Curriculum Vitae

Name: Philippe Roger Corboz
Nationality: Swiss
Place of origin: Oron (VD) and Maracon (VD), Switzerland
Date of birth: February 5, 1978
Address: Institute for Theoretical Physics
University of Amsterdam
Science Park 904
Postbus 94485
1090 GL Amsterdam
Phone: +31 20 525 86 95
Email: p.r.corboz@uva.nl
Languages: German, English, French, Dutch

Professional career
05/18 – now    Associate Professor (tenured) in Computational Condensed Matter Physics,
Institute for Theoretical Physics, University of Amsterdam
05/14 – 04/18 Assistant Professor in Computational Condensed Matter Physics,
Institute for Theoretical Physics, University of Amsterdam
10/11 – 04/14 Lecturer and Swiss National Science Foundation (SNSF) Ambizione Research Fellow,
Institute for Theoretical Physics, ETH Zurich
10/10 – 09/11 MaNEP mobile Post-Doc,
Institute for Theoretical Physics at EPFL and ETH Zurich
10/08 – 09/10 Post-Doctoral Research Fellow in the group of Prof. G. Vidal,
University of Queensland, Brisbane, Australia
01/05 – 09/08 Research Assistant in the group of Prof. M. Troyer,
Institute for Theoretical Physics, ETH Zurich
05/01 – 07/01 Internship in Informatics at the ABB Research Center, Dättwil, Switzerland.
Development of .NET web-applications with access to databases
09/00 – 12/00 Internship in Theoretical Physics at the ABB Research Center, Dättwil, Switzerland.
Calculation of AC-losses in circular superconductors

Education and career development
01/17 – 05/18 Programme “Personal Leadership in an academic context” at the UvA
09/15 – 06/16 Didactic program “Basiskwalificatie Onderwijs (BKO)” at the UvA
01/05 – 09/08 Ph.D. at the Institute for Theoretical Physics, ETH Zurich, with Prof. M. Troyer
11/04 Graduation in Theoretical Physics with distinction at ETH (Master degree)
04/04 – 08/04 Diploma Thesis at the Condensed Matter Theory Institute (J. Lidmar), KTH, Stockholm
10/01 – 08/04 Studies in Theoretical Physics at ETH Zurich
10/98 – 08/00 Undergraduate studies in Physics at EPFL, Switzerland
Awards and fellowships
10/14 Visiting Fellowship at Perimeter Institute for Theoretical Physics, Waterloo, Canada
08/11 Swiss National Science Foundation Ambizione Fellowship (research grant for three years)
11/04 ETH Pólya Prize for highest grades in final exams (Master degree)

Grants
12/21 IoP funding for a 2-year postdoc position for Wout Merbis, together with Clélia de Mulatier. “Quantum methods for stochastic processes: applying tensor networks to complex systems”
03/21 500k core hours on the national Cartesius computing cluster
11/20 ERC consolidator grant NexGenTeN, “State-of-the-art simulations of quantum many-body systems with the next-generation tensor network algorithms”, EUR 2’000k for 5 years
11/19 Delta ITP grant for a 2-year postdoc position for the project “Realizing the Sachdev-Ye-Kitaev model in strained iridates” together with L. Fritz (UU)
12/18 IoP funding for a PhD student shared with the experimental group of Dr. R. Gerritsma (UvA) for the project “A two-dimensional trapped ion quantum simulator”
07/16 PhD grant from the Delta ITP Diversity program together with L. Fritz (UU) and D. Schuricht (UU)
11/15 ERC starting grant TENSORNETSIM, “Accurate simulations of strongly correlated systems with tensor network methods”, EUR 1’500k for 5 years.
12/12 FOR1807 DFG Research Unit “Advanced Computational Methods for Strongly Correlated Quantum Systems”.
Total EUR 1’500k for 3 years for 8 subprojects located in Germany, Switzerland and Austria, funded by the DFG, SNSF and FWF.
Principal investigator, together with F. Assaad, R. Noack, F. Heidrich-Meisner, M. Hohenadler, A. Honecker, E. Jeckelmann, A. Läuchli, T. Pruschke, U. Schollwöck, M. Troyer, S. Wessel
11/12 CHF 14.4k for workshop on “Tensor network algorithms in computational physics and numerical analysis” in May 2013, funded by CECAM
04/12 CHF 20k for workshop on “Tensor network algorithms in computational physics and numerical analysis” in May 2013, funded by the Pauli Center for Theoretical Physics
08/11 Swiss National Science Foundation (SNSF) Ambizione grant (PZ00P2_136863) CHF 385k for 3 years, principal investigator

Memberships and collaboration networks
• Member of the European Tensor Network (http://quantumtensor.pks.mpg.de/)
• Member of the Delta Institute for Theoretical Physics in the Netherlands
• Associate member of the Fugaku project on “Basic science for emergence and functionality of quantum matter” led by Prof. Masatoshi Imada (Waseda University, Japan)
• Affiliated member of QuSoft (Dutch research center for quantum software)
• Affiliated member of the Simons Collaboration of the Many-Electron Problem
• Former member of the DFG FOR1807 research unit
• Former contributor to the ALPS project (alps.comp-phys.org)
Event organization

01/22 – 07/22 Member of the programme committee of the SCES 2022 conference
01/20 Member of the programme committee of the Veldhoven meeting 2020
09/14 – 02/20 Organizer of the weekly Condensed Matter Theory seminar at the UvA
07/19 Organizer of the “Amsterdam Summer Workshop on low-D Quantum Condensed Matter 2019”, University of Amsterdam
03/19 Co-organizer of the focus topic "Frustrated magnetism" at the 2019 APS March Meeting
07/15 Organizer of the “Amsterdam Summer Workshop on low-D Quantum Condensed Matter 2015”, University of Amsterdam
05/13 Organizer of the international workshop on “Tensor network algorithms in computational physics and numerical analysis” at ETH
09/06 Co-organizer of international workshop “Monte Carlo data formats” at ETH

Member of committees and other roles

09/21 – now Editorial Fellow of SciPost Physics
10/20 – now ICT for Research Committee (IOC) at the UvA
04/21 – 05/21 ICT strategy FNWI workgroup at the UvA
03/21 – 07/21 Appointment committee for a IoP-ARCNL tenure-track position in "Theory & Modeling of Materials for Nanolithography"
10/20 – 06/21 Appointment committee for a tenure-track position theoretical quantum condensed matter physics
10/19 – 05/20 Appointment committee for two tenure-track positions in experimental and theoretical quantum condensed matter physics
09/16 – 10/18 Jury member of the Pieter Zeeman price for the best Master thesis in Physics

Member of PhD defense committees

05/22 Jans Henke (University of Amsterdam)
02/22 Daniel Chernowitz (University of Amsterdam)
01/22 Jurriaan Wouters (University of Utrecht)
09/21 Yuan Miao (University of Amsterdam)
06/21 Joris Kattemölle (University of Amsterdam / QuSoft)
03/21 Norman Ewald (University of Amsterdam)
07/20 Alexandre Foley (Université de Sherbrooke)
10/19 Juraj Hasik (SISSA, Trieste, Italy)
09/19 Olivier Gauthé (Université de Paul Sababtier, Toulouse, France)
06/19 Benedikt Schönauer (University of Utrecht)
08/17 Juan Camillo Osorio Iregui (ETH Zurich)
02/17 Arthur La Rooij (University of Amsterdam)
11/16 Laurens Vanderstraeten (University of Ghent)
10/16 Rianne van den Berg (University of Amsterdam)
Refereeing for journals

- Nature, NPJ Quantum Materials
- Physical Review Letters
- Physical Review X
- Physical Review B
- Physical Review Research
- Europhysics Letters
- European Physical Journal B
- New Journal of Physics
- Journal of Statistical Physics
- Journal of Physics: Condensed Matter
- SciPost Physics

Refereeing for funding agencies

- Research Foundation Flanders (FWO)
- Deutsche Forschungsgemeinschaft (DFG)
- European Research Council (ERC)
- Department of Energy Office of Science (DOE Office of Science, U.S.)

Teaching

06/22 Master course on “Advanced Computational Condensed Matter”, UvA
06/22 Bachelor course on “Numerical Statistical Physics”, UvA
04/22 – 05/22 Master course on “Advanced numerical methods in many-body physics”, UvA
06/21 Master course on “Advanced Computational Condensed Matter”, UvA
06/21 Bachelor course on “Numerical Statistical Physics”, UvA
04/21 – 05/21 Master course on “Advanced numerical methods in many-body physics”, UvA
04/20 – 05/20 Master course on “Advanced numerical methods in many-body physics”, UvA
04/20 Master course on “Advanced Computational Condensed Matter”, UvA
02/20 Master course on “Advanced numerical methods in many-body physics”, UvA
06/19 Invited lectures on “Introduction to iPEPS”, Benasque, Spain
04/19 – 05/19 Master course on “Advanced numerical methods in many-body physics”, UvA
11/18 Invited lectures on “Introduction to iPEPS and MERA”, at the International school “Tensor product state simulations of strongly correlated systems”, MPIPKS, Dresden, Germany
06/18 Master course on “Advanced Computational Condensed Matter”, UvA
04/18 – 05/18 Master course on “Advanced numerical methods in many-body physics”, UvA
Lectures on “Introduction to tensor networks for quantum many-body systems” (3 days) at the DRSTP PhD school, Dalfsen, Netherlands.

09/17 Invited lecture on “Projected entangled-pair states (PEPS)” at the 2017 Arnold Sommerfeld School on “Numerical methods for correlated many-body systems”, Munich.

04/17 – 05/17 Delta ITP Advanced topics in Theoretical Physics course on “Tensor Networks”, Leiden.

02/17 – 04/17 Master course on “Advanced numerical methods in many-body physics”, UvA

11/16 Invited lectures on “Projected entangled-pair states” at the International school “Tensor product state simulations of strongly correlated systems”, MPIPKS, Dresden, Germany

07/16 Invited lectures on “Infinite projected entangled-pair states” at ISSP, Japan

06/16 Invited lectures on “MERA”, “PEPS”, and “Advanced Tensor Network Applications” at the Simons Center, Stony Brook, USA

02/16 – 04/16 Master course on “Advanced numerical methods in many-body physics”, UvA

06/15 Invited lectures on “PEPS Algorithms and Implementations” at the international “Tensor Network Summer School” in Ghent, Belgium

02/15 – 04/15 Master course on “Advanced numerical methods in many-body physics”, UvA

09/13 Invited lectures “Introduction to tensor network algorithms” given at the fall school on “Advanced algorithms for correlated quantum matter”, Würzburg, Germany

06/12 Invited lectures on “PEPS” and “Fermionic tensor networks” held at the international summer school on “new trends in computational approaches for many-body systems”, Sherbrooke, Canada

02/11 – 12/13 Organization, supervision, and chairing of the “CSE (Computational Science and Engineering) seminar in Theoretical Physics”

02/11 – 07/11 Teaching assistant in “Numerical Physics” at EPFL

01/05 – 12/07 Teaching assistant in “Computational Physics”, “Programming Techniques” (C++), and “Quantum Mechanics” classes

08/02 – 02/07 High-school teacher (substitute) in physics and mathematics at the Kantonsschule Wohlen (AG), Switzerland (approx. 200 lessons in total)

10/01 – 07/02 Teaching assistant in “Numerics” and “Linear Algebra” at the Math Department, ETH

Supervision and group members

Postdocs
04/22 – now Wout Merbis (together with Clélia de Mulatier)
12/21 – now Boris Ponsioen
11/21 – now Juraj Hasik
05/20 – now Matthias Peschke
01/19 – 12/20 Natalia Chepiga
09/16 – 08/19 Sangwoo Chung
10/16 – 03/17 Piotr Czarnik (long term visiting postdoc)

PhD students
10/22 – now Yining Zhang
09/19 – now Juan Diego Arias Espinoza (together with R. Gerritsma)
Patrick Vlaar
10/18 – now

Boris Ponsioen, “Lighting up the network - Ground states and excitations of strongly correlated systems with two-dimensional tensor networks”
09/17 – 11/21

Schelto Crone, “Studying topological order and Ising criticality with tensor network algorithms”
10/16 – 11/20

Ido A. Niesen, “Exotic Phases of Matter in Quantum Magnets - A Tensor Networks Tale”
06/12 – 08/17

Juan C. Osorio Iregui, “Connecting the Dots tensor network algorithms for two-dimensional strongly-correlated systems”, ETH Zurich
09/19 – 08/20

Oscar van Alphen, “Automatic differentiation and contraction of infinite projected entangled-pair states”
09/22 – now

Marco Bout, “Tensor network simulations of 2D quantum many-body systems based on a cluster optimization”
09/21 – 08/22

K. W. Torre, “Thermodynamics of the Shastry-Sutherland model using tensor network methods”
09/19 – 08/20

S. Kleijweg, “Automatic Differentiation and Tensor Networks”
09/19 – 08/20

R. Timmermans, “Tree tensor network ansatz in 1D & 2D”
09/18 – 08/20

M. Tepaske, “Neuronal Network Quantum States”
09/18 – 08/19

R. v. d. Werff, “Simulating classical spin systems using the Fixed Point Corner Method”
09/17 – 07/18

P. Vlaar, “3D tensor network simulations using simple update optimization”
09/17 – 07/18

K. Temmink, “On tensor network methods for one-dimensional open quantum systems”
09/16 – 02/18

B. Ponsioen, “Combining Variational Optimization with Entanglement Renormalization in a Tensor Network framework”
07/16 – 08/17

G. Kapteijns, “Finite bond dimension scaling with the corner transfer matrix renormalization group method”
07/16 – 08/17

L. Schoonderwoerd, “DMRG with local unitary transformations”
09/15 – 08/16

S. Crone, “Tensor network renormalization”
09/15 – 08/16

E. van Walsem, “Quantum Monte Carlo simulations of bosons in 2D lattices”, joint project with the experimental group of dr. R. Spreeuw (UvA)
10/14 – 10/15

M. Obrecht, “Simulation of one dimensional quantum systems at finite temperature with minimally entangled typical thermal states” (ETH)
03/12 – 08/12

P. Sémon, “Pre-projected Gaussian Quantum Monte Carlo for Hubbard ladders” (ETH)
10/07 – 02/08

Bachelor projects

F. van der Ploeg, “Simulation of the 2D Ising model using the Corner Transfer Matrix Renormalization Group method on the square, honeycomb, and triangular lattice”
04/18 – 07/18

F. van der Ploeg, D. van den Bergh, “Simulation of the site-percolation problem on a two-dimensional square lattice” (2nd year project)
06/17 – 07/17

R. van der Werff, “Simulating classical spin systems using the CTMRG method”
04/16 – 07/16

T. Zwart, “Monte Carlo Simulations of the 3-State Potts Model in 2D”
04/16 – 07/16
Publications and Presentations summary

Total publications (62 peer-reviewed papers, 1 book chap., 2 theses, 2 proceedings, 3 preprints) 70
First-author publications 23
Total paper citations\(^1\) 5103
h-index\(^1\) 34
Invited conference talks (55), invited seminars (40), and invited lectures (13) 108
Contributed conference presentations (talks + posters) 24

Publication list

Peer-reviewed articles

[62] *Variational methods for contracting projected entangled-pair states*,
L. Vanderstraeten, L. Burgelman, B. Ponsioen, M. Van Damme, B. Vanhecke, P. Corboz, J. Haegeman, and F. Verstraete, Phys. Rev. B 105, 195140 (2022).

[61] *Discovery of quantum phases in the Shastry-Sutherland compound SrCu$_2$(BO$_3$)$_2$ under extreme conditions of field and pressure*,
Z. Shi, S. Dissanayake, P. Corboz, W. Steinhardt, D. Graf, D. M. Silevitch, H. A. Dabkowska, T. F. Rosenbaum, F. Mila, and S. Haravifard,
Nature Communications 13, 1 (2022).

[60] *Quantum Monte Carlo Simulations in the the Trimer Basis: First-Order Transitions and Thermal Critical Points in Frustrated Trilayer Magnets*,
L. Weber, A. Honecker, B. Normand, P. Corboz, F. Mila, and S. Wessel,
SciPost Physics 12, 054 (2022).

[59] *Automatic Differentiation Applied to Excitations with Projected Entangled Pair States*,
B. Ponsioen, F. F. Assaad, and P. Corboz,
SciPost Physics 12, 006 (2022).

[58] *The Hubbard Model: A Computational Perspective*,
M. Qin, T. Schäfer, S. Andergassen, P. Corboz, and E. Gull,
Annual Review of Condensed Matter Physics 13, 275 (2022).

[57] *Unsupervised Mapping of Phase Diagrams of 2D Systems from Infinite Projected Entangled-Pair States via Deep Anomaly Detection*,
K. Kottmann, P. Corboz, M. Lewenstein, and A. Acín,
SciPost Physics 11, 025 (2021).

\(^1\) Google Scholar in September 2022
[56] *Engineering Spin-Spin Interactions with Optical Tweezers in Trapped Ions*,
J. D. A. Espinoza, M. Mazzanti, K. Fouka, R. X. Schüssler, Z. Wu, P. Corboz, R. Gerritsma, and A. S. Naini,
Phys. Rev. A 104, 013302 (2021).

[55] *Simulation of Three-Dimensional Quantum Systems with Projected Entangled-Pair States*,
P. C. G. Vlaar and P. Corboz,
Phys. Rev. B 103, 205137 (2021).

[54] *A quantum magnetic analogue to the critical point of water*,
J. L. Jiménez, S. P. G. Crone, E. Fogh, M. E. Zayed, R. Lortz, E. Pomjakushina, K. Conder, A. M. Läuchli, L. Weber, S. Wessel, A. Honecker, B. Normand, C. Rüegg, P. Corboz, H. M. Rønnow, and F. Mila,
Nature 592, 370 (2021).

[53] *Tensor Network Study of the m=1/2 Magnetization Plateau in the Shastry-Sutherland Model at Finite Temperature*,
P. Czarnik, M. M. Rams, P. Corboz, and J. Dziarmaga,
Phys. Rev. B 103, 075113 (2021).

[52] *Excitations with Projected Entangled Pair States using the Corner Transfer Matrix method*,
B. Ponsioen and P. Corboz,
Phys. Rev. B 101, 195109 (2020).

[51] *Detecting a Z_2 topologically ordered phase from unbiased infinite projected entangled-pair state simulations*,
S. P. G. Crone and P. Corboz,
Phys. Rev. B 101, 115143 (2020).

[50] *Period 4 stripe in the extended two-dimensional Hubbard model*,
B. Ponsioen, S. S. Chung, and P. Corboz,
Phys. Rev. B 100, 195141 (2019).

[49] *Competition between intermediate plaquette phases in SrCu_2(BO_3)_2 under pressure*,
C. Boos, S.P.G. Crone, I.A. Niesen, P. Corboz, K.P. Schmidt, F. Mila
Phys. Rev. B 100, 140413 (2019).

[48] *Thermodynamic properties of the Shastry-Sutherland model throughout the dimer-product phase*,
A. Wietek, P. Corboz, S. Wessel, B. Normand, F. Mila, and A. Honecker,
Phys. Rev. Research 1, 033038 (2019).

[47] *SU(3) Fermions on the Honeycomb Lattice at 1/3-Filling*,
S. Chung and P. Corboz
Phys. Rev. B 100, 035134 (2019).

[46] *Finite correlation length scaling with infinite projected entangled pair states at finite temperature*,
P. Czarnik and P. Corboz,
Phys. Rev. B 99, 245107 (2019).
[45] **Emergent Bound States and Impurity Pairs in Chemically Doped Shastry-Sutherland System**, Z. Shi, W. Steinhardt, D. Graf, P. Corboz, D. Weickert, N. Harrison, M. Jaime, C. Marjerrison, H. Dabkowska, F. Mila, and S. Haravifard
Nature Communications 10, 2439 (2019).

[44] **Time Evolution of an Infinite Projected Entangled Pair State: an Efficient Algorithm**, P. Czarnik, J. Dziarmaga, and P. Corboz,
Phys. Rev. B. 99, 035115 (2019).

[43] **Thermodynamic properties of the Shastry-Sutherland model from quantum Monte Carlo simulations**
S. Wessel, I. Niesen, J. Stapmanns, B. Normand, F. Mila, P. Corboz, and A. Honecker,
Phys. Rev. B. 98, 174432 (2018).

[42] **Thermal Critical Points and Quantum Critical End Point in the Frustrated Bilayer Heisenberg Antiferromagnet**, J. Stapmanns, P. Corboz, F. Mila, A. Honecker, B. Normand, and S. Wessel,
Phys. Rev. Lett. 121, 127201 (2018).

[41] **Finite Correlation Length Scaling with Infinite Projected Entangled-Pair States**, P. Corboz, P. Czarnik, G. Kapteijns, and L. Tagliacozzo,
Phys. Rev. X 8, 031031 (2018).

[40] **Ground-state study of the spin-1 bilinear-biquadratic Heisenberg model on the triangular lattice using tensor networks**, I. Niesen and P. Corboz,
Phys. Rev. B 97, 245146 (2018).

[39] **A tensor network study of the complete ground state phase diagram of the spin-1 bilinear-biquadratic Heisenberg model on the square lattice**, I. Niesen and P. Corboz,
SciPost Physics 3, 030 (2017).

[38] **Stripe order in the underdoped region of the two-dimensional Hubbard model**, B.-X. Zheng, C.-M. Chung, P. Corboz, G. Ehlers, M.-P. Qin, R. M. Noack, H. Shi, S. R. White, S. Zhang, and G. K.-L. Chan,
Science 358, 1155 (2017).

[37] **Infinite Matrix Product States vs Infinite Projected Entangled-Pair States on the Cylinder: a comparative study**, J. Osorio Iregui, M. Troyer, and P. Corboz,
Phys. Rev. B 96, 115113 (2017).

[36] **Emergent Haldane phase in the S=1 bilinear-biquadratic Heisenberg model on the square lattice**, I. Niesen and P. Corboz,
Phys. Rev. B 95, 180404 (2017).
[35] Gradient methods for variational optimization of projected entangled-pair states, L. Vanderstraeten, J. Haegeman, P. Corboz, and F. Verstraete, Phys. Rev. B 94, 155123 (2016). Editors’ Suggestion

[34] Variational optimization with infinite projected entangled-pair states, P. Corboz, Phys. Rev. B 94, 35133 (2016). Editors’ Suggestion

[33] Plaquette order in the SU(6) Heisenberg model on the honeycomb lattice, P. Nataf, M. Lajkó, P. Corboz, A. M. Läuchli, K. Penc, and F. Mila, Phys. Rev. B 93, 201113 (2016). Rapid Communication

[32] Improved energy extrapolation with infinite projected entangled-pair states applied to the 2D Hubbard model, P. Corboz, Phys. Rev. B 93, 045116 (2016)

[31] Infinite projected entangled pair states algorithm improved: Fast full update and gauge fixing, H. N. Phien, J. A. Bengua, H. D. Tuan, P. Corboz, and R. Orus, Phys. Rev. B 92, 035142 (2015)

[30] Efficient Continuous-time Quantum Monte Carlo Method for the Ground State of Correlated Fermions, L. Wang, M. Iazzi, P. Corboz, and M. Troyer, Phys. Rev. B 91, 235151 (2015). Editors’ Suggestion

[29] Probing the stability of the spin liquid phases in the Kitaev-Heisenberg model using tensor network algorithms, J. O. Iregui, P. Corboz, and M. Troyer, Phys. Rev. B 90, 195102 (2014)

[28] Fermionic Quantum Critical Point of Spinless Fermions on a Honeycomb Lattice, L. Wang, P. Corboz, and M. Troyer, New Journal of Physics 16, 103008 (2014)

[27] Competing states in the t-J model: uniform d-wave state versus stripe state, P. Corboz, T. M. Rice, and M. Troyer, Phys. Rev. Lett. 113, 046402 (2014). Recommended in the Journal Club for Condensed Matter Physics by S. Kivelson²

[26] Resonating-valence-bond superconductors with fermionic projected entangled pair states, D. Poilblanc, P. Corboz, N. Schuch, and J. I. Cirac, Phys. Rev. B 89, 241106 (2014). Rapid Communication

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² see http://www.condmatjournalclub.org/?p=2367
[25] Crystals of bound states in the magnetization plateaus of the Shastry-Sutherland model, P. Corboz and F. Mila, Phys. Rev. Lett. 112, 147203 (2014)

[24] Magnetization of SrCu$_2$(BO$_3$)$_2$ in Ultrahigh Magnetic Fields up to 118 T, Y. H. Matsuda, N. Abe, S. Takeyama, H. Kageyama, P. Corboz, A. Honecker, S. R. Manmana, G. R. Foltin, K. P. Schmidt, and F. Mila, Phys. Rev. Lett. 111, 137204 (2013)

[23] Competition between three-sublattice order and superfluidity in the quantum 3-state Potts model of ultracold bosons and fermions on a square optical lattice, L. Messio, P. Corboz, and F. Mila, Phys. Rev. B 88, 155106 (2013)

[22] Competing states in the SU(3) Heisenberg model on the honeycomb lattice: Plaquette valence-bond crystal versus dimerized color-ordered state, P. Corboz, M. Lajkó, K. Penc, F. Mila, and A. M. Läuchli, Phys. Rev. B 87, 195113 (2013)

[21] Tensor network study of the Shastry-Sutherland model in zero magnetic field, P. Corboz and F. Mila, Phys. Rev. B 87, 115144 (2013)

[20] Phase diagram of $^4$He on graphene, J. Happacher, P. Corboz, M. Boninsegni, and L. Pollet, Phys. Rev. B 87, 094514 (2013)

[19] Spin-Orbital Quantum Liquid on the Honeycomb Lattice, P. Corboz, M. Lajkó, A. M. Läuchli, K. Penc, and F. Mila, Phys. Rev. X 2, 041013 (2012)

[18] Simplex solids in SU(N) Heisenberg models on the kagome and checkerboard lattices, P. Corboz, K. Penc, F. Mila, and A. M. Läuchli, Phys. Rev. B 86, 041106 (2012). Rapid Communication

[17] Comment on “Topological quantum phase transitions of attractive spinless fermions in a honeycomb lattice” by D. Poletti et al., P. Corboz, S. Capponi, A. M. Läuchli, B. Bauer, R. Orus, Europhys. Lett. 98, 27005 (2012)

[16] Three-sublattice order in the SU(3) Heisenberg model on the square and triangular lattice, B. Bauer, P. Corboz, A. M. Läuchli, L. Messio, K. Penc, M. Troyer, F. Mila, Phys. Rev. B 85, 125116 (2012)

[15] Simultaneous dimerization and SU(4) symmetry breaking of 4-color fermions on the square lattice, P. Corboz, A. M. Läuchli, K. Penc, M. Troyer, F. Mila, Phys. Rev. Lett. 107, 215301 (2011)
[14] Stripes in the two-dimensional t-J model with infinite projected entangled-pair states, P. Corboz, S. R. White, G. Vidal, and M. Troyer, Phys. Rev. B 84, 041108 (2011). Rapid Communication, Editor’s Suggestion

[13] Implementing global Abelian symmetries in projected entangled-pair state algorithms, B. Bauer, P. Corboz, R. Orus, and M. Troyer, Phys. Rev. B 83, 125106 (2011)

[12] Simulation of fermionic lattice models in two dimensions with projected entangled-pair states: Next-nearest neighbor Hamiltonians, P. Corboz, J. Jordan, and G. Vidal, Phys. Rev. B 82, 245119 (2010). This article has been selected for the January 2011 issue of Virtual Journal of Quantum Information, and for the January 3, 2011 issue of Virtual Journal of Nanoscale Science & Technology

[11] Non-local scaling operators with entanglement renormalization, G. Evenbly, P. Corboz, and G. Vidal, Phys. Rev. B 82, 132411 (2010)

[10] Simulation of anyons with tensor network algorithms, R. N. C. Pfeifer, P. Corboz, O. Buerschaper, M. Aguado, M. Troyer, and G. Vidal, Phys. Rev. B 82, 115126 (2010). This article has been selected for the October 2010 issue of Virtual Journal of Quantum Information, and for the October 4, 2010 issue of Virtual Journal of Nanoscale Science & Technology

[9] Simulation of strongly correlated fermions in two spatial dimensions with fermionic projected entangled-pair states, P. Corboz, R. Orús, B. Bauer, and G. Vidal, Phys. Rev. B 81, 165104 (2010)

[8] Simulation of interacting fermions with entanglement renormalization, P. Corboz, G. Evenbly, F. Verstraete, and G.Vidal Phys. Rev. A 81, 010303 (2010). Rapid Communication

[7] Fermionic multi-scale entanglement renormalization ansatz, P. Corboz and G. Vidal, Phys. Rev. B 80, 165129 (2009). This article has been selected for the November 2009 issue of Virtual Journal of Quantum Information, and for the November 9, 2009 issue of Virtual Journal of Nanoscale Science & Technology

[6] Binding of a Helium-3 Impurity to a Screw Dislocation in Solid Helium-4, P. Corboz, L. Pollet, N. V. Prokof’ev, and M. Troyer, Phys. Rev. Lett. 101, 155302 (2008)

[5] Phase diagram of Helium-4 adsorbed on graphite, P. Corboz, M. Boninsegni, L. Pollet, and M. Troyer, Phys. Rev. B 78, 245414 (2008)
[4] Systematic errors in Gaussian quantum Monte Carlo and a systematic study of the symmetry projection method,
P. Corboz, A. Kleine, F. F. Assaad, I. P. McCulloch, U. Schollwock, and M. Troyer,
Phys. Rev. B 77, 085108 (2008)

[3] Spontaneous trimerization in a bilinear-biquadratic S=1 zig-zag chain,
P. Corboz, A. M. Läuchli, K. Totsuka, and H. Tsunetsugu,
Phys. Rev. B 76, 220404(R) (2007). Rapid Communication

[2] The ALPS project release 1.3: open source software for strongly correlated systems,
A.F. Albuquerque et al. (ALPS collaboration),
Journal of Magnetism and Magnetic Materials 310, 1187 (2007)

[1] Symmetry projection schemes for Gaussian Monte Carlo methods,
F. F. Assaad, P. Werner, P. Corboz, E. Gull, and M. Troyer,
Phys. Rev. B 72, 22451 (2005)

Book chapters

[B1] Phase-Space Methods for Fermions,
P. Corboz, M. Ögren, K. Kheruntsyan, and J. F. Corney,
in S. Gardiner, N. Proukakis, and M. Davis, Quantum Gases: Finite Temperature and Non-Equilibrium Dynamics (Imperial College Press, 2012)

Conference proceedings

[C2] Quantum Monte Carlo Simulations of Highly Frustrated Magnets in a Cluster Basis: The Two-Dimensional Shastry-Sutherland Model,
A. Honecker, L. Weber, P. Corboz, F. Mila, and S. Wessel,
J. Phys.: Conf. Ser. 2207, 012032 (2022)

[C1] Gaussian Quantum Monte Carlo methods with symmetry projection,
F. F. Assaad, P. Corboz, E. Gull, W. P. Petersen, M. Troyer, and P. Werner,
AIP Conf. Proc. 816, 24 (2006)

Theses

[T2] Simulations of strongly correlated bosons and fermions (PhD Thesis),
P. Corboz,
No 17994, ETH Zurich (2008)

[T1] Breakable elastic string driven in random media (Master Thesis),
P. Corboz,
Trita-FYS, 0280-316X; 2004:53
Preprints / submitted papers

[S3] *The Shastry-Sutherland Compound SrCu2(BO3)2 Studied up to the Saturation Magnetic Field*,
T. Nomura, P. Corboz, A, Miyata, S. Zherlitsyn, Y. Ishii, Y. Kohama, Y. H. Matsuda, A. Ikeda, C. Zhong, H. Kageyama, and F. Mila,
arXiv:2209.07652

[S2] *Competing States in the Two-Dimensional Frustrated Kondo-Necklace Model*,
M. Peschke, B. Ponsioen, and P. Corboz,
arXiv:2209.04231

[S1] *Efficient Tensor Network Algorithm for Layered Systems*,
P. C. G. Vlaar and P. Corboz,
arXiv:2208.06423

Conference presentations

Invited conference talks (55)

09/22  Workshop “Computational aspects of Tensor Networks”, ESI, Vienna, Austria,
“iPEPS for 3D and layered quantum systems”

09/22  ICTS program “Frustrated Metals and Insulators (hybrid)”, Bangalore, India,
“Tensor network studies of SrCu2(BO3)2”

05/22  Delft Many-Body Workshop Series, Netherlands,
“Introduction to tensor networks and applications to 2D strongly correlated systems”

05/22  Asian-European workshop on ‘SU(N) physics in condensed matter and cold atoms’ (online),
“Tensor network study of the SU(3) Hubbard model on the honeycomb lattice at 1/3 filling”

09/21  FOR1807 International Conference 2021: Computational Methods for Quantum Many-Body
Systems: Algorithms, Models and Materials, Goettingen, Germany,
“Tensor network study of SrCu2(BO3)2 under pressure”

08/21  32nd IUPAP Conference on Computational Physics (CCP2021), Coventry University, UK (online).
“Tensor network study of SrCu2(BO3)2 under pressure”

03/21  Workshop on “Quantum Magnets in Extreme Conditions”, ISSP, Japan (online),
“Tensor network study of SrCu2(BO3)2 under pressure”

02/21  Workshop “Entanglement in Strongly Correlated Systems”, Benasque, Spain (online),
“Finite temperature iPEPS simulations of SrCu2(BO3)2 under pressure”

11/20  INT workshop: “Renormalization Group Approaches to the Many-Body Problem”, Michigan State
University, USA (online),
“Introduction to MPS, PEPS & MERA and applications in 2D”

10/20  Workshop on “Emergence and Functionality of Quantum Matter 2020”, Tokyo, Japan (online),
“Simulations of the 2D Hubbard model with infinite projected entangled-pair states”
03/20 Conference “Quantum Matter: Computation meet Experiments”, Aspen Center for Physics, USA, “Tensor network studies of the Shastry-Sutherland model”

11/19 Plenary speaker at the Symposium on Theoretical Physics, Hamburg, Germany, “Simulations of the 2D Hubbard model with 2D tensor networks”

09/19 Workshop at the Université Paul Sabatier, Toulouse, “Simulations of the 2D Hubbard model with iPEPS”

07/19 ISTCP Congress 2019, Tromsø, Norway, “Simulation of strongly correlated systems with 2D tensor networks”

03/19 Workshop on “Tensor networks: from simulations to holography II”, Potsdam, Germany, “Simulation of the 2D Hubbard model with iPEPS”

02/19 Workshop on “Perspectives in Theoretical Physics”, Hamburg, Germany, “Recent advances in simulating strongly correlated systems with 2D tensor networks”

10/18 Workshop “TOPO2018: Topological Phases in Condensed Matter and Cold Atom Systems”, Cargèse, France, “Finite correlation length scaling”

09/18 Workshop “Quantum Magnetism: Frustration, Low-dimensionality, Topology”, UCAS, Beijing, China, “Study of 2D critical phenomena and the doped Shastry-Sutherland model with infinite projected entangled-pair states (iPEPS)”

01/18 Workshop “Hamiltonian methods in strongly coupled Quantum Field Theory”, Paris, France, “Simulation of 2D strongly correlated systems with infinite projected entangled-pair states”

12/17 Workshop “Tensor-Network Methods: Structure, Applications & Holography”, Stony Brook, USA, “Advances in simulating 2D strongly correlated systems with iPEPS”

11/17 Conference on “Frontiers in Two-Dimensional Quantum Systems”, Trieste, Italy, “Stripe order in the 2D Hubbard model”

11/17 Conference on “Novel Quantum States in Condensed Matter 2017”, Kyoto, Japan, “2D tensor network study of the S=1 bilinear-biquadratic Heisenberg model”

10/17 FISMAT 2017 conference, Trieste, Italy, “Stripe order in the 2D Hubbard model”

09/17 Korrelationstage 2017, Dresden, Germany, “Stripe order in the 2D Hubbard model”

06/17 Conference on “Recent Progress in Many Body Theory (RPMBT19)”, Pohang, Korea, “Stripe order in the 2D Hubbard model”

10/16 The Munich Quantum Symposium 2016, Munich, Germany, “Simulation of strongly correlated systems with 2D tensor network methods”

10/16 Workshop “Quantum Many-Body Methods in Condensed Matter Physics”, Aachen, Germany, “Recent progress in simulating strongly correlated systems with 2D tensor network methods”

09/16 International workshop “Recent Progress in Low-Dimensional Quantum Magnetism”, EPFL, “Crystals of Bound States in the Magnetization Plateaus of the Shastry-Sutherland Model”

07/16 Symposium on “Tensor Networks and Quantum Many-Body Problems (TNQMP2016)”, ISSP, Kashiwa, Japan, “Recent advances in simulating the 2D Hubbard and t-J models with iPEPS”

05/16 International workshop “From Quantum Field Theories to Numerical Methods”, Nordita, Stockholm, “Recent advances with iPEPS: simulations of the 2D Hubbard model, improved energy extrapolations, and variational optimization”
03/16 APS March meeting 2016, Baltimore, USA,
"Tensor network studies of the 2D t-J and Hubbard models"

02/16 Annual meeting of Collaboration on the Many Electron Problem 2016, Simons Foundation, New York, USA,
"Recent progress in simulating strongly correlated systems with 2D tensor network methods"

10/15 PI-UIUC joint workshop, Perimeter Institute, Waterloo, Canada,
"Tensor network studies of 2D fermionic and frustrated systems"

07/15 ICTP conference "Interacting Fermions: Precision Theory and Experiment", Trieste, Italy,
"Competing states in the t-J and Hubbard models: uniform d-wave state versus stripe state"

06/15 International workshop and symposium on “DMRG Technique for Strongly Correlated Systems in Physics and Chemistry”, Natal, Brazil,
"Simulation of strongly correlated systems in 2D with iPEPS"

01/15 Physics@FOM Veldhoven meeting, Veldhoven, Netherlands,
"Simulation of 2D strongly correlated systems with tensor network methods"

11/14 Quantum Matter Templeton meeting, Leiden University,
"Projected Entangled-Pair States".

10/14 CMSI International Workshop 2014: Tensor Network Algorithms in Materials Science, Kobe, Japan,
"Recent progress in simulating strongly correlated systems with tensor network methods”.

09/14 International workshop on “Numerical and analytical methods for strongly correlated systems”, Benasque, Spain,
2 talks: “Introduction to tensor networks” and “Recent progress with iPEPS”

08/14 XXVI IUPAP Conference on Computational Physics, CCP2014, Boston, Massachusetts, USA,
“Recent progress in simulating strongly correlated systems with tensor network methods”

07/14 Strongly Correlated Electron Systems (SCES 2014), Grenoble, France,
"Competing states in the t-J model: uniform d-wave state versus stripe state"

09/13 XVII. International Conference on Recent Progress in Many-Body Theories (MBT17), Rostock, Germany,
“Simulation of strongly correlated systems 2D with tensor network algorithms”

06/13 International workshop on Topological Phases in Condensed Matter and Cold Atom Systems, Institut d'Etudes Scientifiques de Cargèse (IESC), Corsica island,
“Introduction to tensor networks”

05/13 International workshop on Emergence and Entanglement II: Highly entangled phases of matter, Perimeter Institute, Waterloo, Canada,
“Spin-orbital quantum liquid on the honeycomb lattice”

03/13 APS March meeting, Baltimore, USA,
“Spin-orbital quantum liquid on the honeycomb lattice”

10/12 International workshop on Cooperative Quantum Dynamics and Its Control (CQDC2012), Jülich Supercomputing Centre (Germany),
“Simulation of strongly correlated systems 2D with infinite projected entangled-pair states”

06/12 Conference on Mott Physics Beyond Heisenberg 2012, EPF Lausanne,
“Tensor network simulations of spin-orbital systems”

05/12 Networking tensor networks: many-body systems and simulations, Benasque, Spain,
“Recent progress with infinite projected entangled-pair states”
Contributed talks (14)

01/13 MANeP workshop, Neuchatel,
“Simulations of spin-orbital models in two dimensions with tensor network algorithms”

01/12 MANeP workshop, Neuchatel,
“Simulation of strongly correlated systems with tensor network algorithms”

11/11 CECAM workshop: Modeling Materials With Cold Gases Through Simulations, ETH, “Simulation of strongly correlated systems in two dimensions with tensor network algorithms”

10/11 Workshop on Quantum Inf. in Quantum Many-body Physics, CRM, U. de Montréal, Canada, “Recent progress in the simulation of strongly correlated systems in two dimensions with tensor network algorithms”

09/11 Swiss-Japanese Workshop, ETH Zurich, “Recent progress in the simulation of strongly correlated systems in two dimensions with tensor network algorithms”

09/11 QIPC conference, ETH Zurich, (contributed “hot-topic” talk), “Recent advances in the simulation of strongly correlated systems in two dimensions with tensor network algorithms”

06/11 Annual meeting of the Swiss Physical Society (SPS), Lausanne, Switzerland, “Simulation of fermionic and frustrated lattice models in 2D with tensor network algorithms”

03/11 APS March meeting, Dallas, USA, “Simulation of fermionic and frustrated lattice models in 2D with tensor network algorithms”

01/11 MANeP Workshop, Neuchatel, “Simulation of strongly correlated systems with Projected Entangled-Pair States (PEPS)”

07/10 STATPHYS24, Cairns, Australia, “Simulation of fermionic lattice models in two dimensions with tensor network algorithms”

01/10 Workshop on tensor networks, MPI Garching, Germany, “Simulations of strongly correlated quantum systems with tensor network algorithms”

05/07 Quantum Noise workshop 2007, Caloundra, Australia, “The Gaussian Quantum Monte Carlo method for fermions with symmetry projection”

03/07 March meeting of the American Physical Society, Denver, Colorado, USA,
'Bilinear-Biquadratic Spin 1 Zig-Zag Chain'

02/07 SPS annual meeting, University of Zurich, Switzerland,
'Bilinear-Biquadratic Spin 1 Zig-Zag Chain'

Poster presentations (10)

02/12 QSIT meeting, Arosa, Switzerland,
'Tensor network algorithms'

06/11 Swiss Workshop MaNEP, Les Diablerets, Switzerland,
'Striped phase in the t-J model with infinite projected entangled-pair states'

01/11 QSIT meeting, Arosa, Switzerland,
'Tensor network states'

08/08 ULT2008: Frontiers of Low Temperature Physics, University of London, Egham,
'Phase diagram of 4He adsorbed on graphite'

03/08 SPS annual meeting, Geneva, Switzerland,
'Spontaneous trimerization in a bilinear-biquadratic S=1 zig-zag chain'

09/07 Swiss Workshop MaNEP, Les Diablerets, Switzerland,
'Spontaneous trimerization in a bilinear-biquadratic S=1 zig-zag chain'

01/07 Workshop on Highly Frustrated Magnetism, Dresden, Germany,
'Bilinear-Biquadratic Spin 1 Zig-Zag Chain'

12/06 Colloque numerique Suisse, EPFL, Switzerland,
'The Gaussian Quantum Monte Carlo method for fermions with symmetry projection'

11/05 C4 Workshop, ETH Zurich,
'The Gaussian Quantum Monte Carlo method for fermions with symmetry projection'

10/05 Swiss Workshop MaNEP, Les Diablerets, Switzerland,
'The Gaussian Quantum Monte Carlo method for fermions with symmetry projection'

Invited seminar talks (40)

03/21 University of Manchester, UK (online),
'Tensor network studies of the Shastry-Sutherland model'

03/21 University of Geneva, Switzerland (online),
'State of the art of 2D tensor networks'

06/20 European Tensor Network online seminar series,
'Simulations of the 2D Hubbard model with iPEPS'

04/20 HEP-TN online seminar (www.heptnseminar.org),
'Simulation of strongly correlated systems with infinite projected entangled-pair states (iPEPS)'

06/19 University of Cologne, Germany,
'Stripes in the 2D Hubbard model and finite correlation length scaling with iPEPS'

03/19 EPFL Switzerland,
'Simulation of quantum many-body systems with tensor network algorithms'

03/19 MPIPKS Dresden, Germany,
'Simulation of the 2D Hubbard model and finite correlation length scaling with iPEPS'
04/18 University of Leiden, Netherlands, 
“2D tensor network algorithms applied to the 2D Hubbard model”

10/17 University of Stuttgart, Germany, 
“Simulation of strongly correlated systems with iPEPS”

06/17 Amsterdam Machine Learning Lab, University of Amsterdam, 
“Introduction to tensor networks”

12/16 King’s College, London, UK, 
“Tensor network studies of 2D fermionic and frustrated systems”

11/16 Radboud University, Nijmegen, Netherlands, 
“Simulation of strongly correlated quantum many-body systems”

10/16 University of Amsterdam, Netherlands, 
“Simulation of strongly correlated quantum many-body systems”

09/16 University of Ghent, Belgium, 
“Recent progress in simulating strongly correlated systems with 2D tensor network methods”

04/16 QuSoft, CWI, Amsterdam, 
“Introduction to tensor networks”

11/15 Utrecht University, Netherlands, 
“Tensor network studies of 2D fermionic and frustrated systems”

10/15 University of Oxford, UK, 
“Simulation of fermionic and frustrated systems with 2D tensor networks”

10/14 University of Tokyo, Japan, 
“Recent progress in simulating strongly correlated systems with 2D tensor network methods”

06/14 RWTH Aachen, Germany, 
“Tensor network studies of the t-J and the Shastry-Sutherland model”

07/13 University of Cologne, Germany, 
“Simulation of strongly correlated systems in two dimensions with tensor network algorithms”

04/13 University of Amsterdam, Netherlands, 
“Simulation of strongly correlated systems in two dimensions with tensor network algorithms”

03/13 University of Basel, Switzerland, 
“Simulation of strongly correlated systems in two dimensions with tensor network algorithms”

03/13 University of Zurich, Switzerland, “Simulation of strongly correlated systems in two dimensions with tensor network algorithms”

12/12 ICFO, Castelldefels, Barcelona, Spain, 
“Recent progress in the simulation of strongly correlated systems in two dimensions with tensor network algorithms”

11/12 LMU Munich, 
“Tensor network studies of exotic phases in SU(N) Heisenberg models”

03/12 Theory Colloquium at ETH, 
“Simulation of strongly correlated systems in two dimensions with tensor network algorithms”

11/10 EPFL, Switzerland, 
“Introduction to tensor network algorithms”

04/10 MPIPKS, Dresden, Germany, 
“Simulation of fermionic lattice models in two dimensions with tensor network algorithms”
02/10 ETH Zurich, Switzerland,
“Simulation of fermionic lattice models in two dimensions with tensor network algorithms”

02/10 EPFL, Switzerland,
“Simulation of fermionic lattice models in two dimensions with tensor network algorithms”

11/09 University of Queensland, Brisbane, Australia,
“On the formalism of fermionic tensor networks”

10/09 University of Queensland, Brisbane, Australia,
“Simulation of fermionic lattice models in two dimensions with tensor network algorithms”

10/08 University of Queensland, Brisbane, Australia,
“Phase diagram of Helium-4 films adsorbed on a graphite substrate”

07/08 ETH Zurich, Switzerland,
“Phase diagram of Helium-4 films adsorbed on a graphite substrate”

05/07 University of Queensland, Brisbane, Australia,
“The Gaussian Quantum Monte Carlo method with symmetry projection”

05/07 University of Tokyo, Hongo, Tokyo, Japan,
“The Gaussian Quantum Monte Carlo method with symmetry projection”

05/07 ISSP, University of Tokyo, Kashiwa, Japan,
“The Gaussian Quantum Monte Carlo method with symmetry projection”

03/07 Boston University, USA
“The Gaussian Quantum Monte Carlo method with symmetry projection”

03/07 University of Southern California, Los Angeles, CA, USA,
“The Gaussian Quantum Monte Carlo method with symmetry projection”

02/07 University of California, Irvine, CA,
“The Gaussian Quantum Monte Carlo method with symmetry projection”
“Bilinear-biquadratic Spin 1 Zig-Zag chain”

Invited lectures at international schools (13)

09/22 ICTS program “Frustrated Metals and Insulators (hybrid)”, Bangalore, India,
“Introduction to tensor networks”

09/21 European Tensor Network - ICCUB School 2021, Barcelona, Spain,
2 lectures and tutorials “Introduction to Projected entangled pair states (PEPS) and numerical simulations with PEPS”

02/20 International school and workshop on “Entanglement in Strongly Correlated Systems”, Benasque, Spain, 
“Introduction to infinite projected entangled pair states” (3 lectures)

11/18 International school “Tensor product state simulations of strongly correlated systems”, MPIPKS, Dresden, Germany, “Projected entangled-pair states” (2 lectures)

10/18 Workshop “TOPO2018: Topological Phases in Condensed Matter and Cold Atom Systems”, Cargèse, France, “Introduction to iPEPS”

03/18 DRSTP PhD school, Dalfsen, Netherlands,
“Introduction to tensor networks for quantum many-body systems”

09/17 Arnold Sommerfeld School on “Numerical methods for correlated many-body systems”, Munich,
“Projected entangled-pair states (PEPS)”
11/16 International school “Tensor product state simulations of strongly correlated systems”, MPIPKS, Dresden, Germany, “Projected entangled-pair states” (2 lectures)

07/16 Workshop on “Tensor Networks and Quantum Many-Body Problems (TNQMP2016)”, ISSP, Japan “Introduction to iPEPS” (2 lectures)

06/16 International summer school of the “Many Electron Problem Collaboration”, Simons Center, Stony Brook, USA, “MERA”, “PEPS”, and “Advanced Tensor Network Applications” (3 lectures)

06/15 International “Tensor Network Summer School” in Ghent, Belgium, “PEPS Algorithms and Implementations” (2 lectures)

10/13 Fall school on “Advanced algorithms for correlated quantum matter”, Würzburg, Germany, “Introduction to tensor network algorithms”

06/12 International summer school on “new trends in computational approaches for many-body systems”, Sherbrooke, Canada. “PEPS” and “Fermionic tensor networks” (2 lectures)