

UNIVERSITY OF MILAN

Public selection for recruiting No. 1 tenure track researcher(s) (RTT) for competition sector 01/A4 - Mathematical Physics, (scientific-disciplinary sector MAT/07 - Mathematical Physics) at the Department of Mathematics "Federigo Enriques", (announcement published in Official Gazette No. IV of "Serie speciale Concorsi ed Esami") - Competition code 5647

## Per Moosavi

### CURRICULUM VITAE

(N.B. CV MUST BE OF UP TO 30 PAGES AND INCLUDE THE DETAILS CANDIDATES CONSIDER USEFUL FOR THE ASSESSMENT. ALL THE TITLES INSERTED BELOW ARE JUST EXAMPLES THAT CAN BE REPLACED, CHANGED OR COMPLETED)

**PERSONAL DATA (DO NOT INCLUDE YOUR PERSONAL ADDRESS AND LANDLINE OR MOBILE PHONE NUMBER)**

SURNAME	MOOSAVI
NAME	PER
DATE OF BIRTH	19/10/1989

### **QUALIFICATIONS**

#### **DEGREE**

*(Specify full degree name, University, date, etc.)*

##### **MSc and BSc in Engineering Physics**

KTH Royal Institute of Technology, Stockholm, Sweden

Date of fulfillment of degree requirements: August 18, 2013

Date of issue of degree: November 21, 2013

##### **BSc in Business and Economics**

(Specializations: Economics and Finance)

Stockholm School of Economics (SSE), Stockholm, Sweden

Date of graduation: June 10, 2013

#### **DOCTORAL DEGREE OR EQUIVALENT QUALIFICATION EARNED IN ITALY OR ABROAD**

*(Specify qualification full name, institution, date, etc.)*

##### **Degree of Doctor of Philosophy**

in the subject area **Physics** specialized in **Theoretical Physics**

KTH Royal Institute of Technology, Stockholm, Sweden

Department of Physics, School of Engineering Sciences, Supervisor: Prof. Edwin Langmann

Title of thesis: Non-equilibrium dynamics of exactly solvable quantum many-body systems

Date of defense: December 14, 2018

Date of issue of degree: January 10, 2019

## RESEARCH CONTRACTS, RESEARCH FELLOWSHIP CONTRACTS, POSTDOCTORAL SCHOLARSHIPS OR SIMILAR CONTRACTS

(Specify, for each contract, university/institution, starting and termination date, etc.)

### Researcher

Stockholm University, Sweden  
Department of Physics  
Oct 2023 – Present

### Postdoc

ETH Zurich, Switzerland  
Department of Physics (D-PHYS)  
Institute for Theoretical Physics (ITP)  
Oct 2019 – Sep 2023

### PhD Student

KTH, Stockholm, Sweden  
Department of Physics  
Nov 2014 – Aug 2019 (full employment)  
Dec 2014 – Dec 2018 (doing the PhD)

### Research Assistant

CERN, Meyrin, Switzerland  
Apr 2014 – Aug 2014

### Research Assistant

KTH, Stockholm, Sweden  
Sep 2013 – Mar 2014

### Summer Student

CERN, Meyrin, Switzerland  
Jun 2013 – Aug 2013

### Teaching Assistant

KTH, Stockholm, Sweden  
Aug 2012 – May 2013

## TEACHING ACTIVITIES AT ITALIAN OR FOREIGN UNIVERSITIES

(Specify academic year, university, degree course, number of hours etc.)

### Courses:

2024 **Lecturer**, Advanced topics in classical physics – Statistical physics module, Faculty of Physical Sciences, University of Iceland. (MSc level, 5.0 ECTS, 11 Lectures, 9 Exercise classes, 1 Lecture/Exercise class combined)

2023 **Tutor**, Proseminar on Riemann surfaces in mathematical physics, Dep. of Physics, ETH.

2022 **Tutor**, Proseminar on solitons and instantons in condensed matter, Dep. of Physics, ETH.

2021 **Tutor**, Proseminar on classical field theory, Dep. of Physics, ETH.

2020 **Tutor**, Proseminar on modern topics in condensed matter physics, Dep. of Physics, ETH.

2019 **Teaching Assistant**, Vector analysis, Dep. of Physics, KTH. (BSc level, 4.0 ECTS, 12 Exercise classes)

2018 **Teaching Assistant**, Mathematical methods in physics, Dep. of Physics, KTH. (BSc level, 4.0 ECTS, 11 Exercise classes)

2017 **Lecturer**, Vector analysis, Dep. of Physics, KTH. (BSc level, 4.0 ECTS, 11 Lectures)

2017 **Teaching Assistant**, Statistical mechanics, Dep. of Physics, KTH. (MSc level, 7.5 ECTS, 13 Exercise classes)

2017 **Teaching Assistant**, Mathematical methods in physics, Dep. of Physics, KTH. (BSc level, 5.0 ECTS, 11 Exercise classes)

2016 **Teaching Assistant**, Statistical mechanics, Dep. of Theoretical Physics, KTH. (MSc level, 7.5 ECTS, 13 Exercise classes)

2016 **Teaching Assistant**, Mathematical methods in physics, Dep. of Theoretical Physics, KTH. (BSc level, 5.0 ECTS, 11 Exercise classes)

2015 **Teaching Assistant**, Vector analysis, Dep. of Theoretical Physics, KTH. (BSc level, 4.0 ECTS, 12 Exercise classes)

2015 **Teaching Assistant**, Mathematical methods in physics, Dep. of Theoretical Physics, KTH. (BSc level, 5.0 ECTS, 11 Exercise classes)

2013 **Teaching Assistant**, Multivariable calculus, Dep. of Mathematics, KTH. (BSc level, 9.0 ECTS, 14 Exercise classes)

2012 **Teaching Assistant**, Introductory course in mathematics, Dep. of Mathematics, KTH. (BSc level, 1.5 ECTS)

#### **Students supervised:**

2022 -- 2023 Valerio Pagni, MSc thesis, co-supervised, ETH Zurich.

2020 -- 2023 In total 15 students (BSc and MSc level) supervised in proseminars, ETH Zurich.

#### **ATTESTED TRAINING OR RESEARCH ACTIVITIES AT QUALIFIED ITALIAN OR FOREIGN INSTITUTIONS**

(Specify academic year, institution, course, period, etc.)

##### **Training in Research Supervision and Teaching:**

2024 Stockholm University, **Research Supervision in theory and practice**, 3.0 ECTS

2015 KTH Royal Institute of Technology, **Basic communication and teaching**, 3.0 ECTS

#### **IMPLEMENTATION OF PROJECTS**

(Specify date, project name, etc.)

2023 Research grant from the Wenner-Gren Foundations

Principal: **Per Moosavi**

Title: *Deformed or disordered quantum liquids in and out of equilibrium*

Amount: 2 576 000 SEK

2021 Workshop funding from the Pauli Center for Theoretical Studies

Principals: Nicolo Defenu, Gian Michele Graf, **Per Moosavi**

Title: *Out-of-equilibrium and collective dynamics of quantum many-body systems*

Amount: 28 250 CHF

2019 Postdoc fellowship (3 years) from the Wenner-Gren Foundations

Principal: **Per Moosavi**

Title: *Topology and disordered quantum systems out of equilibrium*

Amount: 212 524 CHF

2019 Postdoc fellowship (3 years) from the Swedish Research Council  
Principal: **Per Moosavi**  
Title: *Topology and disordered quantum systems out of equilibrium*  
Amount: 3 150 000 SEK  
Awarded, but declined in favor of the fellowship from the Wenner-Gren Foundations.

## ORGANISATION, SUPERVISION AND COORDINATION OF NATIONAL AND INTERNATIONAL RESEARCH GROUPS, OR PARTICIPATION IN THEM

(For each entry, specify year, role, research group, etc.)

### Organization of workshop:

2022 *Out-of-equilibrium and collective dynamics of quantum many-body systems*  
ETH Zurich, June 27 – July 1, organized by N. Defenu, G. M. Graf, and P. Moosavi  
Link: <https://people.phys.ethz.ch/~pmoosavi/workshop/>  
Number of participants: 66 in person (21 invited talks, 11 contributed talks, 10 poster presentations)

## HOLDING PATENTS

(For each patent, specify authors' names, title, classification, patent number, etc.)

None

## SPEAKING AT NATIONAL AND INTERNATIONAL CONFERENCES AND CONVENTIONS

(Specify conference/convention title, date, etc.)

2024 Seminar talk, WINQ Seminar, Nordita, Stockholm, Sweden.

2024 Seminar talk, Faculty of Physical Sciences, University of Iceland, Reykjavík, Iceland.

2024 Seminar talk, PDEs and Applications Seminar, Dep. of Mathematics, Uppsala University, Sweden.

2024 Contributed talk, XXI International Congress on Mathematical Physics, Strasbourg, France.

2024 Seminar talk, Dep. of Physics, University of Warsaw, Poland.

2024 Seminar talk, Probability and Mathematical Physics, Dep. of Mathematics, KTH, Sweden.

2024 Seminar talk, Differential Geometry and General Relativity, Dep. of Mathematics, KTH, Sweden.

2024 Seminar talk, Oberseminar Mathematische Physik, University of Bonn, Germany.

2024 Seminar talk, Joint Condensed Matter Seminar, KTH & Stockholm University & Nordita, Stockholm, Sweden.

2023 Seminar talk, Quantum Lunch, Dep. of Mathematical Sciences, University of Copenhagen, Denmark.

2023 Seminar talk, Seminar for Applied Mathematics, Dep. of Mathematics, ETH Zurich, Switzerland.

2023 Lecture, Dep. of Physics, Freie Universität Berlin, Germany.

2023 Seminar talk, Joint Condensed Matter Seminar, KTH & Stockholm University & Nordita, Stockholm, Sweden.

2023 Seminar talk, PDEs and Applications Seminar, Dep. of Mathematics, Uppsala University, Sweden.

2023 Contributed talk, Mathematical Aspects of Condensed Matter Physics, ETH Zurich, Switzerland.

2023 Invited talk, Geometric and Analytic Aspects of the Quantum Hall effect, SwissMAP Research Station, Les Diablerets, Switzerland.

2023 Seminar talk, Mathematics of Many-Body Systems, Mathematics Area, SISSA, Trieste, Italy.

2023 Invited talk, Integrability in Condensed Matter Physics and Quantum Field Theory, SwissMAP Research Station, Les Diablerets, Switzerland.

2023 Seminar talk, Dep. of Physics, University of Geneva, Switzerland.

2023 Seminar talk, Quantum Spin Lattice Seminar, Online (jointly Caltech & UC Davis).

2023 Invited talk, Mathematical Quantum Matter, Università degli Studi di Milano, Italy.

2022 Seminar talk, Laboratoire de Physique et Chimie Théoriques, Université de Lorraine, Nancy, France.

2022 Seminar talk, PDEs and Applications Seminar, Dep. of Mathematics, Uppsala University, Sweden.

2022 Contributed talk, QMATH 15, UC Davis, California, USA.

2022 Seminar talk, Dep. of Physics, Freie Universität Berlin, Germany.

2021 Seminar talk, Talks in Mathematical Physics, Dep. of Mathematics, ETH Zurich, Switzerland.

2021 Seminar talk, Itinerant Quantum Math Meetings, Università degli Studi di Milano, Italy.

2021 Invited talk, Archipelagic Perspectives on Mathematics and Physics, Djurö, Sweden.

2021 Poster presentation, XX International Congress on Mathematical Physics, Geneva, Switzerland.

2021 Contributed talk, Low Dimensional Quantum Many Body Systems, Heidelberg, Germany.

2021 Poster presentation, NCCR SwissMAP Site Visit 2021, Online.

2021 Contributed talk, Student Workshop on Integrability, Online.

2020 Invited talk, Statistical Physics and Low-Dimensional Physics 2020, Pont-à-Mousson, France.

2020 Seminar talk, Faculty of Mathematics and Physics, University of Ljubljana, Slovenia.

2019 Lecture, Dep. of Mathematics, University of Tübingen, Germany.

2019 Seminar talk, Dep. of Mathematics, University of Tübingen, Germany.

2019 Contributed talk, Quantum Transport and Universality, Università degli Studi Roma Tre, Rome, Italy.

2019 Seminar talk, Dep. of Mathematics, Ludwig Maximilian University of Munich, Germany.

2019 Contributed talk, Student Workshop on Integrability, UC Louvain, Louvain-la-Neuve, Belgium.

2018 Contributed talk, XIX International Congress on Mathematical Physics, Montreal, Canada.

2018 Contributed talk, Mathematical Challenges in Quantum Mechanics, Sapienza – Università di Roma, Rome, Italy.

2017 Invited talk, Physics@KTH Conference, Stockholm, Sweden.

2017 Contributed talk, 117th Statistical Mechanics Conference, Rutgers University, New Jersey, USA.

2016 Contributed talk, Mathematical Challenges in Quantum Mechanics, Bressanone, Italy.

2015 Seminar talk, Dep. of Physics, University of Geneva, Switzerland.

2015 Contributed talk, XVIII International Congress on Mathematical Physics, Young Researcher's Symposium, Santiago, Chile.

#### NATIONAL AND INTERNATIONAL AWARDS AND ACCOLADES FOR RESEARCH ACTIVITY

(Specify award, date, issuing organisation, etc.)

2022 Institute of Physics (IOP), 2021 Outstanding Reviewer Award

Link: <https://publishingsupport.iopscience.iop.org/questions/journal-physics-mathematical-theoretical-2021-reviewer-awards/>

2021 Institute of Physics (IOP), Trusted Reviewer

#### QUALIFICATIONS UNDER ART.24, PARAGRAPH 3.a AND 3.b, OF LAW No.240/2010 OF 30 DECEMBER 2010

(Specify whether it is a type A or type B contract, University, contract effective date and end date, etc.)

None

### SCIENTIFIC PRODUCTION

#### SCIENTIFIC PUBLICATIONS

(For each publication, specify the following: authors' names, full title, publisher, date and place of publication, ISBN/ISSN/DOI or equivalent code)

Note: Authors are in **alphabetical** order in all my journal papers, except in [1].

**Journal papers (refereed)** that are attached to this application:

[1] B. Oblak, B. Lapierre, **P. Moosavi**, J.-M. Stéphan, and B. Estienne,  
Anisotropic quantum Hall droplets,  
Phys. Rev. X **14**, 011030 (2024).  
Published: February 27, 2024  
DOI: 10.1103/PhysRevX.14.011030  
Link: <https://doi.org/10.1103/PhysRevX.14.011030>

[2] **P. Moosavi**,  
Inhomogeneous conformal field theory out of equilibrium,  
Ann. Henri Poincaré **25**, 1083 (2024).  
Published (online): December 31, 2021  
DOI: 10.1007/s00023-021-01118-0  
Link: <https://doi.org/10.1007/s00023-021-01118-0>

[3] **P. Moosavi**,  
Exact Dirac-Bogoliubov-de Gennes dynamics for inhomogeneous quantum liquids,  
Phys. Rev. Lett. **131**, 100401 (2023).  
Published: September 6, 2023  
DOI: 10.1103/PhysRevLett.131.100401  
Link: <https://doi.org/10.1103/PhysRevLett.131.100401>

[4] S. Datta, B. Lapierre, **P. Moosavi**, and A. Tiwari,  
Marginal quenches and drives in Tomonaga-Luttinger liquids,  
SciPost Phys. **14**, 108 (2023).  
Published: May 11, 2023  
DOI: 10.21468/SciPostPhys.14.5.108  
Link: <https://doi.org/10.21468/SciPostPhys.14.5.108>

[5] M. Gluza, **P. Moosavi**, and S. Sotiriadis,  
Breaking of Huygens-Fresnel principle in inhomogeneous Tomonaga-Luttinger liquids,  
J. Phys. A: Math. Theor. **55**, 054002 (2022).  
Published: January 13, 2022  
DOI: 10.1088/1751-8121/ac39cc  
Link: <https://doi.org/10.1088/1751-8121/ac39cc>

[6] B. Lapierre and **P. Moosavi**,  
Geometric approach to inhomogeneous Floquet systems,  
Phys. Rev. B **103** 224303 (2021).  
Published: June 8, 2021  
DOI: 10.1103/PhysRevB.103.224303  
Link: <https://doi.org/10.1103/PhysRevB.103.224303>

[7] L. Fresta and **P. Moosavi**,  
Approaching off-diagonal long-range order for 1+1-dimensional relativistic anyons,  
Phys. Rev. B **103**, 085140 (2021).  
Published: February 26, 2021  
DOI: 10.1103/PhysRevB.103.085140  
Link: <https://doi.org/10.1103/PhysRevB.103.085140>

[8] E. Langmann and **P. Moosavi**,  
Diffusive heat waves in random conformal field theory,  
Phys. Rev. Lett. **122**, 020201 (2019).  
Published: January 18, 2019  
DOI: 10.1103/PhysRevLett.122.020201  
Link: <https://doi.org/10.1103/PhysRevLett.122.020201>

[9] K. Gawedzki, E. Langmann, and **P. Moosavi**,  
Finite-time universality in nonequilibrium CFT,  
J. Stat. Phys. **172**, 353 (2018).  
Published (online): March 28, 2018  
DOI: 10.1007/s10955-018-2025-x  
Link: <https://doi.org/10.1007/s10955-018-2025-x>

[10] E. Langmann, J. L. Lebowitz, V. Mastropietro, and **P. Moosavi**,  
Time evolution of the Luttinger model with nonuniform temperature profile,  
Phys. Rev. B **95**, 235142 (2017).  
Published: June 23, 2017  
DOI: 10.1103/PhysRevB.95.235142  
Link: <https://doi.org/10.1103/PhysRevB.95.235142>

[11] E. Langmann, J. L. Lebowitz, V. Mastropietro, and **P. Moosavi**,  
Steady states and universal conductance in a quenched Luttinger model,  
Commun. Math. Phys. **349**, 551 (2017).  
Published (online): May 20, 2016  
DOI: 10.1007/s00220-016-2631-x  
Link: <https://doi.org/10.1007/s00220-016-2631-x>

[12] E. Langmann and **P. Moosavi**,  
Construction by bosonization of a fermion-phonon model,  
J. Math. Phys. **56**, 091902 (2015).  
Published (online): September 18, 2015  
DOI: 10.1063/1.4930299  
Link: <https://doi.org/10.1063/1.4930299>

**Journal papers (refereed) that are not attached to this application:**

[13] J. Hoppe and **P. Moosavi**,  
Stability of the classical catenoid and Darboux-Pöschl-Teller potentials,  
Math. Phys. Anal. Geom. **25**, 28 (2022).  
Published: October 29, 2022  
DOI: 10.1007/s11040-022-09437-2  
Link: <https://doi.org/10.1007/s11040-022-09437-2>

[14] **P. Moosavi**,  
Emergence of generalized hydrodynamics in the non-local Luttinger model,  
SciPost Phys. **9**, 037 (2020).  
Published: September 11, 2020  
DOI: 10.21468/SciPostPhys.9.3.037  
Link: <https://doi.org/10.21468/SciPostPhys.9.3.037>

**Preprints (not refereed) that are not attached to this application:**

[15] **P. Moosavi**, B. Oblak, B. Lapierre, B. Estienne, and J.-M. Stéphan,  
Quantum Hall edges beyond the plasma analogy  
arXiv:2407.19013 [cond-mat.mes-hall] (2024).  
Link: <https://doi.org/10.48550/arXiv.2407.19013>

[16] **P. Moosavi**, M. Christandl, G. M. Graf, and S. Sotiriadis,  
Perfect wave transfer in continuous quantum systems,  
arXiv:2408.00723 [quant-ph] (2024).  
Link: <https://doi.org/10.48550/arXiv.2408.00723>

Date

18/12/2024

Place

Stockholm, Sweden