hänni](#), R. Diethelm, C. Kreuzig, B. Gundlach, J. Blum, A. Pommerol, G. Kargl, S. Laddha, K. Denisova, E. Kührt, H. Capelo, D. Haack, X. Zhang, J. Knollenberg, N. S. Molinski, T. Gilke, H. Sierks, P. Tiefenbacher, C. Güttler, K. A. Otto, D. Bischoff, M. Schweighart, A. Hagermann, and N. Jäggi. *Cometary dust analogues for physics experiments*. Mon. Not. R. Astron. Soc. (2022) 515, 3, 3420-3438;  
<https://doi.org/10.1093/mnras/stac1734>.
9. M. Rubin, K. Altwegg, J.-J. Berthelier, M. R. Combi, J. De Keyser, F. Dhooghe, S. Fuselier, T. I. Gombosi, [N. Hänni](#), D. Müller, B. Pestoni, S. F. Wampfler, and P. Wurz. *Refractory elements in the gas phase for comet 67P/Churyumov-Gerasimenko – Possible release of atomic Na, Si, and Fe from nanograins*. Astron. Astroph. (2022) 658, A87;  
<https://doi.org/10.1051/0004-6361/202142209>.
10. C. Kreuzig, G. Kargl, A. Pommerol, J. Knollenberg, A. Lethuillier, N. S. Molinski, T. Gilke, D. Bischoff, C. Feller, E. Kührt, H. Sierks, [N. Hänni](#), H. Capelo, C. Güttler, D. Haack, K. Otto, E. Kaufmann, M. Schweighart, W. Macher, P. Tiefenbacher, B. Gundlach, and J. Blum. *The CoPhy-Lab comet-simulation chamber*. Rev. Sci. Inst. (2021) 92, 115102.  
<https://doi.org/10.1063/5.0057030>.
11. B. Pestoni, K. Altwegg, H. Balsiger, [N. Hänni](#), M. Rubin, I. Schroeder, M. Schuhmann, and S. Wampfler. *Detection of volatiles undergoing sublimation from 67P/Churyumov-Gerasimenko coma particles using ROSINA/COPS. II. The nude gauge*. Astron. Astroph. (2021) 651, A26;  
<https://doi.org/10.1051/0004-6361/202140634>.
12. B. Pestoni, K. Altwegg, H. Balsiger, [N. Hänni](#), M. Rubin, I. Schroeder, M. Schuhmann, and S. F. Wampfler. *Detection of volatiles undergoing sublimation from 67P/Churyumov-Gerasimenko coma particles using ROSINA/COPS. I. The ram gauge*. Astron. Astroph. (2021) 645, A38;  
<https://doi.org/10.1051/0004-6361/202039130>.
13. (!) [N. Hänni](#), K. Altwegg, H. Balsiger, M. Combi, S. A. Fuselier, J. De Keyser, B. Pestoni, M. Rubin, and S. F. Wampfler. *Cyanogen, cyanoacetylene, and acetonitrile in comet 67P and their relation to the cyano radical*. Astron. Astroph. (2021) 647, A22;  
<https://doi.org/10.1051/0004-6361/202039580>.
14. [N. Hänni](#), D. Sheptyakov, U. Stuhr, L. Keller, M. Medarde, A. Cervellino, L.-P. Regnault, E. Hirtenlechner, M. Mena, K. W. Krämer, B. Normand, and C. Rüegg. *Magnetic order in the quasi-one-dimensional Ising system RbCoCl<sub>3</sub>*. Phys. Rev. B (2021) 103, 094424;  
<https://doi.org/10.1103/PhysRevB.103.094424>.
15. K. Altwegg, H. Balsiger, M. Combi, J. De Keyser, M. N. Drozdovskaya, S. A. Fuselier, T. I. Gombosi, [N. Hänni](#), M. Rubin, M. Schuhmann, I. Schroeder, and S. F. Wampfler. *Molecule dependent oxygen isotopic ratios in the coma of comet 67P/Churyumov-Gerasimenko*. Mon. Not. R. Astron. Soc. (2020) 498, 4, 5855-5862;  
<https://doi.org/10.1093/mnras/staa2701>.

16. (!) [N. Hänni](#), K. Altwegg, B. Pestoni, M. Rubin, I. Schroeder, M. Schuhmann, and S. Wampfler. *First in-situ detection of the CN radical in comets and evidence for a distributed source*. Mon. Not. R. Astron. Soc. (2020) 498, 2, 2239-2248;  
<https://doi.org/10.1093/mnras/staa2387>.
17. (!) K. Altwegg, H. Balsiger, [N. Hänni](#), M. Rubin, M. Schuhmann, I. Schroeder, T. Sémon, S. Wampfler, J.-J. Berthelier, C. Briois, M. Combi, T. I. Gombosi, H. Cottin, J. De Keyser, F. Dhooche, B. Fiethe, and S. A. Fuselier. *Evidence of ammonium salts in comet 67P as explanation for the nitrogen depletion in cometary comae*. Nat. Astron. (2020) 4, 533-540;  
<https://doi.org/10.1038/s41550-019-0991-9>.
18. M. Mena, [N. Hänni](#), S. Ward, E. Hirtenlechner, R. Bewley, C. Hubig, U. Schollwöck, B. Normand, K.W. Krämer, D. F. McMorro, and Ch. Rüegg. *Thermal control of spin excitations in the coupled Ising-chain material RbCoCl<sub>3</sub>*. Phys. Rev. Lett. (2020) 124, 257201;  
<https://doi.org/10.1103/PhysRevLett.124.257201>.
19. [N. Hänni](#), S. Gasc, A. Etter, M. Schuhmann, I. Schroeder, S. Wampfler, S. Schürch, M. Rubin, and K. Altwegg. *Ammonium salts as a source of small molecules observed with high-resolution electron-impact ionization mass spectrometry*. J. Phys. Chem. A (2019) 123, 5805-5814;  
<https://doi.org/10.1021/acs.jpca.9b03534>.
20. M. Rubin, K. Altwegg, H. Balsiger, J.-J. Berthelier, M. R. Combi, J. De Keyser, M. Drozdovskaya, B. Fiethe, S. A. Fuselier, S. Gasc, T. I. Gombosi, [N. Hänni](#), K. C. Hansen, U. Mall, H. Rème, I. R. H. G. Schroeder, M. Schuhmann, T. Sémon, J. H. Waite, S. F. Wampfler, and P. Würz. *Elemental and molecular abundances in comet 67P/Churyumov-Gerasimenko*. Mon. Not. R. Astron. Soc. (2019) 489, 594-607;  
<https://doi.org/10.1093/mnras/stz2086>.
21. M. Schuhmann, K. Altwegg, H. Balsiger, J.-J. Berthelier, J. De Keyser, S. A. Fuselier, S. Gasc, T. I. Gombosi, [N. Hänni](#), M. Rubin, T. Sémon, C.-Y. Tzou, and S. F. Wampfler. *CHO-bearing molecules in comet 67P/Churyumov-Gerasimenko*. ACS Earth Space Chem. (2019) 3, 9, 1854-1861;  
<https://doi.org/10.1021/acsearthspacechem.9b00094>.
22. M. Schuhmann, K. Altwegg, H. Balsiger, J.-J. Berthelier, J. De Keyser, B. Fiethe, S. A. Fuselier, S. Gasc, T. I. Gombosi, [N. Hänni](#), M. Rubin, C.-Y. Tzou, and S. F. Wampfler. *Aliphatic and aromatic hydrocarbons in comet 67P/Churyumov-Gerasimenko seen by ROSINA*. Astron. Astrophys. (2019) 630, A31;  
<https://doi.org/10.1051/0004-6361/201834666>.
23. [N. Hänni](#), M. Frontzek, J. Hauser, D. Cheptiakov, and K. Krämer. *Low temperature phases of Na<sub>2</sub>Ti<sub>3</sub>Cl<sub>8</sub> revisited*. Z. Anorg. Allg. Chem. (2017) 643, 2063-2069;  
<https://doi.org/10.1002/zaac.201700331>.

# List of courses taught

1. 2022 -  
*Planetenphysik Vorlesung* (cover lecturer; one double-lesson per lecture cycle)  
Physics Institute, University of Bern
2. 2021  
*Physik I: Übungen* (tutor)  
Physics Institute, University of Bern
3. 2019 - 2020  
*Physik II: Übungen* (tutor)  
Physics Institute, University of Bern
4. 2018 -  
*Advanced Lab-Course: Modern Physics* (assistant; mass spectrometry experiment)  
Physics Institute, University of Bern
5. 2018 - 2019  
*Chemie und Biochemie* (PHBern trainee; ca. 50 lessons)  
Gymnasium Lerbermatt, Köniz
6. 2018  
*Chemie und Biochemie* (PHBern trainee; ca. 20 lessons)  
Gymnasium Kirchenfeld, Bern
7. 2012 - 2015  
*Allgemeine Chemie I: Labor* (assistant)  
Dept. of Chemistry and Biochemistry, University of Bern
8. 2012 - 2013  
*Chemie und Biochemie* (cover teacher; ca. 10 lessons)  
Seeland Gymnasium Biel/Bienne

# List of third party funding

1. *SNSF AGORA Grant (2023):*

Dr. Daniel Probst from EPFL proposed a project where I am taking the role of a scientific advisor. The aim of the project is a Planetarium movie plus a VR experience that shows the chemical aspects of life, including origin and evolution – starting with molecule formation in the interstellar medium and comets that deliver prebiotic organics to the early Earth through impacts.

2. *UniBE Initiator Grant (2021):*

For writing an SNSF Ambizione application.

# List of public outreach activities

1. Press release on 5 July 2022 related to my *Nature Communications* article on cometary complex organics:  
I wrote the press release text together with the media division and helped to create the graphical material for the release. The press release text can be found [here](#).
2. *Globi im Weltall* (Globi-Verlag; Orell Füssli Kinderbuch 2) – non-fiction children’s book by A. Bieri:  
I gave Mr. Bieri an extensive lab tour and discussed with him possible content in August 2021. More information about the book is available from [here](#).
3. *SRF Einstein: Frauen in der Astrophysik* (SRF1, 11 February 2021, approx. 35min, German):  
I gave an interview on my dual role as mother and female academic researcher on postdoctoral level in a special feature celebrating the *International day of girls and women in science*. The feature is available from [here](#).
4. Press release on 20 January 2020 related to our *Nature Astronomy* article on ammonium salts on a comet:  
I assisted writing the press release text and was contact person for the release. The press release text can be found [here](#).
5. Individual visits of school children or class visits:  
Since 2018, I am recurrently organizing and supervising visits of school kids or visiting school classes with the aim to introduce space research at the University of Bern and answer questions regarding the diverse educational background of people working in this division of the Physics Institute.
6. *Bern im All* (50<sup>th</sup> anniversary of the Moon landing):  
In July 2019, I participated in the conception and supervision of a public astrochemistry stand on the Bundesplatz and in the supervision of "Making comets" with school children.
7. *Nacht der Forschung* an der Universität Bern:  
Since 2014, I am participating in public booths during this recurrent event.
8. *Tag der offenen Tür* am Departement für Chemie und Biochemie der Universität Bern:  
I helped to organize and supervise a public stand on 18 June 2011.

# List of further academic activities

1. Session proposal for *EGU 2024*:

As main convener, I am proposing a session entitled *Emergence, chemistry, and evolution of organic matter in the Solar System* at the *European Geoscience Union* scheduled for April 2024 in Vienna. My co-convener team consists of: Dr. Niels Ligterink (University of Bern, Switzerland), Dr. Cecile Engrand (Institut National de Physique Nucléaire et de Physique des Particules, France), Dr. Kelly Miller (South West Research Institute, USA), and Dr. Fabian Klenner (University of Washington, USA).