

## Personal Information

Benjamin Jäger  
Department of Mathematics and Computer Science  
Department of Mathematics and Computer Science  
Computational Science  
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## Qualifications

Physics, PhD, Hadronic Matrix Elements in Lattice QCD , Johannes Gutenberg University  
2010 → 2013  
Award Date: 12. May 2014

## Employment

**VIP**  
Department of Mathematics and Computer Science  
Odense M  
1. Feb 2022 → present

### Department of Mathematics and Computer Science

Odense M  
1. Jul 2023 → present

### Associate Professor

Computational Science  
1. Jul 2023 → present

### VIP

DIAS  
7. Jun 2024 → present

## Research outputs

**Reconstructed (charm) baryon methods at finite temperature on anisotropic lattices**  
the FASTSUM collaboration, 6. Nov 2024, In: Proceedings of Science. 453, 9 p., 199.

**Non-zero temperature study of spin 1/2 charmed baryons using lattice gauge theory**  
Aarts, G., Allton, C., Anwar, M. N., Bignell, R., Burns, T. J., Jäger, B. & Skullerud, J. I., Mar 2024, In: European Physical Journal A. 60, 3, 17 p., 59.

**Towards the super Yang-Mills spectrum at large  $N_c$**   
Morte, M. D., Jäger, B., Martins, S., Tsang, J. T. & Ziegler, F. P. G., 2024, In: P o S - Proceedings of Science. 453, 9 p., 101.

**Spectrum of QCD with one flavor: A window for supersymmetric dynamics**  
Della Morte, M., Jäger, B., Sannino, F., Tsang, J. T. & Ziegler, F. P. G., 1. Jun 2023, In: Physical Review D. 107, 11, 17 p., 114506.

### **Charm baryons at finite temperature on anisotropic lattices**

Bignell, R., Aarts, G., Allton, C., Anwar, M. N., Burns, T. J. & Jäger, B., 6. Apr 2023, In: Proceedings of Science. 430, 10 p., 170.

### **Exploring the large- $N_c$ limit with one quark flavour**

Morte, M. D., Jäger, B., Martins, S., Sannino, F., Tsang, J. T. & Ziegler, F. P. G., 6. Apr 2023, In: P o S - Proceedings of Science. 430, 9 p., 212.

### **Recent Results from the FASTSUM Collaboration**

Allton, C., Aarts, G., Bignell, R., Burns, T., Chaves, S., Hands, S., Jäger, B., Kim, S., Lombardo, M. P., Page, B., Ryan, S. M., Skullerud, J. I., Spriggs, T. & the FASTSUM collaboration, 6. Apr 2023, In: Proceedings of Science. 430, 9 p., 198.

### **The spectrum of QCD with one flavour: A Window for Supersymmetric Dynamics**

Morte, M. D., Jäger, B., Sannino, F., Tsang, J. T. & Ziegler, F. P. G., 21. Feb 2023, (Submitted) In: Physical Review D.

### **Bottomonium spectral widths at nonzero temperature using maximum likelihood**

Spriggs, T., Aarts, G., Allton, C., Burns, T., Jäger, B., Kim, S., Lombardo, M. P., Offler, S., Page, B., Ryan, S. M. & Skullerud, J. I., 8. Jul 2022, In: Proceedings of Science. 396, 077.

### **Meson thermal masses at different temperatures**

García-Masaraque, S. C., Aarts, G., Allton, C., Burns, T., Hands, S. & Jäger, B., 8. Jul 2022, In: Proceedings of Science. 396, 523.

### **One Flavour QCD as an analogue computer for SUSY**

Morte, M. D., Jäger, B., Sannino, F., Tsang, J. T. & Ziegler, F. P. G., 8. Jul 2022, In: P o S - Proceedings of Science. 396, 225.

### **Reconstruction of bottomonium spectral functions in thermal QCD using Kernel Ridge Regression**

Offler, S., Aarts, G., Allton, C., Jäger, B., Kim, S., Lombardo, M. P., Page, B., Ryan, S. M., Skullerud, J. I. & Spriggs, T., 8. Jul 2022, In: Proceedings of Science. 396, 509.

### **Spectral reconstruction in NRQCD via the Backus-Gilbert method**

Page, B., Aarts, G., Allton, C., Jäger, B., Kim, S., Lombardo, M. P., Offler, S., Ryan, S. M., Skullerud, J. I. & Spriggs, T., 8. Jul 2022, In: Proceedings of Science. 396, 134.

### **With complex Langevin towards the QCD phase diagram**

Attanasio, F., Jäger, B. & Ziegler, F. P. G., 8. Jul 2022, In: Proceedings of Science. 396, 137.

### **Lattice QCD at nonzero temperature and density**

Aarts, G., Allton, C., Hands, S., Jäger, B., Kim, S., Lombardo, M. P., Nikolaev, A. A., Ryan, S. M. & Skullerud, J. I., 28. Mar 2022, In: Journal of Physics: Conference Series. 2207, 012055.

### **Properties of the QCD thermal transition with Formula Presented flavors of Wilson quark**

Aarts, G., Allton, C., Glesaaen, J., Hands, S., Jäger, B., Kim, S., Lombardo, M. P., Nikolaev, A. A., Ryan, S. M., Skullerud, J. I. & Wu, L. K., 1. Feb 2022, In: Physical Review D. 105, 3, 12 p., 034504.

### **A comparison of spectral reconstruction methods applied to non-zero temperature NRQCD meson correlation functions**

Spriggs, T., Aarts, G., Allton, C., Burns, T., D'Arcy, R. H., Jäger, B., Kim, S., Lombardo, M.-P., Offler, S., Page, B., Ryan, S. M. & Skullerud, J.-I., Jan 2022, In: EPJ Web of Conferences. 258, 8 p., 05011.

### **Equation of state from complex Langevin simulations**

Attanasio, F., Jäger, B. & Ziegler, F. P. G., 2022, In: EPJ Web of Conferences. 274, 05012.

### **Hadrons at high temperature: An update from the FASTSUM collaboration**

Skullerud, J.-I., Aarts, G., Allton, C., Anwar, M. N., Bignell, R., Burns, T., Chaves García-Mascaraque, S., Hands, S., Horohan D'Arcy, R., Jäger, B., Kim, S., Lombardo, M. P., Murphy, E., Offler, S., Page, B., Ryan, S. M., Spriggs, T., Stasiak, D. & Ziegler, F. P. G., 2022, In: EPJ Web of Conferences. 274, 8 p., 05011.

### **Mesonic correlators at non-zero baryon chemical potential**

Nikolaev, A., Aarts, G., Allton, C., de Boni, D., Glesaaen, J., Hands, S., Jäger, B., Skullerud, J. I. & Wu, L. K., Aug 2020, In: Proceedings of Science. 363, 7 p., 077.

### **News from bottomonium spectral functions in thermal QCD**

Offler, S., Aarts, G., Allton, C., Glesaaen, J., Jäger, B., Kim, S., Lombardo, M. P., Ryan, S. M. & Skullerud, J. I., Aug 2020, In: Proceedings of Science. 363, 7 p., 076.

### **Spectral quantities in thermal QCD: A progress report from the FASTSUM collaboration**

Aarts, G., Allton, C., Glesaaen, J., Hands, S., Nikolaev, A., Jäger, B., Kim, S., Lombardo, M. P., Ryan, S. M., Skullerud, J. & Wu, L. K., Aug 2020, In: Proceedings of Science. 363, 7 p., 075.

### **Complex Langevin simulations and the QCD phase diagram: recent developments**

Attanasio, F., Jäger, B. & Ziegler, F. P. G., 2020, In: The European Physical Journal A. 56, 7 p., 251.

### **Hyperons in Thermal QCD from the Lattice**

Aarts, G., Allton, C., de Boni, D., Glesaaen, J., Hands, S., Jäger, B. & Skullerud, J. I., 2020, *The XVIII International Conference on Strangeness in Quark Matter (SQM 2019)*. Elia, D., Bruno, G. E., Colangelo, P. & Cosmai, L. (eds.). Springer Science+Business Media, p. 29-35 (Springer Proceedings in Physics, Vol. 250).

### **Quantum Kate - a model for physics outreach**

Jäger, B., Gregersen, S., Pica, C. & Sannino, F., 29. May 2019, In: P o S - Proceedings of Science. 334, 5 p., 327.

### **Hyperons in thermal QCD: A lattice view**

Aarts, G., Allton, C., De Boni, D. & Jäger, B., 1. Apr 2019, In: Physical Review D. 99, 7, 9 p., 074503.

### **Dynamical stabilisation of complex Langevin simulations of QCD**

Attanasio, F. & Jäger, B., Jan 2019, In: The European Physical Journal C. 79, 1, 11 p., 16.

### **Isovector axial form factors of the nucleon in two-flavor lattice QCD**

Stefano, C., Della Morte, M., Djukanovic, D., von Hippel, G., Hua, J., Jager, B., Junnarkar, Meyer, H., Rae, T. & Wittig, H., 2019, In: International Journal of Modern Physics A (IJMPA). 34, 2, 27 p., 1950009.

### **Hadronic spectrum calculations in the quark-gluon plasma**

Aarts, G., Allton, C., Glesaaen, J., Hands, S., Jäger, B. & Skullerud, J., 19. Dec 2018, In: P o S - Proceedings of Science. 334, 7 p.

### **Taylor expansion and the Cauchy Residue Theorem for finite-density QCD**

Forcrand, P. D. & Jäger, B., 3. Dec 2018, In: P o S - Proceedings of Science. 334, 6 p.

### **Stabilising complex Langevin simulations**

Attanasio, F. & Jäger, B., 30. Oct 2018, In: P o S - Proceedings of Science. 334, 7 p.

### **A lattice calculation of the hadronic vacuum polarization contribution to $(g-2)_\mu$**

Della Morte, M., Francis, A., Gerardin, A., Gulpers, V., Gregorio, H., von Hippel, G., Horch, H., Jager, B., Meyer, H., Nyffeler, A. & Wittig, H., 26. Mar 2018, In: EPJ Web of Conferences. 175, 8 p., 06031.

### **Alternatives to the stochastic "noise vector" approach**

Forcrand, P. D. & Jaeger, B., 26. Mar 2018, In: EPJ Web of Conferences. 175, 8 p., 14022.

**Improved convergence of Complex Langevin simulations**

Attanasio, F. & Jäger, B., 26. Mar 2018, In: EPJ Web of Conferences. 175, 7 p., 07039.

**Medium effects and parity doubling of hyperons across the deconfinement phase transition**

Aarts, G., Allton, C., Boni, D. D., Hands, S., Jäger, B., Praki, C. & Skullerud, J.-I., 26. Mar 2018, In: EPJ Web of Conferences. 175, 8 p., 07016.

**Baryons in the plasma: in-medium effects and parity doubling**

Aarts, G., Allton, C., Boni, D. D., Hands, S., Jäger, B., Praki, C. & Skullerud, J.-I., 2. Feb 2018, In: EPJ Web of Conferences. 171, 4 p., 14005.

**Light baryons below and above the deconfinement transition: medium effects and parity doubling**

Aarts, G., Allton, C., Boni, D. D., Hands, S., Jäger, B., Praki, C. & Skullerud, J.-I., 27. Mar 2017, In: Journal of High Energy Physics. 2017, 6, 34.

**Parity doubling of nucleons, Delta and Omega baryons across the deconfinement phase transition**

Aarts, G., Allton, C., Boni, D. D., Hands, S., Jäger, B., Praki, C. & Skullerud, J.-I., 22. Mar 2017, In: EPJ Web of Conferences. 137, 8 p., 07004.

**Anomalous magnetic moment of the muon, a hybrid approach**

Dominguez, C. A., Horch, H., Jäger, B., Nasrallah, N. F., Schilcher, K., Spiesberger, H. & Wittig, H., 2017, In: Physical Review D. 96, 7, 8 p., 074016.

**The hadronic vacuum polarization contribution to the muon  $g - 2$  from lattice QCD**

Della Morte, M., Francis, A., Gulpers, V., Gregorio, H., von Hippel, G., Hanno, H., Jager, B., Meyer, H., Nyffeler, A. & Wittig, H., 2017, In: Journal of High Energy Physics. 2017, 10, 44 p., 20.

**Testing dynamic stabilisation in complex Langevin simulations**

Attanasio, F. & Jäger, B., 28. Oct 2016, In: P o S - Proceedings of Science. 256, 7 p.

**Parity doubling of nucleons and Delta baryons across the deconfinement phase transition**

Aarts, G., Allton, C., Boni, D. D., Hands, S., Jaeger, B., Praki, C. & Skullerud, J.-I., 24. Oct 2016, In: P o S - Proceedings of Science. 256

**Results on the heavy-dense QCD phase diagram using complex Langevin**

Aarts, G., Attanasio, F., Jäger, B. & Sexty, D., 14. Oct 2016, In: P o S - Proceedings of Science. 256

**The QCD phase diagram in the limit of heavy quarks using complex Langevin dynamics**

Aarts, G., Attanasio, F., Jäger, B. & Sexty, D., Sept 2016, In: Journal of High Energy Physics. 2016, 9, 87.

**Complex Langevin in Lattice QCD: dynamic stabilisation and the phase diagram**

Aarts, G., Attanasio, F., Jäger, B. & Sexty, D., 19. Jul 2016, In: Acta Physica Polonica B Proceedings Supplement. 9, 3, p. 621-626

**Finite Temperature Lattice QCD: Baryons in the Quark-Gluon Plasma**

Aarts, G., Allton, C., Boni, D. D., Hands, S., Jäger, B., Praki, C. & Skullerud, J.-I., 18. Jul 2016, In: Acta Physica Polonica B Proceedings Supplement. 9, 3, p. 441-446

**Charge transport and vector meson dissociation across the thermal phase transition in lattice QCD with two light quark flavors**

Brandt, B. B., Francis, A., Jäger, B. & Meyer, H. B., 1. Mar 2016, In: Physical Review D. 93, 5, 054510.

**Study of the hadronic contributions to the running of the QED coupling and the weak mixing angle**

Francis, A., Gülpers, V., Herdoiza, G., Horch, H., Jäger, B., Meyer, H. B. & Wittig, H., 15. Nov 2015, In: P o S - Proceedings of Science. 251, 110.

**Insights into the heavy dense QCD phase diagram using Complex Langevin simulations**

Aarts, G., Attanasio, F., Jäger, B., Seiler, E., Sexty, D. & Stamatescu, I.-O., 30. Oct 2015, In: P o S - Proceedings of Science.

**Towards the heavy dense QCD phase diagram using Complex Langevin simulations**

Aarts, G., Attanasio, F., Jäger, B., Seiler, E., Sexty, D. & Stamatescu, I.-O., 30. Oct 2015, In: P o S - Proceedings of Science. 14-18-July-2015, 154.

**Probing parity doubling in nucleons at high temperature**

Aarts, G., Allton, C., Hands, S., Jäger, B., Praki, C. & Skullerud, J.-I., 14. Oct 2015, In: P o S - Proceedings of Science.

**Study of the anomalous magnetic moment of the muon computed from the Adler function**

Morte, M. D., Francis, A., Herdoiza, G., Horch, H., Jäger, B., Jüttner, A., Meyer, H. & Wittig, H., 21. May 2015, In: P o S - Proceedings of Science. 214

**The hadronic vacuum polarization function with  $O(a)$ -improved Wilson fermions -An update**

Della Morte, M., Herdoiza, G., Horch, H., Jäger, B., Meyer, H. & Wittig, H., 2015, In: Proceedings of Science. 14-18-July-2015, 111.

**Computing the Adler function from the vacuum polarization function**

Horch, H., Morte, M. D., Herdoiza, G., Jäger, B., Jüttner, A. & Wittig, H., 27. Nov 2013, In: P o S - Proceedings of Science. 7 p.

**A high-statistics study of the nucleon EM form factors, axial charge and quark momentum fraction**

Jäger, B., Rae, T. D., Capitani, S., Morte, M. D., Djukanovic, D., Hippel, G. V., Knippschild, B., Meyer, H. B. & Wittig, H., 22. Nov 2013, In: P o S - Proceedings of Science. 13 p., 272.

**Excited state systematics in extracting nucleon electromagnetic form factors**

Capitani, S., Morte, M. D., Hippel, G. V., Jäger, B., Knippschild, B., Meyer, H. B., Rae, T. D. & Wittig, H., 6. Nov 2012, In: P o S - Proceedings of Science.

**Improved interpolating fields for hadrons at non-vanishing momentum**

Morte, M. D., Jäger, B., Rae, T. D. & Wittig, H., 6. Nov 2012, In: Proceedings of Science.

**Lattice calculations of the leading hadronic contribution to  $(g-2)_\mu$**

Morte, M. D., Jäger, B., Jüttner, A. & Wittig, H., 6. Nov 2012, In: P o S - Proceedings of Science.

**Improved interpolating fields for hadrons at non-zero momentum**

Morte, M. D., Jaeger, B., Rae, T. & Wittig, H., 1. Aug 2012, In: The European Physical Journal A. 48, 139.

**The nucleon axial charge from lattice QCD with controlled errors**

Capitani, S., Morte, M. D., Hippel, G. V., Jäger, B., Jüttner, A., Knippschild, B., Meyer, H. B. & Wittig, H., 1. May 2012, In: Physical Review D. 86, 074502.

**Excited state systematics in extracting nucleon electromagnetic form factors from the lattice**

Capitani, S., Della Morte, M., Von Hippel, G., Jäger, B., Knippschild, B., Meyer, H. B., Rae, T. D. & Wittig, H., 2012, In: Proceedings of Science.

Towards a precise lattice determination of the leading hadronic contribution to  $(g-2)_\mu$   
Morte, M. D., Jäger, B., Jüttner, A. & Wittig, H., 2012, In: Journal of High Energy Physics. 2012, 55.

Lattice Determination of the Anomalous Magnetic Moment of the Muon  
Morte, M. D., Jäger, B., Jüttner, A. & Wittig, H., 9. Nov 2011, In: P o S - Proceedings of Science. 161

The leading hadronic vacuum polarisation on the lattice  
Morte, M. D., Jager, B., Juttner, A. & Wittig, H., 2011, In: AIP Conference Proceedings. 1343, 1, 337.

Wilson fermions at fine lattice spacings: Scale setting, pion form factors and  $(g-2)_\mu$   
Brandt, B. B., Capitani, S., Djukanovic, D., Von Hippel, G., Jäger, B., Knippschild, B., Morte, M. D., Wittig, H. & Jüttner, A., 2010, In: P o S - Proceedings of Science. 105

## Teaching and supervision

### DS803 - Statistics for Data Science

Jäger, B.  
01/09/2020 → 31/01/2021

### DS803 - Statistics for Data Science

Jäger, B.  
01/09/2021 → 31/01/2022

### DS803 Statistics for Data Science

Jäger, B.  
01/09/2024 → 31/12/2024

### DS803: Statistics for Data Science

Jäger, B.  
01/09/2019 → 31/01/2020

### DS803: Statistik for Data Science

Jäger, B.  
01/09/2023 → 01/01/2024

### DS803: Statistik for Data Science

Jäger, B.  
01/09/2022 → 01/01/2023

### DSK803 Statistics for Data Science (International)

Jäger, B.  
01/09/2024 → 31/12/2024

### FF501 - First Year Project

Jäger, B.  
01/02/2021 → 30/06/2021

**FF501- Førsteårsprojekt**

Jäger, B.  
01/02/2019 → 31/05/2019

**FF501- Førsteårsprojekt**

Jäger, B. & Bulava, J.  
01/02/2018 → 31/05/2018

**FF501: Førsteårsprojekt**

Jäger, B.  
01/02/2020 → 30/06/2020

**MM553 - Computational Physics**

Jäger, B. & Bulava, J.  
01/09/2020 → 31/01/2021

**MM553 - Computational Physics**

Jäger, B. & Della Morte, M.  
01/09/2021 → 31/01/2022

**MM553 Computational Physics**

Della Morte, M. & Jäger, B.  
01/10/2022 → 10/01/2023

**MM553: Computational Physics**

Jäger, B. & Zimmermann, R.  
01/09/2023 → 01/01/2024

**MM557 - Partial Differential Equations and Complex Analysis**

Jäger, B.  
01/02/2018 → 31/05/2018

**MM557 - Partial Differential Equations and Complex Analysis**

Jäger, B.  
01/02/2019 → 31/05/2019

**MM560: Introduction to Programming**

Jäger, B.  
01/02/2022 → 30/06/2022

**MM560: Introduction to Programming**

Jäger, B.  
01/02/2023 → 30/06/2023

**MM560 - Introduction to Programming**

Jäger, B.

01/02/2021 → 30/06/2021

**MM560: Introduction to Programming**

Jäger, B.

01/02/2020 → 30/06/2020

**MM560: Introduction to Programming**

Jäger, B.

01/02/2024 → 30/06/2024

**MM560: Introduktion til programmering**

Zimmermann, R. & Jäger, B.

01/02/2019 → 31/05/2019

**MM866 Introduction to HPC and Quantum Computing**

Jäger, B.

01/09/2024 → 31/12/2024

**MM866: Introduction to HPC and Quantum Computing**

Jäger, B.

01/09/2023 → 01/01/2024