

CURRICULUM VITAE

Personal Information

Name	Igor Boettcher
Date of Birth	September 10, 1986
Place of Birth	Karl-Marx-Stadt (now Chemnitz), German Democratic Republic
Affiliation	Department of Physics Simon Fraser University 8888 University Drive Burnaby, BC, V5A 1S6, Canada
E-Mail	iboettch@sfu.ca
Website	www.sfu.ca/~iboettch



Academic positions

starting Oct 2018	Postdoctoral fellow with Alexey Gorshkov at Joint Quantum Institute, University of Maryland, College Park, MD, USA
Oct 2015 – Sep 2018	Postdoctoral fellow with Igor Herbut at Department of Physics, Simon Fraser University, Burnaby, BC, Canada
Dec 2014 – Sep 2015	Postdoctoral fellow with Christof Wetterich at Institute for Theoretical Physics, Heidelberg University, Germany

Education

Aug 2011 – Dec 2014	PhD in Physics, Heidelberg University, Germany (summa cum laude–highest distinction), Thesis: <i>Dimensional BCS-BEC crossover in ultracold Fermi gases</i> , Supervisor: Christof Wetterich
---------------------	--

Oct 2006 – Jul 2011 Diploma in Physics, Heidelberg University, Germany (overall grade 1.0, with distinction), Thesis: *Precision observables for ultracold quantum gases*, Supervisor: Christof Wetterich

Research visits

Oct – Dec 2013 Research visit at the Institute for Theoretical Physics, Innsbruck, Austria, at the invitation of Sebastian Diehl

Funding and Awards

Oct 2015 – Sep 2017 Research Fellowship by German Research Foundation (DFG), Title: *Fermionic quantum matter in atomic gases and solid state systems* ~ EUR 90 000

Jan 2012 – Dec 2014 PhD scholarship by Graduate Academy Heidelberg ~ EUR 40 000

Jul 2011 Otto-Haxel-Prize 2011 “for an outstanding diploma thesis” (“für eine herausragende Diplomarbeit”), awarded by the Faculty of Physics and Astronomy, Heidelberg University

Contributions to scientific community

2011 – 2015 Organization of the weekly research seminar *Cold Quantum Coffee* at Heidelberg University with local and invited speakers

since 2014 Referee for DOE, PRL, PRX, PRA, PRB, JPhys A, JPhys B

Date: June 6, 2018

TEN MOST IMPORTANT PUBLICATIONS

I Boettcher, IF Herbut

Unconventional Superconductivity in Luttinger Semimetals: Theory of Complex Tensor Order and the Emergence of the Uniaxial Nematic State

Phys. Rev. Lett. **120**, 057002 (2018)

PA Murthy*, M Neidig*, R Klemt*, L Bayha, I Boettcher, T Enss, M Holten, G Zürn, PM Preiss, S Jochim

High temperature pairing in a strongly interacting two-dimensional Fermi gas

Science **359**, 452 (2018)

I Boettcher, IF Herbut

Anisotropy induces non-Fermi-liquid behavior and nematic magnetic order in three-dimensional Luttinger semimetals

Phys. Rev. B **95**, 075149 (2017), Editors' Suggestion

I Boettcher, M Holzmann

Quasi-long-range order in trapped two-dimensional Bose gases

Phys. Rev. A **94**, 011602(R) (2016), Rapid Communication

I Boettcher, IF Herbut

Superconducting quantum criticality in three-dimensional Luttinger semimetals

Phys. Rev. B **93**, 205138 (2016)

I Boettcher*, L Bayha, D Kedar, PA Murthy, M Neidig, MG Ries, AN Wenz, G Zürn, S Jochim, T Enss

Equation of State of Ultracold Fermions in the 2D BEC-BCS Crossover Region

Phys. Rev. Lett. **116**, 045303 (2016), Editors' Suggestion

Highlighted in viewpoint: Physics **9**, 10 (2016)

PA Murthy*, I Boettcher*, L Bayha, M Holzmann, D Kedar, M Neidig, MG Ries, AN Wenz, G Zürn, S Jochim

Observation of the Berezinskii-Kosterlitz-Thouless Phase Transition in an Ultracold Fermi Gas

Phys. Rev. Lett. **115**, 010401 (2015), Editors' Suggestion

I Boettcher, J Braun, TK Herbst, JM Pawłowski, D Roscher, C Wetterich

Phase structure of spin-imbalanced unitary Fermi gases

Phys. Rev. A **91**, 013610 (2015)

MG Ries*, AN Wenz*, G Zürn*, L Bayha, I Boettcher, D Kedar, PA Murthy, M Neidig, T Lompe, S Jochim

Observation of Pair Condensation in the Quasi-2D BEC-BCS Crossover

Phys. Rev. Lett. **114**, 230401 (2015), Editors' Suggestion

Highlighted in viewpoint: Physics **8**, 53 (2015)

I Boettcher, JM Pawłowski, S Diehl

Ultracold atoms and the Functional Renormalization Group

Nucl. Phys. B (Proc. Suppl.) **228**, 63-135 (2012)

*These authors contributed equally.