Postdoctoral positions around the world:

24.06.20

We would like to draw your attention to a number of new PhD and postdoc positions in quantum science at Aarhus University. Within the framework of our newly established CENTER FOR COMPLEX QUANTUM SYSTEMS (CCQ) we are currently looking for excellent applicants in experimental and theoretical quantum physics. The Center will offer unique research and training activities and provide ample opportunities for COLLABORATIONS ACROSS EXPERIMENT AND THEORY, as well as different topics, FROM MANY-BODY PHYSICS, AND QUANTUM OPTICS, TO QUANTUM INFORMATION SCIENCE, AND AMO PHYSICS OF ULTRACOLD ATOMS AND IONS.

More information about the positions and how to apply can be found for the postdoc positions at https://au.career.emply.com/ad-preview/k6nqov/en


THE DEADLINE IS AUGUST 1, 2020.

Not all vacant positions may be filled at once within this call, and we most happily receive emails from potential candidates for later recruitment beyond this date.

We would be very grateful if you could forward this information and/or the attached flyer to interested candidates. Please, feel free to approach us in case you have any questions.

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19.06.20

A permanent position of research engineer in scientific computing is proposed through a CNRS external competition at the Laboratory of Theoretical Physics (LPT-UMR 5152) and at the Institute of Research in Astrophysics and Planetology (IRAP-UMR 5277) in Toulouse. It is a permanent position provided by the French government. It is open to everyone, regardless of citizenship. Candidates must hold a doctorate or an engineering diploma (some other degrees are possible). The competition can be viewed at: http://www.dgdr.cnrs.fr/drhita/concoursita/consulter/resultats/consulter.htm
To apply, the prospective candidate should go to http://www.dgdr.cnrs.fr/drhita/concoursita/

There is also a candidate guide explaining how to apply. The corresponding competition is No. 53, which contains two similar positions, including the one of the LPT-IRAP and another position at Laboratory M2P2 Marseille. It is possible to apply for both positions, specifying an order of preference, or only one of them.

The deadline is July 2.
For any detailed information on this position, you can contact:
- At LPT: Sylvain Capponi: capponi@irsame.ups-tlse.fr
- At IRAP: François Lignières: francois.lignieres@irap.omp.eu

Job profile:
The expert in scientific computing will exercise his activity within the framework of a shared function between the Laboratory of Theoretical Physics (LPT) at 50% and the Research Institute in Astrophysics and Planetology (IRAP) at 50%. He/she will provide expertise in the use of algorithmic/mathematical methods and their adaptation to different machine architectures as well as the development,
optimization, maintenance and dissemination of parallel codes to numerically solve quantum or classical physics problems in at the heart of the activity of the LPT and the problems of dynamics of astrophysical and physical fluids of plasmas at the heart of the activity of IRAP. He/she will be placed under the hierarchical responsibility of the Director of the LPT.

Activities:
MAIN ACTIVITIES:
- Develop with researchers highly parallel scientific codes optimized for very high performance computers
- Design, develop or adapt methods in scientific computing
- Participate in the promotion of the work, in particular by disseminating to the scientific community codes / libraries developed at IRAP and LPT.
- Ensure a technological watch on the evolution of hardware architectures (GPU ...) and numerical methods in close connection with regional and national data centers and in collaboration with other IT staff from the Institute of Research in Atomics and Molecular Complex Systems (IRSAMC) and the Midi-Pyrénées Observatory (OMP)
- Ensure the transfer of knowledge, know-how and good practices to researchers: participate in the training of users of high performance computing, disseminate and enhance the methods and tools developed.

ASSOCIATED ACTIVITIES:
- Participate in national and international research projects and associated publications
- Supervise or co-supervise students (interns, PhD students) or engineers on numerical projects
- Present the codes / methods developed in dedicated seminars / conferences
- Participate in scientific activities around computation at the OMP / IRSAMC level

Skills:
General, theoretical or disciplinary knowledge:
- General knowledge of applied mathematics in particular in the field of numerical analysis: linear algebra, partial differential equation (PDE), stochastic calculations ...
- In-depth knowledge of programming techniques (including Fortran, C, C++ and Python languages), parallelization (MPI, OpenMP ...) and optimization
- General knowledge of scientific computing program libraries
- General knowledge of architectures of computers and distributed systems and operating systems
- General knowledge of software quality tools promoting the user Interface

Operational know-how:
- Understand and analyze the scientific problem posed
- Identify numerical methods, optimization and programming techniques as well as validation tests adapted to scientific issues
- Implement programming languages (Fortran, C, C ++ and Python)
- Implement project management and management methods
- Work in interaction with one or more research teams
- Autonomy, taking initiative
- Technical English: read, spoken, written. Level B "independent user" according to the common European frame of reference for languages.

Background:
The LPT (50 people) is involved in many fields of physics, and is a heavy user of intensive scientific computing on computing centers at the LPT, or at a regional (CALMIP) and national (GENCI / IDRIS) level. The codes, often highly parallel, are mainly produced by LPT researchers and their collaborators and relate to quantum mechanical calculations (Monte-Carlo, linear algebra, density functional ...) in electronic physics / magnetism of condensed matter and cluster physics, but also in classical physics (Monte-Carlo, molecular dynamics ...), for example in biophysics and soft matter. The codes must be designed from the outset for very high performance machines or optimized a posteriori.
IRAP (300 people) has a strong theory / modeling component for which numerical simulation is the main tool. This activity is crucial for the exploitation of astrophysical data and in particular that of space missions in which IRAP is strongly involved. Researchers develop and use multidimensional simulation codes in dynamics of astrophysical fluids and plasma physics that operate on massively parallel machines. The engineer will reinforce IRAP’s capacity to develop and perpetuate digital codes at the best international level.

The engineer will work in a local environment (IRSAMC federation for LPT and OMP for IRAP) very rich in numerical projects and also including the CALMIP computing center. He / she will be encouraged to follow training courses and to participate, thanks to team funding, in scientific conferences and to publish his/her results. Occasional and short trips are expected in order to participate in collaboration meetings or workshops, in France and abroad.

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18.06.20
One PhD student and one Postdoc in the framework of the Collaborative Research Center ISOQUANT (Isolated quantum systems and universality in extreme conditions) in Heidelberg. The earliest starting date is July 2020.

More information can be found here:
https://www.kip.uni-heidelberg.de/user/marting/
https://dev-isoquant.frosch.gift/ (Positions are in Projects A05 and (new) Project A06)

Priv. Doz. Dr. Martin Gärttner
Kichhoff-Institut für Physik
Im Neuenheimer Feld 227
69120 Heidelberg, Germany
and
Institut für theoretische Physik
Philosophenweg 12
69120 Heidelberg, Germany

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15.06.20
Postdoctoral position on numerical approaches to low-dimensional flat-band systems;

Description: The theory groups of Annica Black-Schaffer and Adrian Kantian at the Department of Physics and Astronomy at Uppsala University invite applications for a joint postdoctoral position on many-body physics in flat-band systems with a special focus on numerical approaches, with funding provided by the Knut and Alice Wallenberg Foundation (KAW) and the European Research Council (ERC).

Project: The aim of the project is to advance the theory of many-body quantum systems realized in low-dimensional flat-band and partial flat-band lattices. A special focus will be on finding and characterizing potential superconducting instabilities in these systems and their competition with alternative orders. A major tool in this project will be the use of density matrix renormalization group (DMRG) approaches as well as advanced analytical mean-field techniques.

Profile: Scientific curiosity, a strong drive for original research, scientific rigour, and self-initiative are vital requirements for this position, as is a collaborative nature. Work in this position will involve substantial use of existing DMRG codes. This project thus seeks an applicant with a solid background and experience either in matrix product state-based methods and/or other types of numerical many-body techniques, complemented by an extensive understanding of the physics of strongly correlated systems in general. On the technical side, substantial programming abilities and experience in the use of Linux/Unix-based HPC computational clusters are essential. Knowledge of and experience with C++ would be a major asset.

Team and environment: This position will be embedded in the groups of the two joint PIs. The two groups have extensive research activities on many-body systems in both solid state matter and ultracold atomic gases, especially with a focus on unconventional superconductivity in bulk as well as in low-dimensional systems. Techniques used range from analytical Green’s functions techniques and many-body dynamics in and out of equilibrium to DMRG
and dynamical mean-field theory (DMFT) calculations. Together, the groups currently comprise seven postdoctoral researchers and six Ph.D. students.

Uppsala University is a comprehensive research-intensive university with a strong international standing. Its mission is to pursue top-quality research and education. Uppsala University has 42,000 students, 7,000 employees and a turnover of SEK 6.7 billion.

More information on the groups and their activities can be found on

Prerequisites: A PhD degree in theoretical physics or equivalent. Fluency in both written and spoken English is an absolute prerequisite. Ability to communicate results clearly and concisely, directly with colleagues, as well as with outside collaborators and at conferences.

Position: This position is provided in the form of a tax-free postdoctoral scholarship stipend for 2 years, with the possibility of an additional third year. Comprehensive healthcare is provided with only a small co-pay (<2 000 SEK/year).

How to apply: The application file should contain:

(1) Letter describing the applicant and her/his qualifications and research interests
(2) CV
(3) Full publication list
(4) Contact information for at least three references
(5) Copies of relevant degrees

Please direct all queries regarding this advertisement, as well as the application package in the form of a single PDF to flatbandphysics.uppsala@gmail.com

Uppsala University is striving to achieve a more even gender balance and women are especially encouraged to apply.

Starting date: Fall 2020 or as otherwise agreed.

Review of applications will begin August 3rd, 2020 and continue until the position is filled.

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11.06.20

Multiverse Computing (www.multiversecomputing.com) is a Spanish-Canadian startup focused on providing quantum and quantum-inspired software solutions for the financial industry. Our team of experts is well-known for innovative approaches to intractable financial problems. On the quantum side, Multiverse relies on a myriad of different approaches, including Universal Quantum Computing, Quantum Annealing, and Gaussian Boson Sampling. On the front of quantum-inspired methods, we exploit the power and versatility of Tensor Network algorithms, among other approaches. We are committed to attract the best talent in the world, and to change the way finance is done.

At Multiverse we are currently expanding our team, and looking to fill in the following technical positions at our offices in San Sebastian (Spain) and Toronto (Canada):

- Quantum and quantum-inspired developer
- Quantum software developer
- Financial engineer
- Graph problems and optimization expert
- Machine learning scientist

Details about all the positions and application procedure can be found in the following link:
http://www.multiversecomputing.com/careers.html

Roman Orus
A postdoctoral position is available within the STRUCTURES Excellence Cluster at the University of Heidelberg.

The Many Body Theory group of Dr. Tilman Enss, in collaboration with Dr. Nicolò Defenu and with the experimental group of Prof. Matthias Weidemüller, offers a postdoc position to work on the theory of (dynamical) critical phenomena on inhomogeneous graphs, in connection with the physics of Rydberg atoms.

The offer is for a two-year postdoc position starting October 2020. The postdoc will work in close collaboration with the members of the Many Body Theory group. The successful candidate shall have experience in numerical techniques for critical phenomena and/or quantum dynamics.

https://www.thphys.uni-heidelberg.de/~enns/

The work will be conducted in the framework of the STRUCTURES excellence cluster recently established at the University of Heidelberg. The STRUCTURES collaboration addresses specific, highly topical questions about the formation, role, and detection of structure in a broad range of natural phenomena, from subatomic particles to cosmology, and from fundamental quantum physics to neuroscience.

https://www.structures.uni-heidelberg.de/

For more information regarding the position, prospective applicants are encouraged to contact Nicolò Defenu (defenu@thphys.uni-heidelberg.de) or Tilman Enss (enns@thphys.uni-heidelberg.de).

Priv.-Doz. Dr. Tilman Enss
Institute for Theoretical Physics
University of Heidelberg
Philosophenweg 19
D-69120 Heidelberg, Germany

don +49 6221 54 9449
http://www.thphys.uni-heidelberg.de/~enns
of a research team led by me, Peter P. Orth, and Dr. Yongxin Yao. The position is funded by a DOE Quantum Information Science (QIS) initiative in materials research.

To guarantee consideration, applications must be submitted prior by May 22, 2020, but later applications might still be considered until the positions are filled. Details of the job description and how to apply are found here:


Peter P. Orth
Iowa State University
A521 Zaffarano Hall, phone: (515)-294-4356 [1]
Website: https://orth.physics.iastate.edu/ [2]

Links:
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[1] tel:(515)-294-4356

13.05.20
I would be grateful if you could bring this announcement of an open postdoctoral position at Northeastern University, Boston, USA to the attention of potential candidates.

Applications are invited for an open postdoctoral position in correlated electron theory to begin on or before September 1, 2020. Recent topics of interest in the group have focused on interaction effects in topological phases of matter, quantum magnetism, superconductivity, and non-equilibrium systems.

The Department of Physics at the Northeastern University offers rich opportunities for collaborations with the Feiguin and Bansil groups, and also within the Boston area, with Harvard, MIT, Boston University, and Boston College in extremely close proximity.

Interested candidates should send a brief statement of research interests/experience, a CV with a list of publications, and arrange to have three letters of recommendation sent to: g.fiete@northeastern.edu

Review of applications will begin immediately, and will continue until the position is filled.

Greg Fiete
Professor of Physics
https://cos.northeastern.edu/people/gregory-fiete/
Gregory Fiete - Northeastern University College of Science<https://cos.northeastern.edu/people/gregory-fiete/>

06.05.20
Doctoral and postdoctoral positions, Aalto University;
A Ph.D. student position and a postdoctoral researcher position are available in my group, to work in the field of superconducting circuit QED.

For applications, please see the full announcements as attachments or online at:


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28.04.20

Postdoctoral opening @ ENS-Lyon (France): Theory of quantum correlations in AMO quantum simulators

The scalable production of many-body entangled states is the central goal of most quantum technologies of new generation (such as quantum simulation, quantum computing and quantum metrology). Such a goal poses a fundamental challenge to experiments, requiring an extreme level of control on quantum many-body systems (ensembles of ultra-cold atoms, complex quantum circuits, etc.). But theoretical physics is also faced with a crucial challenge, namely that of developing a versatile toolbox for the certification of quantum devices, with two main goals: 1) the efficient encoding of quantum many-body states with classical computers (at least in some limiting cases); and 2) the development of realistic diagnostic tools for the detection of quantum entanglement, and the reconstruction of its spatial structure.

This postdoctoral position is aimed at developing a vigorous theoretical activity on the above aspects, in close relationship with quantum simulators based on atomic-molecular-optical (AMO) physics. We shall particularly focus on the case of quantum simulators of lattice spin models, either with $S=1/2$ (as realised by trapped-ion and Rydberg-atom experiments) or with larger spins (as realised by magnetic-atom - Cr, Er, and Dy - experiments). The broad goal of the project is therefore two-fold:

A) developing numerical tools for the real-time simulation of quantum lattice Hamiltonians (based on variational entangled states, as well as semi-classical approaches); the main goal will be the simulation of the entangling unitary dynamics governed by quantum spin Hamiltonians with power-law interactions;

B) analysing the non-equilibrium quantum many-body states using entanglement witnesses for bipartite and multipartite entanglement, as well as many-body Bell inequalities.

The postdoctoral appointment — under the joint supervision of Tommaso Roscilde and Fabio Mezzacapo at the Laboratoire de Physique, ENS of Lyon — offers a unique opportunity to develop skills both in the numerical simulation of non-equilibrium quantum many-body systems; as well as in the certification of entanglement and nonlocality in complex many-body states. The appointment is funded within the QuantERA project “MAQS - Magnetic Atom Quantum Simulator”, joining a consortium of 7 European partners (both experimental and theoretical), and offering therefore ample opportunities for international collaborations and for experiment-theory synergies.

The postdoctoral candidate should have a solid background in quantum mechanics; and working experience either with numerical simulations of quantum many-body systems; or with quantum information at the interface with quantum many-body physics (ideally with both).

Candidates are requested to send a motivation letter and a CV via e-mail (tommaso.roscilde@gmail.com), and arrange for at least two letters of recommendation to be sent to the same address. Deadline for application is May 24th, 2020 — but later applications can be considered as well until the position is filled.

The appointment is for two years, with an earliest starting date set to Sep. 14th, 2020. Yet later starting dates can also be negotiated. In light of the COVID-19 epidemic, the starting date is tentative, and it will strongly depend on the working conditions — in particular, physical access to the research
facilities — that the host institution (Ecole Normale Supérieure de Lyon) will be able to offer in the near future, while complying with sanitary restrictions.

**Tommaso Roscilde** - Associate Professor (Maître de Conférences HDR) Laboratoire de Physique - Ecole Normale Supérieure de Lyon
46 Allée d’Italie, 69007 Lyon, France
Tel: +33-4-72728519
e-mail:tommaso.roscilde@gmail.com
URL: https://sites.google.com/site/roscilde/

06.04.20
A Lectureship in Computational Physics is being advertised for **Coventry**. The process was started before the Corona virus crisis came so I have no idea of how the post will be impacted. Anyway, in case you know of someone or someone who knows someone, I include a link below.
Deadline is 30 April 2020.
A statistical physicist with some potential to make impact outside of academia and to bring in grants would be welcome.

Here is the link:
https://www.jobs.ac.uk/job/BZQ573/lecturer-in-computational-physics

26.03.20
**W2-Professorship “Theoretical Quantum Condensed Matter”, Universität Leipzig**;
We are looking for an internationally renowned researcher in the field of quantum theory of condensed matter. The main research topics can be in the field of dynamics and manipulation of quantum systems, topological phenomena, solid state implementation of quantum information, or quantum transport. The willingness to cooperate with other groups at the Institute for Theoretical Physics and at the Felix Bloch Institute for Solid State Physics is assumed. We expect the applicant to participate in initiatives for future coordinated research projects within the framework of the research profile areas “Complex Matter” and “Mathematical and Computational Sciences”. Rights and obligations of the jobholder are within the Saxonian university law (Sächsisches Hochschulfreiheitsgesetz, SächsHSFG) and the Saxonian public service task regulation (Sächsische Dienstaufgabenverordnung, DAVOHS). Applicants must meet the requirements of § 58 SächsHSFG. The University of Leipzig emphasizes the equality of women and men. Handicapped applicants are encouraged to apply and given preference if equally qualified.
Applications with the usual documents, enclosing detailed CV, a list of the scientific work and academic teaching including available records of teaching evaluations and a certified copy of the certificate of the highest acquired academic degree should be sent in printed or a digital format as one PDF-document, before 31 March 2020 to:
Universität Leipzig
Dekan der Fakultät für Physik und Geowissenschaften
Prof. Dr. Christoph Jacobi
Linnéstraße 5
04103 Leipzig, Germany
dekan@physik.uni-leipzig.de
Please note that it is not possible to guarantee confidentiality and rule out unauthorised access by third parties when communicating via unencrypted email.

27.02.20
**Postdoctoral Fellowship in Condensed Matter Theory**;
Qualified candidates are encouraged to apply for a postdoctoral position in Condensed Matter
Theory in the Center for Electronic Correlations and Magnetism at the University of Augsburg. This position is intended to start on August 15, 2020. Collaboration in the ongoing Research Program "From Electronic Correlations to Functionality" (https://www.trr80.de) is expected. Preference will be given to candidates with research interests in ordering phenomena in correlated electron systems, topological states of matter, and spin-orbit coupling physics. The official announcement (in German) of this position at the University of Augsburg is posted at https://www.uni-augsburg.de/de/jobs-und-karriere/stellenangebote/2020/01/30/1379/

Applicants should forward their CV, publication list, and a summary of research interests to

Professor Dr. Arno P. Kampf
Institut fuer Physik
Universitaet Augsburg
E-mail: kampfa@physik.uni-augsburg.de

Applications are expected to be accompanied by at least two recommendation letters.

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24.02.20
Open Postdoctoral Researcher Positions in Computational Condensed Matter Theory at Department of Applied Physics, The University of Tokyo, or Institute for Science and Engineering, Waseda University in Tokyo, Japan

[Position summary]
Applications are invited for postdoctoral researcher positions at Department of Applied Physics, the University of Tokyo, or Research Institute for Science and Engineering, Waseda University. The postdoctoral researchers will conduct research on mechanism of strongly correlated superconductivity and/or nature of strongly-correlated topological materials by taking advantage of large-scale parallel computers flexibly with ab-initio electronic structure approaches and/or data-driven approaches based on spectroscopic data provided by collaborations with experimentalists.

[Location of institution]
Hongo campus of the University of Tokyo or Nishi-Waseda campus of Waseda University, Tokyo, Japan

[Term]
One year with possibility of extension after review up to March 2023

[Expected start date]
From June 1st, 2020 or later

[Required qualification]
Ph. D. in a relevant field such as condensed matter theory, and computational physics

In this project, ample large-scale parallel computer resource is available. Tight collaborations with expert experimentalists on strongly correlated electron systems for the spectroscopic methods (such as angle-resolved photoemission, scanning tunnel microscope, and resonant inelastic X-ray scattering) are possible if necessary.

Applicants who are strongly motivated to work on one or several of the above diverse physical subjects or development of numerical methodologies for strongly correlated electron systems are highly welcome.

[Required application materials]
1. Curriculum vitae with photo and email address
2. Summary of research achievement (around two pages, letter size)
3. Publication list and list of invited talks
4. Name(s), affiliation(s), and email address(es) of one or more person(s) who may provide a reference letter
5. Research interests and plan for strongly correlated electron systems or numerical methodology (around one page, letter size)
6. Copies of main published papers up to three

[Application details]
The open position will be closed when it is filled. All applicants are encouraged to apply in the earliest convenience. Successful applicants will be contacted for a job interview after a screening process. Submit the application with all the required materials via email. The materials should be converted into pdf format (hopefully in a single pdf file) whose size should be less than 10 MB in total, in which the materials should be arranged in order from 1. to 5. Papers may be attached as separate pdf files.

Inquiry and application to;
yamaji@ap.t.u-tokyo.ac.jp
(Youhei Yamaji, Department of Applied Physics, University of Tokyo)
or
imada@ap.t.u-tokyo.ac.jp
(Masatoshi Imada, University of Tokyo and Research Institute for Science and Engineering, Waseda University)
24.02.20
PostDoc at UB for developing tensor networks algorithms for quantum, Universitat de Barcelona, Spain;
Applications are invited for one or two postdoctoral positions in the field of Quantum Computation. The successful candidate will work with Dr. Sofyan Iblisdir and Dr. Luca Tagliacozzo, at the University of Barcelona (Spain) in quantum computation and related topics, from developing and characterizing new quantum algorithms, to their classical simulation, to the characterization of noise and imperfections in specific experimental implementations, to quantum machine learning. Beside quantum computation, the group has strong expertise in the theory of many-body quantum systems at and out of equilibrium, and in tensor networks techniques.

The positions are for a period of 1 year that will be possibly extended to 2 years depending on performances and availability of funding. The positions should be filled as soon as possible. Applicants are expected to have a doctoral degree in Physics, Computer Science, Mathematics, or a related discipline before the starting date of the position, and have previous expertise in one (or more) of the following areas: quantum computation, quantum information, tensor networks, machine learning, quantum many-body systems, condensed matter physics, quantum field theory. Applicants should have a strong interest in solving challenging problems, as well as a proven record of research, including publication of original work in at least one of the above areas. Excellent scientific writing ability and good communication skills are essential.

Applications should be sent to Dr. Sofyan Iblisdir and should include: 1) a motivation letter; 2) a curriculum vitae including a list of publications; 3) a research statement; 4) the name and email of two references. All qualified applicants will receive equal consideration without regard to appearance, beliefs, sex, sexual orientation, gender identity, national origin, disability or age. For full consideration, applications should be submitted by the 10th of March 2020.

Please direct informal enquiries to:
Dr Sofyan Iblisdir: sofyan.iblisdir(at)fqa.ub.edu
Dr Luca Tagliacozzo: luca.tagliacozzo(at)fqa.ub.edu

19.02.20
Postdoctoral opening in Condensed Matter Theory at the CNMS of Oak Ridge National Laboratory;
Experience with computational studies of models for strongly correlated electrons is required. Preferred qualifications include experience with density matrix renormalization group, exact diagonalization, and/or Monte Carlo techniques, to calculate either static or time/omega dependent quantities, such as the dynamical spin structure factor S(q,omega) to contrast theory vs neutron scattering experiments.

Materials of interest include high critical temperature superconductors, spin liquids, compounds with robust spin-orbit coupling, topological systems, quasi one-dimensional chains and ladders, and several others.

To apply, please use the link
HTTPS://CAREER4.SUCCESSFACTORS.COM/SFCAREERJOBREQCAREER?JOBID=2698&COMPANY=UTBATTELLEP&USERNAME=

Screening of applicants will start immediately.

18.02.20
We are offering two distinguished Postdoc positions in the field of quantum many-body physics as part of the established DFG funded research training group RTG 1995 (https://www.rtg1995.rwth-aachen.de/cms/~ggsp/RTG1995/lidx/1/). The position will be equipped with a travel grant and includes the possibility to supervise doctoral researchers to foster earlier academic independence of the successful candidates. Any topics in condensed matter theory are welcome and collaborations with all PIs (e.g. Carsten Honerkamp, Stefan Wessel, Maarten Wegewijs, Herbert Schoeller, Dante Kennes, Volker Meden) are encouraged. The applicant should have a background in quantum many-body theory, preferably, with experience in computational methods. The position will initially be for two years but can be extended.

Interested candidates are encouraged to contact Volker Meden or Dante Kennes at meden@physik.rwth-aachen.de or dante.kennes@rwth-aachen.de

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17.02.20
The University of Stavanger invites applicants for a Ph.D fellowship in Physics at the Faculty of Science and Technology, Department of Mathematics and Physics. More information on the position can be obtained from Professor Anders Tranberg, e-mail: anders.tranberg@uis.no or Head of Department Bjørn H. Auestad, e-mail: bjorn.auestad@uis.no, https://www.jobbnorge.no/en/available-jobs/job/182454/phd-fellowship-in-physics

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11.02.20
Faculty position in strongly correlated systems (theory) - University of São Paulo, BRAZIL

Announcement of an open tenure-track faculty position at the Institute of Physics, University of São Paulo, Brazil, Level MS-3, RDIDP (Full-time dedication to teaching and research).

The Director of the Institute of Physics at the University of São Paulo invites applications for a full-time tenure-track faculty position in the field of “Theory of strongly-correlated systems in condensed-matter physics” to be appointed in 2020. Eligible candidates should have a Ph.D. and postdoctoral research experience. Applicants should possess an outstanding potential to establish an independent research program and a commitment to teach undergraduate and graduate courses. This position comprises full-time dedication to research and teaching, level MS-3, RDIDP. Starting salary is R$11,069,17 (non-negotiable).

Application deadline is March 16, 2020, at 11:59 p.m. (GMT -3, Brasilia time).

Additional information on the selection procedure and on the on-line application can be found at: http://portal.if.usp.br/ataac/pt-br/node/6006

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11.02.20
Applications are invited for one or two postdoctoral positions in the field of Quantum Computation. The successful candidate will work with Dr. Sofyan Iblisdir and Dr. Luca Tagliacozzo, at the University of Barcelona (Spain) in quantum computation and related topics, from developing and characterizing new quantum algorithms, to their classical simulation, to the characterization of noise and imperfections in specific experimental implementations, to
quantum machine learning. Beside quantum computation, the group has strong expertise in the theory of many-body quantum systems at and out of equilibrium, and in tensor networks techniques.

The positions are for a period of 1 year that will be possibly extended to 2 years depending on performances and availability of funding. The positions should be filled as soon as possible. Applicants are expected to have a doctoral degree in Physics, Computer Science, Mathematics, or a related discipline before the starting date of the position, and have previous expertise in one (or more) of the following areas: quantum computation, quantum information, tensor networks, machine learning, quantum many-body systems, condensed matter physics, quantum field theory. Applicants should have a strong interest in solving challenging problems, as well as a proven record of research, including publication of original work in at least one of the above areas. Excellent scientific writing ability and good communication skills are essential.

Applications should be sent to Dr. Sofyan Iblisdir and should include: 1) a motivation letter; 2) a curriculum vitae including a list of publications; 3) a research statement; 4) the name and email of two references. All qualified applicants will receive equal consideration without regard to appearance, beliefs, sex, sexual orientation, gender identity, national origin, disability or age. For full consideration, applications should be submitted by the 10th of March 2020.

Please direct informal enquiries to:
Dr Sofyan Iblisdir: sofyan.iblisdir(at)fqa.ub.edu
Dr Luca Tagliacozzo: luca.tagliacozzo(at)fqa.ub.edu

A 2-year postdoctoral appointment is offered to work in the groups led by Roman Orus and Fernando de Juan at DIPC, in Donostia - San Sebastian, Spain. We are looking for a candidate interested in the physics of strongly correlated electron systems and unconventional superconductivity, in the modeling of such systems with numerical techniques, and in particular with tensor network methods. We aim to describe the low-temperature ground states of a variety of systems such as twisted bilayer graphene or doped topological insulators, and our interest is to work towards fermionic finite-temperature tensor network simulations in two and three dimensions.

Further details about the position and the application process can be found here:

The Leiden Institute of Physics is searching a new faculty member in the area of quantum information science, to be appointed within the Lorentz Institute for theoretical physics. For this position we are particularly interested in candidates who can contribute to our research initiative in quantum algorithms and their applications to problems in physics, chemistry, and computer science.

We offer a tenure track appointment as assistant professor that upon successful performance will lead to promotion to a tenured position as associate professor and upon continued growth to promotion to full professor. We offer a clear and inviting career path, support in the development of your personal and professional skills, and an attractive start-up package. We actively support learning Dutch through departmentally funded courses.
Locally the position will be embedded in the Applied Quantum Algorithms group, that involves researchers from the Leiden Institutes of Physics and Computer Science. Nationally we are a partner of the Quantum Software Consortium, a multidisciplinary group of researchers from the universities of Amsterdam, Leiden and Delft, with backgrounds in computer science, mathematics, engineering and physics. We share students and postdocs with QuTech in Delft, where we can try out ideas on quantum hardware. The Lorentz Institute is affiliated with the Lorentz Center, which hosts workshops on topics of current interest and helps create a stimulating research environment.

We encourage candidates to apply before March 15, 2020 and applications will be reviewed through 2020 until the position is filled. Please contact Carlo Beenakker <beenakker@ilorentz.org> for information and to apply. We would need a cover letter, a CV with a link to your Google Scholar page, a research plan, and names of three persons who can be contacted for a reference.

Links:
official vacancy announcement: https://www.lorentz.leidenuniv.nl/QI_ad.pdf
Leiden Institute of Physics: https://physics.leidenuniv.nl/
Lorentz Institute: https://ilorentz.org/
Applied Quantum Algorithms initiative: https://aqa.universiteitleiden.nl/

03.02.20
PhD and Postdoc Positions Condensed Matter Theory, Aix-Marseille University's Center for Interdisciplinary Nanoscience, Marseille;
The Center for Interdisciplinary Nanoscience of Marseille (CINaM) invites applications for a 3-year doctorate position and a 2-year postdoc position in theoretical condensed matter physics, starting on September 1st, 2020. CINaM is located on the Luminy campus in the heart of the Calanques national park, and has a broad scope of interest in nanoscience, covering physical chemistry of surfaces and interfaces, molecular engineering and functional materials, as well as novel two-dimensional and magnetic materials using advanced characterization and nanofabrication techniques. The Theory and Numerical Simulation group (TSN) gathers a dozen of lead researchers and faculty addressing various aspects of multiscale modeling, from materials growth to morphology, to quantum transport. Close proximity with experimental groups and with the Center for Theoretical Physics constitutes an exceptional environment for developing disruptive research.

The advertised positions are funded by Aix-Marseille’s Academy of Excellence (A*Midex) and aims to develop novel theories on the following topics:
• Spin and magnon transport in non-collinear antiferromagnets
• Multiscale charge/spin/heat transport in complex, porous materials
• Linear and nonlinear quantum transport in topological heterostructures
• Valleytronics in novel van der Waals heterostructures

Strong interactions with theoretical and experimental groups in the Center and abroad are expected. Solid academic and research backgrounds are required.

Application: Letter of interest, detailed CV, list of publications, three recommendation letters. PhD candidates must hold an MSc degree in Physics or Materials Science. Postdoc candidates will explicitly address the qualifications for this position in their letter of interest and briefly present innovative research projects they wish to develop during their stay.

The applications should be submitted by e-mail to Dr. Aurélien Manchon, manchon@cinam.univ-mrs.fr

01.02.20
At the Karlsruhe Institute of Technology (KIT), there are two open post-doctoral positions in condensed matter theory. Each of the positions are for the duration of at least two years. Possible
research directions include the theory of quantum materials, strongly correlated phases, and magnetic skyrmion textures. The successful candidates are expected to have a strong background in the theory of condensed matter, and they will enjoy interactions with colleagues in theoretical as well as experimental physics. Review of applicants will begin immediately and continue until the positions are filled. Interested applicants should send a full CV, a statement of research interests, and a list of publications in electronic form to markus.garst@kit.edu.

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21,01,20
Joint Post-Doctoral Position in Condensed Matter Theory at University of British Columbia and University of Tokyo;

Stewart Blusson Quantum Matter Institute (SBQMI), University of British Columbia (UBC) and Institute for Solid State Physics (ISSP), University of Tokyo (UTokyo) have one post-doctoral position in condensed matter theory as a part of activities of Max Planck-UBC-UTokyo Center for Quantum Materials. The successful candidate will be employed at SBQMI, UBC (hosted by Marcel Franz) and expected to spend significant period of time (3-6 months per year, at mutually convenient timing) at ISSP, UTokyo (hosted by Masaki Oshikawa) with full support of travel and local expenses for visits to ISSP. We are looking for an outstanding person with a strong background in theory of quantum materials and overlapping research interest with both hosts, such as topological phases and quantum dynamics in many-body systems. The successful candidate will also enjoy interaction with other members of both institutes, including experimentalists. The position will be funded by SBQMI and Japan Society for Promotion of Science KAKENHi Grant No. 19H01808 "Scaling of the fluctuation of polarizations and quantum dynamics in gapless phases" through ISSP.

The position is for 2 years starting fall 2020 and could be extended to the 3rd year.

To apply, please provide:
- Brief cover letter, including the names of those who will provide recommendations. Also please specify Franz-Oshikawa collaboration in the letter.
- Curriculum Vitae, including full publication list;
- A brief research statement
- 3 letters of recommendation (to be sent directly by your referees).

The application materials should be submitted to mp-ubc-ut@fkf.mpg.de


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20.01.20
Full Professor Position in Theoretical Physics at LPTM CY Cergy Paris Université, Cergy-Pontoise, France)

We expect the opening of a Full Professor position at the Theoretical Physics and Modelisation Laboratory (LPTM), Physics Department, CY Cergy Paris Université, Cergy-Pontoise, France.

Position to start September, 1st 2020.

The position is expected to be endowed with a 2/3 teaching-duties exemption for 3 years (yielding the teaching duties to 64 hrs instead of 192 hrs). We are looking for outstanding candidates with a profile primarily in Complex Systems, Computational Neurosciences, Soft Matter; and/or Probabilities, Stochastic dynamics and Integrable Systems.

More details can be found here: https://euraxess.ec.europa.eu/jobs/474697
17.01.20
Postdoctoral research position in Quantum Information Theory at Brookhaven National Laboratory; The Quantum Computing Group at Brookhaven National Laboratory's Computational Science Initiative invites applications for a postdoctoral research associate position in theoretical quantum information science / condensed matter physics, with a start date of Summer/Fall of 2020. The successful candidate will work closely with Layla Hormozi and other members of the group on topics related to quantum error correcting codes and topological phases of matter. The term of employment for this position will be for two years.

Interested candidates should apply online at https://jobs.bnl.gov/job/upton/postdoctoral-research-position-in-quantum-information-theory/3437/14749534 or contact Layla Hormozi at hormozi@bnl.gov with any questions.


13.01.20
Postdoc position in condensed matter theory at Niels Bohr Institute (Copenhagen);
Niels Bohr Institute (University of Copenhagen) is currently seeking a Postdoc in theoretical condensed matter physics, who will work in the theory group of the Center for Quantum Devices (QDev). I kindly ask you to share this opening with potential candidates.

The research project is focused on the modelling of topological phases of matter, with the aim of designing platforms for the creation and manipulation of non-Abelian anyons.

Particularly welcome are candidates with former experience in the study of strongly-correlated solid state or ultracold atom models.

The appointment duration is two years.

All applications should be submitted electronically on the following website, where further information can be found: https://employment.ku.dk/all-vacancies/?show=150967

Dr. Michele Burrello
NBIA and QDEV, Niels Bohr Institute
Copenhagen University
Vibenshuset, Lyngbyvej 2
2100 Copenhagen, Denmark

13.01.20
Theoretical Postdoc Position at BEC Center in Trento;
We are presently offering a 2-year post-doctoral position at the BEC Center in Trento on the theory of ultra cold gases, with a focus on transport properties in Hubbard models. The research work will be carried out in the framework of an interdisciplinary project funded the Italian Research and University Ministry aiming at creating a bridge between cold gases and heterostructures. The consortium involved in the project comprehends: BEC Centre in Trento (Menotti and Recati), LENS in Florence (Roati), University of Trento (Giorgini), University of Camerino (Pilati and Strinati), Politecnico of Milano (Dal Conte), SISSA/ISAS (Capone), University of Brescia (Giannetti). Consideration of applications will begin immediately.
The position is meant to start thereafter as soon as possible and in any case not later that August 2020.

If you are aware of any possible motivated candidate, please, forward the present email to them.

Interested candidates should contact us via email or phone at:
email: alessio.recati@unitn.it
phone: +39 0461 283926

Dr. Alessio Recati
CNR Researcher
INO-CNR BEC Center
Povo, I-38122
Trento

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13.01.20
Postdoctoral position at FU Berlin;
The Dahlem Center for Complex Quantum Systems at Freie Universitaet Berlin invites applications for a postdoctoral position in Theoretical Condensed Matter Physics. The position starts in September, 2020, and runs for 3 years. It is associated with the group of Piet Brouwer (Theoretical Mesoscopic Physics).

The Dahlem Center for Complex Quantum Systems focuses on theoretical quantum condensed matter physics in the broadest sense. Faculty at the Dahlem Center presently includes Ana-Nicoleta Bondar, Piet Brouwer, Jens Eisert, Christiane Koch, Anja Metelmann, Johannes Reuther, and Felix von Oppen.

The position will be paid according to E13 TV-L and includes a teaching component (no knowledge of German required).

Desirable knowledge and experience: Excellent research results, especially in the fields of topological phases of matter, such as topological insulators or semimetals; Participation in the Collaborative Research Center Transregio 183 "entangled states of matter".

Applications including a resume and a statement of research experience and interests should be sent to Ms. Annette Schumann-Welde, awelde@zedat.fu-berlin.de. Candidates should also arrange that three letters of recommendation be sent to the same address. We will start evaluating applications at the beginning of February 2020. For further information, see https://www.physik.fu-berlin.de/en/einrichtungen/dahlem_center_cqs/fellowship/index.html

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13.01.20
Poste chercheur IPhT CEA physique et information quantique;

Je vous serais très reconnaissant de diffuser cette information dans votre unité et parmi vos collègues.

Mes excuses si vous estimez que les activités de votre laboratoire ne sont pas en adéquation avec cette annonce, ou si vous l’avez déjà reçue par un autre canal.

Merci d’avance pour votre aide. Avec mes meilleurs vœux pour cette nouvelle année et mes très cordiales salutations.
24.12.19
Postdoctoral position - BGU (Israel):
I have 1-2 postdoctoral positions available in my group studying non-equilibrium dynamics of quantum many-body systems. Topics include, but not limited to thermalization in clean and disordered systems, driven systems and many-body localization. Preference will be given to candidates with strong numerical background and expertise in semiclassical or/and non-equilibrium diagrammatic methods. I would appreciate if you could forward this message to any suitable candidates.
For more details and application https://academicjobsonline.org/ajo/jobs/15791 PhD position(s) are also available. For details please write to ybarlev@bgu.ac.il (Yevgeny Bar Lev)

20.12.19
Open Positions at Perimeter: Faculty, Student Programs, Fellowships...
Available Positions, Programs and Fellowships  If you or anyone you know is looking for a position or student opportunity, we are currently accepting applications for a number of openings. For position details and application deadlines, see individual postings below.

Faculty
- Tenure-track Faculty Position in Particle Physics (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffT23)
- Tenure-track Faculty Position in Condensed Matter Theory (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffT33)
- Tenure-track Faculty Position in Mathematical Physics (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffT43)
- Faculty and Associate Faculty (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffT53)
- Affiliate Members (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffT63)
- Visiting Researchers - Sabbatical Program (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffT73)
- Visiting Fellowship - The Simons Emmy Noether Fellows Program (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffT83)

Postdoctoral Researchers
- Perimeter Institute Postdoctoral Fellowships (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffT93)
- including Named Fellowships (https://landing.perimeterinstitute.ca/e2t/sc2/Mm-nFbkyF3RF6qx9qz6Y0mFsW5kdd3J59WxZtW8yKjtl877Vv2f1FXffTb3) )
- Fields-AIMS-Perimeter Institute Africa Postdoctoral Fellowship
  (https://landing.perimeterinstitute.ca/e2t/sc2/MmnFbkyF3R7v6q9z6Y0mF5kdd3JS59Wx7Zt8yKjt877Vv2f1FXfTc3)
- Fundamental Physics with Radio Telescopes Postdoctoral Fellowships
  (https://landing.perimeterinstitute.ca/e2t/sc2/MmnFbkyF3R7v6q9z6Y0mF5kdd3JS59Wx7Zt8yKjt877Vv2f1FXfTd3)

20.12.19
Post-doctoral position at UCLA, Los Angeles, CA;
I have recently advertized a post-doctoral position in my group starting in the Fall of 2020. The position will be supported by the Bhaumik Institute of Theoretical Physics at UCLA and offers flexibility in the areas of research, while primarily centered on topological aspects of condensed matter systems. I would be much obliged if you could spread the word to any students and postdocs who may be interested. Applicants can apply through AcademicJobsOnline at https://academicjobsonline.org/ajo/jobs/15764
Apologies if you have received multiple copies of this email.
Rahul Roy
http://cmt-roj.physics.ucla.edu/content/rahul-roj

17.12.19
Postdoctoral position in quantum condensed matter theory;
Uppsala University is a comprehensive research-intensive university with a strong international standing. Our mission is to pursue top-quality research and education and to interact constructively with society. Our most important assets are all the individuals whose curiosity and dedication make Uppsala University one of Sweden’s most exciting workplaces. Uppsala University has 44,000 students, 7,100 employees and a turnover of SEK 7 billion.

The research conducted at the Department of Physics and Astronomy encompasses a wide range of physics topics, distributed over ten divisions. The department is located in the Ångström laboratory and employs nearly 400 people, 125 of whom are doctoral students. It offers a broad physics curriculum to undergraduate and graduate students, participation in nationally and internationally leading projects for researchers, and opportunities for partnership with industry and various outreach activities.

Project description: We are looking for a postdoc in quantum condensed matter theory for a project in multiband, topological, and odd-frequency superconductivity. The project is part of a larger effort focusing on new materials and mechanism for odd-frequency superconductivity financed by the European Research Council (ERC). The overall goal is to discover new odd-frequency superconducting states and to find measurable signatures of this state. Examples of systems range from the iron-based superconductors to superconducting hybrid systems of topological materials such as Weyl semimetals. The project involves theoretical work using advanced many body methods and can also, dependent on the aptitude of the candidate, involve large-scale numerical calculations. The postdoc candidate is expected to both carry out independent work and work in collaboration with other group members. The project will be carried out in the research group of Prof. Annica Black-Schaffer, currently consisting of nine Ph.D. students and postdocs. For more information, please visit the group webpage: materials-theory.physics.uu.se/blackschaffer.

Required qualifications: Ph.D. degree in theoretical physics or related subject. The Ph.D. degree must have been obtained at the start of the employment and no more than three years prior to the application deadline; however, periods of e.g. parental or sick leave can be deducted from this three-year period. The applicant should have a strong background in many-body theory. Programming skills are also advantageous. Fluency in both written and spoken English is an absolute prerequisite.
**Application:** The application should consist of cover letter, CV, publication list, and a short research statement describing the applicant’s research experiences and interests. The applicant should also arrange to have two letters of recommendation sent by e-mail to annica.black-schaffer@physics.uu.se. Contact information for the letter writers should be included in the application.

Uppsala University strives to be an inclusive workplace that promotes equal opportunities and attracts qualified candidates who can contribute to the University’s excellence and diversity. We welcome applications from all sections of the community and from people of all backgrounds.

**Salary:** Individual salary.

**Starting date:** 01-04-2020 or as per agreement.

**Type of employment:** 2-year temporary position according to central collective agreement.

**Scope of employment:** 100 %

**For more information please contact:** Prof. Annica Black-Schaffer, annica.black-schaffer@physics.uu.se, phone +46 (0)76-795 06 49.

Please submit your application by January 31 2020, UFV-PA 2019/4389.

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16.12.19

Postdoctoral Position(s) in Quantum Condensed Matter Theory, KTH Royal Institute of Technology, Stockholm, Sweden;

Applications are invited for one or more postdoctoral position in the group of Jens H Bar-darson at the Department of Physic at KTH Royal Institute of Technology in Stockholm, Sweden. The group’s focus is on quantum matter and the available position are broadly concerned with dynamics and transport in nonequilibrium quantum matter and/or topo-logical quantum materials. Relevant topics include many-body localization, many-body quantum chaos and thermalization, Weyl and Dirac semimetals, topological insulators and related materials.

The initial appointment will be for 2 years with a possibility for renewal for another year. The position allows for considerable freedom in research direction as long as it fits in with the broad research of the group. Prior experience and expertise in the above mentioned topics is an advantage.

The Condensed Matter theory division at KTH is a part of a broader and vibrant condensed matter community in Stockholm, sharing physical location with Stockholm University and NORDITA.

Applications should be submitted through the following website, where more information about the position can also be found: https://kth.varbi.com/en/what:job/jobID:305164/where:4/

Enquiries and questions about the position should be directed to Jens H. Bardarson (bar-darson@kth.se).

About KTH: KTH Royal Institute of Technology in Stockholm has grown to become one of Europe’s leading technical and engineering universities, as well as a key centre of intellectual talent and innovation. We are Sweden’s largest technical research and learning institution and home to students, researchers and faculty from around the world. Our research and education covers a wide area including natural sciences and all branches of engineering, as well as architecture, industrial management, urban planning, history and philosophy.

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11.12.19

Post-doc position in Theory of Condensed Matter Physics at IPhT-CEA Saclay;

The Statistical physics and condensed matter theory group at IPhT CEA/Saclay invites applications for a two-year postdoctoral position, starting in Fall 2020. Possible research topics
include non-equilibrium and disordered systems, quantum systems and condensed matter, soft matter and biological systems. Further information is available at
The applications and reference letters should be submitted via the AcademicJobsOnline portal:
https://academicjobsonline.org/ajo/jobs/15156
They must include a CV, a cover letter indicating the member(s) of the group with whom the candidates would like to work, a statement of research interests, and a list of publications. The applications should be completed by December 31, 2019.

For more information contact Cristina Bena, cristina.bena@ipht.fr

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09.12.19

A PhD studentship in condensed matter theory is available at University College London in the Department of Physics & Astronomy starting October 2020. The group’s research has synergies with the local research milieu of UCLQ Quantum Science and Technology Institute and London Centre for Nanotechnology. The studentship includes a stipend and tuition fees for 4 years.

Supervisor Name: Dr. Arijeet Pal
Supervisor Email: a.pal@ucl.ac.uk

Project: Correlated non-equilibrium quantum matter

Project Description: The dynamics of interacting quantum systems host a variety of fascinating phenomena. Recent developments include new non-equilibrium phases of matter characterised by many-body localization and time-crystallinity. In these phases of matter laws of equilibrium thermodynamics cease to apply, thereby exhibiting macroscopic quantum behaviour in highly excited states. These have opened the door for investigating quantum many body physics in an entirely new regime away from zero temperature. Furthermore, recent experimental progress in quantum control of solid state systems (NV centres, quantum dots) and synthetic quantum systems (cold atoms, trapped ions) has allowed exploration of these questions in the laboratory.

This project aims to study the properties of many-body localisation and time-crystallinity. Focus would be on long-range interacting systems and the effects of external environment. The work is related to a European Research Council funded project in the group on the same subject. The candidate will be expected to be well-versed with the concepts and tools of quantum many-body physics and quantum information science. The project will involve applying both analytical and numerical methods. Therefore, a strong background in condensed matter theory and quantum many-body physics will be preferred. There is also scope for collaboration with experimental groups at UCL studying quantum dynamics.

For further details on the research in the group refer to the group webpage (https://arijeet1.wixsite.com/arijeetpal).

The Candidate
Applicants should have (or expect by September 2020) at least a 2.1 MSci (or the equivalent from a non-UK university) in physics. They will demonstrate strong interest and self-motivation in the subject, good analytical and computational skills, and ability to think critically and creatively.

Application Procedure
Please send a CV (including a list of courses taken and marks obtained), a research statement (2-3 pages) and 3 letters of recommendation to Dr. Arijeet Pal (a.pal@ucl.ac.uk) The review of applications will begin from the 12th of January 2020 until the position is filled. For applicants outside UK or EEA the
deadline is 5th January 2020. For further enquiries and other details please contact Dr. Arijeeet Pal (a.pal@ucl.ac.uk).

06.12.19
Two postdoctoral openings in theoretical physics in SJTU, Shanghai Jiao Tong University
We would like to call your attention to two 2-year postdoctoral openings in theoretical physics in my institute.

The application is through the following links:
https://academicjobsonline.org/ajo/jobs/14665 (Condensed matter applicants)
https://academicjobsonline.org/ajo/jobs/14666 (High energy theory applicants)

where there is also more details about the positions.

Antonio M. Garcia-Garcia
http://www.physics.sjtu.edu.cn/en/people/1/antonio
http://www.physics.sjtu.edu.cn/amgg/

06.12.19
The Statistical physics and condensed matter theory group at IPhT CEA/Saclay invites applications for a two-year postdoctoral position, starting in Fall 2020. Possible research topics include non-equilibrium and disordered systems, quantum systems and condensed matter, soft matter and biological systems. Further information is available at https://www.ipht.fr/en/Phocea/Vie_des_labos/Ast/ast_visu.php?id_ast=866
The applications and reference letters should be submitted via the AcademicJobsOnline portal:
https://academicjobsonline.org/ajo/jobs/15156
They must include a CV, a cover letter indicating the member(s) of the group with whom the candidates would like to work, a statement of research interests, and a list of publications. The applications should be completed by December 31, 2019.
For more information contact Cristina Bena, cristina.bena@ipht.fr

04.12.19
Schrödinger Fellowship in Theoretical Physics;
A Post-Doctoral Research Fellowship is available in the School of Theoretical Physics at the Dublin Institute for Advanced Studies. This is a dedicated research position for up to five years.

Candidates must have a proven record as independent researchers in one of the following fields of study: Quantum Field Theory, String Theory, Statistical Mechanics, Condensed Matter Theory, Quantum Information, Quantum Computing, or Theoretical Cosmology.

Applications should be submitted through the DIAS online e-recruitment system: https://www.dias.ie/positions/

Candidates should upload a letter of application together with a CV, a list of publications and a research proposal and arrange for the upload of three academic references via the same system.
The closing date for applications is 1pm Tuesday January 7th 2020.

Appointments will be on the basis of a fixed-term contract up to five years. The Fellowship salary scale is: €53,876 - €58,852 per annum (Personal Pension Contribution scale); €51,183 - €56,888 per annum (Non-Personal Pension Contribution scale). The appointee will be subject to the general Irish public sector regulations as regards annual leave, sick leave, pension entitlements etc.

DIAS is committed to gender balance and diversity

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02.12.19
We would like to bring to your attention a recent opening in Theoretical Quantum Science in the Department of Physics and Astronomy at Aarhus University. We are seeking brilliant researchers in one of the areas described in the attached text, and would appreciate if you could circulate this advertisement among prospective candidates.

While the position is advertised for a full/associate professor, the University is also interested in pursuing new research directions with YOUNG RESEARCHERS IN THE MENTIONED AREAS. If you are aware of potential candidates at the level of Tenure Track and Assistant Professor, please forward this message and encourage them to contact us so that we can take them into consideration in connection with attractive start up programs in Denmark. With this possibility, we are also striving to improve the gender balance in the department and particularly welcome applications from female candidates.

It is most important for us to attract top candidates and we would be very grateful for your help to reach them. The deadline is 1 February 2020.

Further details about the position and how to apply can be found here [1]

Please do not hesitate to contact us for further information.

Klaus Mølmer
Thomas Pohl


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29.11.19
Postdoctoral Research Position in Quantum Information Theory;
The Physics Department at Virginia Tech invites applications for a Postdoctoral Researcher in the overlapping areas of quantum information and condensed matter theory. The research involves construction and analysis of quantum computing algorithms. Example areas of interest include measurement-based quantum computation, quantum simulation, and quantum many-body physics. Expertise in computational methods is highly desirable, but it is not a prerequisite. The position includes opportunities for travel both to present at conferences and to collaborate with other groups. Evaluation of applications will begin immediately and continue until the position is filled. The start date is flexible. The position is for one year,
renewable up to three years subject to satisfactory performance. Salary and benefits are competitive and will be commensurate with qualifications and experience. This research will be conducted with Prof. Vito Scarola (scarola@vt.edu) and his research group at Virginia Tech (scarola.phys.vt.edu).

To apply, submit an online application that includes a curriculum vitae, a cover letter, and a list of at least 3 references to jobs.vt.edu (job number 511841). Interested applicants can also contact Professor Vito Scarola, scarola@vt.edu, for more information.

Virginia Tech is an EO/EA/AA employer. Departmental information can be found at www.phys.vt.edu. Applicants must hold a Ph.D. or equivalent degree in physics or a related field and have graduate level research experience.

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23.11.19
Postdoc positions at Stockholm University;
We have one or more postdoc openings in our group at Stockholm University as advertised here:

https://www.su.se/english/about/working-at-su/jobs?rmpage=job&rmjob=10827&rmlang=UK

I would be grateful if you could forward this to potential applicants. The closing date for applications is 15 January, 2020.

Emil J. Bergholtz
Department of Physics
Stockholm University
https://www.su.se/english/profiles/ejb-1.282013

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21.11.19
Postdoc Position in Theoretical Physics, Maynooth, Ireland (3 years);

Job Title : Post-Doctoral Researcher
Department : Theoretical Physics
Vacancy ID : 005041
Closing Date : December 1, 2019

Applications are invited for a 3-year Post-Doctoral research position in theoretical physics, in the Department of Theoretical Physics, Maynooth University, Ireland.

The successful applicant will be joining the research group led by Dr. Joost Slingerland, and the research will focus on topologically ordered phases of condensed matter systems, as well as their applications to quantum information processing. The position is funded by Science Foundation Ireland and is available immediately.

The ideal candidate should have:

- A Ph.D. in theoretical physics, mathematics or a related subject.

as well as several of the following
- Research experience in the physics of topologically ordered systems
- Research experience in quantum information and computation.
- Research experience in strongly correlated systems, e.g. fractional quantum Hall systems
- Expertise in topological field theory/tensor categories/quantum groups/anyon models and local models for these structures.
- Experience with numerical analysis of quantum matter, for example using exact diagonalization, MPS methods, or machine learning techniques.
- Ability to work both independently and as part of a team.
- Excellent interpersonal and communication skills.

For the full job advertisement, see Maynooth University's Recruitment Portal at https://www.maynoothuniversity.ie/human-resources/vacancies

Applications can only be sent through this portal.

After going to the site, click on <External Applicants> and enter Vacancy ID 005041 to go directly to the official job description.

Your application should reach us no later than 23:30 (Irish local time), Sunday, December 1st 2019.

Informal enquiries can be directed to joost-at-thphys.nuim.ie

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21.11.19
Applications open for Emmy Noether Fellows Program Perimeter Institute, Canada; Please share this opportunity with those who may be interested. View in browser [1], [2]
Perimeter is currently accepting applications for The Simons Emmy Noether Fellows Program at Perimeter Institute [3], which enables outstanding theoretical physicists to pursue research at Perimeter while on leave from their faculty positions at their home institutions.

The Simons Emmy Noether Fellowships are central to Perimeter’s initiatives to support female physicists. Perimeter Institute promotes an inclusive, welcoming culture and a family-friendly workplace.

We hope you will share this information by:

* Forwarding this email to those who may be interested
* Printing and hanging the downloadable poster [4]
* Adding this key information [5] to newsletters, blogs and intranets

Program and application information can be found at perimeterinstitute.ca/emmynoether [6].

Deadline for applications is JANUARY 13, 2020.

Luis Lehner
Chair of the Faculty, Perimeter Institute

Links:
[1] https://landing.perimeterinstitute.ca/e2c/e/*W4t1_LF2hT-jeW4pPW7B2Qx1sN0/*W4kt-mh3J2kJHW3d_FR63F8SXn0/5/f18dO6b08S1Wd2RMFDXY11162XX-SgW4TLr2v7GhoC73Fx127IN2FDw8kW753by5eW1Lv1n8FIK5SW5khfJZmck05F4PG9gZWpw/SMSqVC2yLhZ8W2w1v473sySK
The Department of Physics at University of Basel offers excellent working conditions in a stimulating and world-class environment that includes the Basel Center for Quantum Science and Technology (QC2), the Swiss Nanoscience Institute (SNI), and the NCCR Quantum Science and Technology (QST).
Please contact me for further information, or send your application (CV, list of publications, and names and contact information three references who could supply recommendations).

Christoph Bruder  
Department of Physics  
University of Basel  
Klingelbergstrasse 82  
CH-4056 Basel, Switzerland  
**********  
18.11.19  
Postdoctoral Opening with QMC-HAMM on multiscale physics at the University of Illinois  
Urbana Champaign;  
There is a postdoc position open at the University of Illinois at Urbana-Champaign. The successful candidate will work with a DOE-supported collaboration QMC-HAMM on multiscale physics, led by David Ceperley including Elif Ertekin, Harley Johnson, Matthew Turk, and Lucas Wagner. In this collaboration, we are developing software to link information from highly accurate quantum Monte Carlo methods to coarse-grained descriptions of materials. The focus of the collaboration is in the metal-insulator transition of hydrogen and in two-dimensional materials, including bilayer graphene.  

To apply, you should have data and programming skills, as well as familiarity with electronic structure methods and an interest to understand the link between multiple physics scales. The position will start in August of 2020, although that time is negotiable. For full consideration, apply by Dec 15, although applications may be considered after that time.

Lucas K. Wagner  
University of Illinois at Urbana-Champaign  
Institute for Condensed Matter Theory  
**********  
12.11.19  
Postdoctoral positions at SISSA, Trieste;  
We would like to inform you that five postdoctoral positions within the SISSA Statistical Physics Group are available starting in autumn 2020. The positions have a duration of (at least) two years and the successful candidates are expected to work on the general area of quantum field theory and statistical physics.  

The scientific interests of the group include quantum and conformal integrable models, tensor network calculations, entanglement in many-body systems, cold atoms, classical and quantum non-equilibrium statistical physics, quantum quenches and thermalization, classical and quantum disorder systems, holography.  

A description of the research interests of the group and of the current members can be found at  
http://www.sissa.it/statistical/  

We would be grateful if you bring these postdoctoral positions to the attention of potential strong candidates and encourage them to apply.  

The application deadline is January 15, 2020, but earlier applications are encouraged.
Applications (which should include a CV with list of publications, a brief research statement, and the names of at least two referees) should be done via the Academic Jobs Online Service https://academicjobsonline.org/ajo/jobs/15448

Prof. Pasquale Calabrese  
SISSA - International School for Advanced Studies  
via Bonomea 265,  
34136 Trieste, Italy

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12.11.19

Postdoctoral Research Positions in Condensed Matter Theory at TU Munich;

The quantum Condensed Matter Theory groups, lead by Michael Knap, Johannes Knolle, Sergej Moroz, and Frank Pollmann expect to appoint one or more postdoctoral fellows in Fall 2020 (the starting date is flexible). We are looking for candidates who are interested in quantum condensed matter theory including: ultracold atomic gases, quantum materials, strongly correlated electrons, disordered many-body systems, nonequilibrium quantum dynamics, and topological phases of matter.

For inquiries, please send your curriculum vitae and a brief research statement. Candidates should also arrange for letters of recommendation to be submitted from two scientists familiar with their work. Candidates may also wish to include selected preprints or reprints of articles they have written.

Applications and supporting material should be sent to cmt@ph.tum.de by December 15, 2019 however, later applications may also be considered. Successful candidates will be strongly encouraged to join ongoing international collaborations with leading experimental and theoretical researchers.

Further information can be found at http://www.cmt.ph.tum.de.

The postdoctoral fellowship from the Condensed Matter Theory groups at TUM is planned to be offered every Fall.

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11.11.19

The University of Birmingham has up to 12 fully funded PhD places available in the EPSRC CDT in Topological Design.

The Centre takes a multidisciplinary approach to the design of materials, fields and devices, with expert supervisors across 10 different Schools in Science, Engineering and Medicine at the University of Birmingham.

What is Topological Design?

Topological Design is concerned with the functionality of an object or device derived from its shape rather than the material it is made from. Topology is a branch of mathematics that describes properties of objects which are persevered under continuous deformations (such as stretching, bending, twisting and crumpling).

The University of Birmingham has been at the forefront of Topological Science. In 2016 the Nobel Prize for Physics was awarded (in part) to Professors Mike Kosterlitz and David Thouless for their groundbreaking research on topological physics at Birmingham in the 1970s.
The Programme
The programme consists of:

- 1 year taught Masters course covering all aspects of Topological Science (including Condensed Matter Physics, Electromagnetic and Microwave Engineering and Materials Science).
- Mini-projects in theoretical and experimental groups, and an industrial internship
- 3 year cutting-edge research project in specialist research teams with world-leading research profiles and facilities, with themes in:
  - Quantum physics and technology
  - Mechanical and Vibrational engineering
  - Electromagnetism and Photonics
  - Manufacturing and 3D printing
  - Soft Matter and Chemistry
  - Health and Life sciences

Application procedure
We are now accepting applications for Cohort 2 of the CDT to start in September 2020. Deadline for applications is on the 25th November 2019. Instructions on how to fill in an application can be found here: https://www.birmingham.ac.uk/university/colleges/eps/study/phd/ctd/topological-design-cdt/apply.aspx

We reserve the right to re-open the programme for a second round of applications, if it is thought to be necessary. If you have any questions, please contact us: td-admissions@contact.bham.ac.uk

Professor Mark Dennis
Director of EPSRC CDT in Topological Design

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Postdoctoral openings at the University of Geneva;

Research group led by Prof. Dmitry Abanin is looking for one or more highly motivated postdoctoral scientists in theoretical condensed matter physics. Our group conducts research in quantum many-body physics, including graphene and other topological materials, quantum transport, and highly non-equilibrium phenomena in quantum systems.

University of Geneva has a strong effort in condensed matter theory and experiment, led by groups of Profs. T. Giamarchi, A. Morpurgo, J.-M. Triscone, C. Renner, D. van der Marel, and others.

The initial appointment will be for 1 year, with the possibility of renewal up to 3 years. The starting date is flexible, and the appointment can begin as early as Spring 2020. The candidates are required to have a PhD or equivalent when starting their postdoc appointment. A competitive salary and benefits package will be provided.

Interested candidates should send their CV, a short motivation letter and 2 or more recommendation letters directly to Dmitry Abanin, dmitry.abanin@unige.ch.

Dmitry Abanin
Department of Theoretical Physics University of Geneva
24 quai Ernest-Ansermet
1211 Geneva, Switzerland
Postdoctoral Fellowship Positions — Simons Collaboration on Ultra-Quantum Matter;
We would like to draw your attention to several postdoctoral fellowship openings in the Simons
Collaboration on Ultra-Quantum Matter (UQM) with a Fall 2020 start date. We would appreciate your
bringing this to the attention of interested individuals. Apologies if you are receiving this message
multiple times.

Simons UQM Postdoctoral Fellows will be selected though a common application process. Although
they will be associated with a single institution, they are free to work with all collaboration members
and attend all meetings.

The collaboration brings together condensed matter, high-energy, quantum information and atomic
theorists with the goal of classifying and characterizing topological and fracton matter, developing
dualities and other approaches to strongly coupled gapless phases, as well as finding novel platforms to
realize and probe highly entangled quantum states in the laboratory.

Applications can be submitted here [1]. Applicants are encouraged to indicate their preferred UQM
institutions in their cover letter. The deadline for full consideration is NOVEMBER 15 and more
information can be found here [2].

The collaboration anticipates appointing postdoctoral fellows starting in Fall 2020 at the following
institutions:

California Institute of Technology (Xie Chen)
Harvard University (Subir Sachdev and Ashvin Vishwanath)
Stanford University (Shamit Kachru)
University of California San Diego (John McGreevy)
University of Colorado Boulder (Victor Gurarie and Michael Hermele)
University of Maryland and Joint Quantum Institute (Victor Galitski)
University of Texas Austin (Andreas Karch)

Other institutions and faculty participating in the collaboration are:

Institute for Advanced Study (Nathan Seiberg)
Massachusetts Institute of Technology (Senthil Todadri and Xiao-Gang Wen)
University of California Santa Barbara (Leon Balents and Matthew Fisher)
University of Chicago (Michael Levin and Dan Thanh Son)
University of Innsbruck (Peter Zoller)

Michael Hermele and Ashvin Vishwanath
University of Colorado at Boulder
phone: 303-492-7466
email: Michael.Hermele@colorado.edu
web: http://spot.colorado.edu/~hermele

Links:
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[1]https://academicjobsonline.org/ajo/jobs/14972

08.11.19
Open Rank Professorship in Theoretical/Computational
The Department of Physics at the University of Cincinnati invites applications for a tenured or tenure-track Professor position with a starting date of August 2020 and a salary commensurate with the qualifications and experience. We are looking for an outstanding researcher with interests in theoretical and/or computational quantum condensed matter physics as part of a planned series of hires in both theory and experiment. The successful candidate is expected to establish an independent and externally funded research program, be an effective research advisor, and develop into a high-quality teacher at both the graduate and undergraduate levels. Our institution is committed to increasing diversity and inclusivity in the campus community and the faculty is expected to contribute toward this goal.

Applicants must have a Ph.D. or equivalent degree in Physics or a closely related area, at least two years of post-doctoral experience, and a commensurate record of substantial research accomplishments. We seek a colleague who will also contribute significantly to the educational and service missions of the department.

All applications must be submitted online at jobs.uc.edu (Requisition #40216). In addition to filling the online form, required attachments include a cover letter, a one-page blind narrative résumé (name the file with your initials only; exclude: any proper names, dates, affiliations, geographic information, and any other data that connects to the types listed in eeoc.gov/laws; include: a description of your professional achievements, skills, and future objectives), a full curriculum vitae including publications, a list of contacts for professional reference, and a combined file with a maximum four-page statement of research interests, two-page statement of teaching experience and interests, and one-page statement on diversity and inclusion philosophy. Applicants for a tenure-track position must arrange to have a minimum of three letters of reference from their list of contacts sent separately to cmtsearch2020@uc.edu. PDF files are the preferred format for all documents. For additional information, contact the search committee co-chairs, Prof. Philip Argyres or Prof. Carlos Bolech. Applications received by December 6th, 2019 will be guaranteed full consideration; however, applications will be accepted and reviewed until the position is filled.

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08.11.19
Stockholm University. Postdoctoral Fellow in Theory of Quantum Matter (2), Ref. No. SU FV-3626-19

Closing date: 13 December 2019.

The Department of Physics is one of the biggest departments within the Faculty of Science and supports a broad range of basic research in experimental and theoretical physics. It has about 250 employees of which 95 are PhD students. Many have been internationally recruited. The Department is part of the AlbaNova University Center, which apart from the Department of Physics houses the Department of Astronomy, the Physics Departments at the Royal Institute of Technology (KTH), and the Nordic Institute for Theoretical Physics (Nordita).

**Project description**

The research group 'Theory of Quantum Matter' in the unit for Condensed Matter and Quantum Optics, within the Department of Physics at Stockholm University, invites applications to two postdoctoral positions within the area of threedimensional topological phases. The research group consists of eight active permanent members, eight postdocs and about eleven Ph.D. students. The research focuses on various forms of quantum matter, in the context of solid state systems, as well as artificial ones, such as those that are formed in ultra cold gasses, and certain states in quantum-optics. The used methods range from numerical and symbolic computations to quantum field theory calculations utilizing advanced concepts from geometry and topology. The postdoctoral fellow will work as part of the research group
lead by Maria Hermanns where main research interests include topologically ordered states, in particular quantum spin liquids, and entanglement signatures of topological phases of matter.

**Main responsibilities**
The successful candidate will study various strongly correlated systems and/or topological phases using analytical and/or numerical techniques. He/she is expected to be able to do independent work, work in collaboration with other group members and participate in the supervision of Ph.D. students.

**Qualification requirements**
Postdoctoral positions are appointed primarily for purposes of research. Applicants are expected to hold a Swedish doctoral degree or an equivalent degree from another country.

**Assessment criteria**
In the appointment process, special attention will be given to research skills within the research topic of strongly correlated phases and topological phases of matter, as well as the ability to conduct independent research. Previous research experience in analytical and/or numerical techniques that are especially suited for strongly correlated systems is favorable. The degree should have been completed no more than three years before the deadline for applications. An older degree may be acceptable under special circumstances, which may involve sick leave, parental leave, clinical attachment, elected positions in trade unions, or similar.

**Terms of employment**
The position involves full-time employment for a maximum of two years, with the possibility of extension for another year. Start date 2020-09-01 or as per agreement. Stockholm University strives to be a workplace free from discrimination and with equal opportunities for all.

**Contact**
Further information about the position can be obtained from Maria Hermanns, maria.hermanns@fysik.su.se.

**Union representative**
Ingrid Lander (Saco-S), telephone: +46 708 16 26 64, saco@saco.su.se, Alejandra Pizarro Carrasco (Fackförbundet ST/Lärarförbundet), telephone: +46 8 16 34 89, alejandra@st.su.se, and seko@seko.su.se (SEKO).

**Application**
Apply for the position at Stockholm University's recruitment system. It is the responsibility of the applicant to ensure that the application is complete in accordance with the instructions in the job advertisement, and that it is submitted before the deadline.

Please include the following information with your application

- Your contact details and personal data
- Your highest degree
- Your language skills
- Contact details for 2–3 references

**Important:** Your academic referees should send us recommendation letters via email to: FV-3626-19.refletters@fysik.su.se and state in the subject line: SU FV-3626-19 + name of the applicant.

and, in addition, please include the following documents

- Cover letter
- CV – degrees and other completed courses, work experience and a list of publications
- Research proposal (no more than 3 pages) describing:
  - why you are interested in the field/project described in the advertisement
  - why and how you wish to complete the project
  - what makes you suitable for the project in question
- Copy of PhD diploma
• Publications in support of your application (no more than 3 files).

The instructions for applicants are available at: Instructions – Applicants.

URL to this page
https://www.su.se/english/about/working-at-su/jobs?rmpage=job&rmjob=10468&rmlang=UK

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07.11.19

The Max Planck Harvard Research Center for Quantum Optics invites applications for two-year Postdoctoral Fellowships in Quantum Optics

About
In order to expand on their research in the interdisciplinary field of quantum science and to promote the career of excellent young scientists, the Max Planck Institute of Quantum Optics (MPQ) and the Harvard University Department of Physics founded the Max Planck Harvard Research Center for Quantum Optics (MPHQ). In the framework of this world-class cooperation, research and educational activities take place in fundamental and applied fields in the quantum realm including sensing, metrology, control, chemistry, many-body systems, and information science. Please find further information at http://www.mph-quantum.mpg.de/ and https://mphq.physics.harvard.edu/

Your Qualifications
MPHQ is looking for excellent candidates for two-year Postdoctoral Fellowships based at the Max Planck Institute of Quantum Optics or the Harvard University Department of Physics. Successful candidates will have the opportunity to take advantage of the unique cooperation including a joint postdoc mentoring scheme and frequent opportunities for exchange between the two institutions. In addition to that, fellowships highly encourage the development of joint research projects. Applications should address one of the following scientific core areas: Quantum Simulation; Quantum Phases of Matter; Quantum Information Science; Quantum Sensing and Metrology; Quantum Networks; Quantum Dynamics and Ultracold Quantum Chemistry.

Application Requirements
Applicants should have completed their PhD no more than three years before starting the fellowship. The starting date of the fellowships is flexible and should be within one year after application. To apply, please submit a curriculum vitae, transcripts, a list of publications, a brief description of your research interests (1000 characters max.) and a description of your scientific goals for the fellowship (5000 characters max.). Applicants are also asked to arrange for at least two letters of reference.

Applications for Postdoctoral Fellowships based at the Max Planck Institute of Quantum Optics have to be submitted at https://lotus2.gwdg.de/mpg/mgqo/mpqharvard_2019.nsf/application

To apply at the Harvard University Department of Physics please visit https://academicjobsonline.org/ajo/Harvard

Deadline for applications and all required documents is 15 November 2019.

All applications will be considered together and will be jointly evaluated by PIs at both institutions.

MPQ and Harvard University are equal opportunity employers and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.

In case of further questions, please contact Ms Bianca Lenhard (mphq@mpq.mpg.de) for further details.
Max Planck Institute of Quantum Optics
Hans-Kopfermann Str. 1
05.11.19
This is to advertise a postdoctoral position in the condensed matter theory group at UC San Diego (links below). We welcome applicants working in any area of quantum many-body physics, which could involve topics such as quantum field theory, quantum dynamics, quantum phases of matter, quantum information as applied to many-body physics, strongly correlated materials. We would appreciate it if you could help to spread the message to interested candidates.
https://academicjobsonline.org/ajo/jobs/15073

04.11.19
I am writing to let you know about a job opening within my group at the IST Austria for a postdoctoral position with a proposed start in September 2020. The successful candidate will have experience in performing theoretical and/or computational research on dynamics and eigenstate properties of out of equilibrium quantum many-body systems. The position is funded by the ERC grant with initial contract for 2 years extendable to a third year.

Applicants can find out more information and apply using the link below:
https://academicjobsonline.org/ajo/jobs/15288

Maksym Serbyn
Assistant Professor, IST Austria
[https://qdyn.ist.ac.at](https://qdyn.ist.ac.at)

31.10.19
The Department of Physics and Astronomy at Texas A&M University invites applications for a tenure-track assistant professor position in condensed matter physics.

Please point the suitable candidates to this address to apply: http://apply.interfolio.com/70401

Texas A&M University is an equal opportunity/affirmative action employer. The university is further dedicated to the goal of building a culturally diverse and pluralistic faculty and staff committed to teaching and working in a multicultural environment and strongly encourages applications from women, minorities, individuals with disabilities, and veterans. In addition, Texas A&M University strives to be responsive to the particular needs of dual career couples. The Department of Physics and Astronomy is especially interested in candidates who can contribute to the diversity and excellence of the academic community through their research, teaching, and/or service.

31.10.19
**POSTDOCTORAL POSITION**
Postdoctoral fellows will find in the IQ a dynamic environment offering them great freedom and resources to enhance their careers as researchers.

**IQ Postdoctoral Fellowship**
We are looking to recruit researchers with a background and interest in quantum information, quantum materials or quantum engineering. We are seeking young researchers who are highly motivated and wish to apply their talents and creativity to challenging projects in quantum science and/or innovate new
quantum technologies. Applicants should demonstrate their capacity for research with their publication record and/or a strong potential for technological transfer of their research results. Both experimental and theoretical candidates are encouraged to apply. Fellows will need to have completed their PhD in the 4 years prior to starting their position. The University is committed to making a priority of diversity, equity and inclusion as strategic factors of excellence. The University invites all qualified individuals to apply, in particular, women, members of visible and ethnic minorities, Aboriginal peoples, and persons with disabilities under the Programme d’accès à l’égalité en emploi (PAEE). The University also encourages individuals of all sexual orientations and gender identities to apply.

About the Fellowships:
- Highly competitive salaries are offered.
- Discretionary research and travel funds are included.
- Fellows will have access to an internal funding competition and will be encouraged to mentor students.
- Dedicated support for patent applications is available.
- No teaching is required but involvement in summer schools and workshops is encouraged.

When to apply:
We encourage you to apply for the fellowship competition before November 30th, 2019. However, numerous funding opportunities are available throughout the year and we recommend contacting IQ researchers regarding postdoctoral positions at any time.

Deadline, November 29, 2019.

For more information, please see:
https://www.usherbrooke.ca/iq/en/resources/students/study-at-iq/iq-postdoctoral-fellowship/

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25.10.19
Postdoctoral Fellow in Theory of Quantum Matter, University of Stockholm, Sweden
Ref. No. SU FV-3626-19
Closing date: 13 December 2019

The Department of Physics is one of the biggest departments within the Faculty of Science and supports a broad range of basic research in experimental and theoretical physics. It has about 250 employees of which 95 are PhD students. Many have been internationally recruited. The Department is part of the AlbaNova University Center, which apart from the Department of Physics houses the Department of Astronomy, the Physics Departments at the Royal Institute of Technology (KTH), and the Nordic Institute for Theoretical Physics (Nordita).

Project description
The research group ‘Theory of Quantum Matter’ in the unit for Condensed Matter and Quantum Optics, within the Department of Physics at Stockholm University, invites applications to two postdoctoral positions within the area of threedimensional topological phases. The research group consists of eight active permanent members, eight postdocs and about eleven Ph.D. students. The research focuses on various forms of quantum matter, in the context of solid state systems, as well as artificial ones, such as those that are formed in ultra cold gasses, and certain states in quantum-optics. The used methods range from numerical and symbolic computations to quantum field theory calculations utilizing advanced concepts from geometry and topology.
The postdoctoral fellow will work as part of the research group lead by Maria Hermanns where main research interests include topologically ordered states, in particular quantum spin liquids, and entanglement signatures of topological phases of matter.

Main responsibilities
The successful candidate will study various strongly correlated systems and/or topological phases using analytical and/or numerical techniques. He/she is expected to be able to do independent work, work in collaboration with other group members and participate in the supervision of Ph.D. students.

Qualification requirements
Postdoctoral positions are appointed primarily for purposes of research. Applicants are expected to hold a Swedish doctoral degree or an equivalent degree from another country.

Assessment criteria
In the appointment process, special attention will be given to research skills within the research topic of strongly correlated phases and topological phases of matter, as well as the ability to conduct independent research. Previous research experience in analytical and/or numerical techniques that are especially suited for strongly correlated systems is favorable.

The degree should have been completed no more than three years before the deadline for applications. An older degree may be acceptable under special circumstances, which may involve sick leave, parental leave, clinical attachment, elected positions in trade unions, or similar.

Terms of employment
The position involves full-time employment for a maximum of two years, with the possibility of extension for another year. Start date 2020-09-01 or as per agreement.

Stockholm University strives to be a workplace free from discrimination and with equal opportunities for all.

Contact
Further information about the position can be obtained from Maria Hermanns, maria.hermanns@fysik.su.se.

Union representatives
Ingrid Lander (Saco-S), telephone: +46 708 16 26 64, saco@saco.su.se, Alejandra Pizarro Carrasco (Fackförbundet ST/Lärarförbundet), telephone: +46 8 16 34 89, alejandra@st.su.se, and seko@seko.su.se (SEKO).

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23.10.19
POSTDOCTORAL POSITIONS IN CONDENSED MATTER THEORY
University of Tennessee at Knoxville

Postdoctoral positions in Condensed Matter Theory are available in the Department of Physics & Astronomy at the University of Tennessee, Knoxville, in the group of Professors Elbio Dagotto and Adriana Moreo.

Areas of interest are iron- and copper-based high critical temperature superconductors, spin liquids, influence of spin-orbit coupling on phase diagrams of correlated electrons, topological systems, quasi one-dimensional chains and ladders, non-equilibrium properties of correlated electrons, oxide interfaces, bulk complex oxides, multiferroic materials, and several others.

We are interested in a variety of many-body techniques, particularly Density Matrix Renormalization Group both for static and time/omega dependent calculations, Lanczos/Exact Diagonalization, Monte Carlo simulations, mean-field and variational approximations, and others.

Information about our group can be found in http://sces.phys.utk.edu.
The main location for this work will be at the University of Tennessee; however, our group has a close connection with Oak Ridge National Laboratory where part of the postdoctoral effort could be performed.

To apply, candidates should submit application information + CV + statement of research interests (all in a single PDF) to applications@sces.phys.utk.edu

The candidate should arrange for three letters of recommendation to be sent to the same email address.

Candidates should also send a formal application to the University of Tennessee using https://ut.taleo.net/careersection/ut_system/jobdetail.ftl?job=19000001XV&tz=GMT-04%3A00&tzname=America%2FNew_York

Screening of applicants will start immediately and continue until positions are filled.

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23.10.19
Postdoc position available at RWTH Aachen University, Germany

I am searching for a Postdoc who is interested in joining the Condensed Matter Theory Group at the RWTH Aachen University in Germany. I am currently working on questions regarding non-equilibrium control of quantum matter as well as twisttronics. The applicant should have a background in quantum many-body theory, preferably, with experience in computational tensor network techniques (such as DMRG) or dynamical mean field theory.

Interested candidates are encouraged to contact me at Dante.Kennes@rwth-aachen.de

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21.10.19
RUTGERS CENTER FOR MATERIALS THEORY, Postdoctoral Associates 2020; http://www.physics.rutgers.edu/cmt/group-cmt.html

is seeking the application of talented candidates for a number of postdoctoral research positions in Theoretical Condensed Matter Physics, beginning Fall 2020. We are seeking applicants with a particular interest in the application of analytical and computational many body physics to quantum materials, with the view to working in the following areas:

- Polar Systems near Ferroelectric Quantum Critical Points
- Emulating Twtronics with cold-atoms
- Entanglement properties of f-electron materials
- Hund's metals and iron based superconductors
- Interacting topological quantum materials
- Strong Correlations in Low Dimensions

Research in the group is led by Natan Andrei, Premala Chandra, Piers Coleman, Kristjan Haule, Gabriel Kotliar, Jed Pixley, Karin Rabe, David Vanderbilt and Emil Yuzbashyan.

Postdocs are encouraged to develop a broad portfolio, diversifying their research through additional collaborations with more than one group or faculty mentor. Interests in our group span a broad range of frontier challenges in many body and condensed matter physics research. We have a world-class reputation for ground-breaking and creative research in the
areas of emergent quantum materials. Our interests include strongly correlated electron materials, heavy fermion materials, transition metal-based high temperature superconductivity, twisted van der Waals heterostructures, quantum phase transitions, polar metals near quantum critical points, topological states of matter, ultra-cold atomic gases, non-perturbative field theory methods, dynamical mean field theory approaches, mesoscopic physics, non-equilibrium quantum matter, transport and quantum impurities, quantum computation and the first-principles calculation of electronic structure.

Interested applicants should apply online at https://jobs.rutgers.edu/postings/103548
Enquiries to Erica Di Paola edipaola@physics.rutgers.edu

Apply by November 15th, 2018 for primary consideration. Later applications will be considered so long as openings exist.

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18.10.19
A postdoctoral position has opened in our group at Northeastern University in Boston, as described in the announcement below. I would appreciate it if you could post or circulate this advertisement among prospective candidates.

He/she will be involved in projects concerning decoherence and other time-dependent phenomena. We are interested in a variety of many-body techniques, but specially tensor network methods/Density Matrix Renormalization Group (both for static and time/frequency dependent calculations), Lanczos/Exact Diagonalization, semi-classical approaches and Dynamical Mean Field Theory.

The successful candidate should have proven experience studying models for strongly correlated matter, quantum magnetism and/or quantum chemistry. Expertise in semi analytic techniques, such as Hartree Fock approximations and other mean field approaches is also of our interest.

Applications should be sent through our portal: https://neu.peopleadmin.com/postings/62497

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15.10.19
PostDoc Fellow, Boulder, Colorado
https://jobs.colorado.edu/jobs/JobDetail/?jobId=21755

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15.10.19
Two PDRA positions at Oxford
I expect to recruit up to two postdoctoral researchers to join my group at Oxford in Fall 2020, to work in the area of topological phases of matter. Considerable flexibility in topics is possible and collaboration with other Oxford faculty will be encouraged. The appointments are initially for two years but can be extended for a third contingent on funding and performance.

I would very much appreciate it if you could forward the details (copied below and posted online at https://academicjobsonline.org/ajo/jobs/14986) to any suitable candidates that you think might be interested.

Note that the deadline of noon UK time of Nov 15, 2019 is a hard one (for various bureaucratic
reasons), and applications after the deadline unfortunately cannot be considered. Applications must be made through the Oxford recruitment page, rather than AJO. Also, if an applicant wishes to be considered for multiple positions at Oxford.

Siddharth A. Parameswaran
Associate Professor, University of Oxford
Rudolf Peierls Center for Theoretical Physics
Tutorial Fellow, Hertford College

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15.10.19
Two CMT group PDRA positions at Oxford.
The CMT group at Oxford expects to appoint up to 2 postdoctoral research assistants to perform research on the theory of condensed matter, working with Professors J T Chalker, F. H. L. Essler, P. Fendley, D. E. Logan, S A Parameswaran and S. H. Simon. The positions are supported from an EPSRC grant on “Coherent Many-Body Quantum States of Matter” and are available for a fixed-term period of 2 years starting on 1 October 2020 (or mutually agreed date shortly before/after), with possible extension for a third year contingent on performance and funding.

We would appreciate it if you could forward details of this post to any suitable candidates. The post is also advertised at https://academicjobsonline.org/ajo/jobs/14987, though applications are not being accepted via the AJO website.

We are particularly interested in candidates with expertise one or more of the following areas:
— quantum field theory applied to quantum condensed matter systems
— topological aspects of quantum condensed matter, particularly in interacting systems
— one dimensional interacting quantum systems including techniques of integrability
— numerical methods, particularly tensor network and MPS techniques for strongly correlated systems

A full job description and selection criteria are available at the Oxford HR Recruitment website: https://bit.ly/2MjJ8SZ. (Note that applicants must use the HR page, rather than AJO, in order to apply for this position.)

Further enquiries about the role may be directed to one of the grant holders: john.chalker@physics.ox.ac.uk, fabian.essler@physics.ox.ac.uk, paul.fendley@physics.ox.ac.uk, david.logan@chem.ox.ac.uk, sid.parameswaran@physics.ox.ac.uk, steve.simon@physics.ox.ac.uk.

The deadline for applications, including all reference letters, is noon UK time on November 15, 2019.

***Please note that these posts are in addition to two ERC-funded posts advertised simultaneously with the same deadline. Owing to UK employment law and immigration policies, candidates must apply *separately* for each post at Oxford that they wish to be considered for. Therefore, even if they have already applied to a different position at Oxford, candidates must submit an application in response to the present advertisement to be considered for these new posts.***

I apologize if you receive this email multiple times.

Siddharth A. Parameswaran
Associate Professor, University of Oxford
Rudolf Peierls Center for Theoretical Physics
Tutorial Fellow, Hertford College

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14.10.19
Postdoc positions in theoretical physics at Nordita, Stockholm
1) *Nordita Fellowships 2020-2022*
The two-year fellowships are intended for scientists who wish to carry out research in fields represented at Nordita, mainly astrophysics, condensed matter physics (hard and soft), gravitation, cosmology and astroparticle physics, high-energy physics, and statistical physics/complex systems.
Deadline for applications 15 November 2019.
https://academicjobsonline.org/ajo/jobs/14979

2) *Postdoctoral Positions in Theoretical Condensed Matter Physics: Dynamic Quantum Matter*
One position will have the focus on Dynamic Quantum Matter, and a second position will be in Machine Learning and Data Informatics. The project is closely tied to the development of the open-access Organic Materials Database (OMDB) which is being built up at Nordita, as well as the ERC Synergy project HERO on Hidden, Entangled and Resonating Orders.
Deadline for applications 15 December 2019.
https://academicjobsonline.org/ajo/jobs/15103

3) *Postdoctoral Positions in Theoretical High-Energy Physics*
While applications in all areas of high-energy theory will be considered for these two-year positions, individuals working on integrable systems, holographic duality, and exact results in QFT are particularly encouraged to apply.
Deadline for applications is 30 November 2019.
https://itf.fys.kuleuven.be/postdoc-application/

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14.10.19
A postdoc position is opening in the Nonequilibrium quantum and statistical physics group at University of Ljubljana. Specifically, it is within a project on many-body transport engineering lead by myself and which aims to study transport in low-dimensional quantum systems. For details see https://euraxess.ec.europa.eu/jobs/452696. Review will begin immediately, with an expected starting date in the beginning of 2020.

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11.10.19
We would like to draw your attention to the following postdoctoral fellowship opportunities in condensed matter theory at Caltech starting in the fall of 2020.

1. Burke fellowships at Caltech's Walter Burke Institute for Theoretical Physics
https://applications.caltech.edu/job/burke
Application deadline: November 15, 2019

2. Moore postdoc fellowships in Quantum Materials Theory
https://applications.caltech.edu/jobs/moorepd
Application deadline: November 15, 2019

3. Institute for Quantum Information and Matter postdoc fellowships
https://applications.caltech.edu/jobs/iqim
Application deadline: December 2, 2019

Applicants to these fellowships will automatically be considered also for individual research
We would like to announce the opening of a post-doctoral position in Condensed Matter Theory at the Fine Theoretical Physics Institute at the University of Minnesota. The appointment may start as early as January 1, 2020 and the position will stay open until filled. We are seeking a theorist interested in pursuing analytical approaches to correlated electron systems and their kinetics. Please pass this information to those who may be interested.

Applicants should submit a curriculum vitae, publication list, summary of research interests, and should arrange for three letters of reference.

DIRECTIONS:
1. Select the link to access our careers site.
2. Sign In to access your account or if you are not an existing user select the New User link to create one.
3. Review the job description and select the Apply button to begin your application.
https://hr.myu.umn.edu/jobs/ext/333665

If you are a current employee of our organization please use the following link instead:
https://hr.myu.umn.edu/jobs/int/333665

Application deadline December 1, 2019.
Applicants: please send questions/inquiries to Meghan Murray (bieve008@umn.edu).
Applications from women or minority candidates are particularly welcome.

Condensed Matter Theory Postdoc Position at University of Toronto

The Center for Quantum Materials at the University of Toronto expects the opening of a postdoctoral position in quantum condensed matter theory with a start date in Fall 2020. Research interests of the Center include strongly correlated electron systems, topological phases of matter, quantum phase transitions, frustrated magnets, quantum spin liquids, unconventional superconductivity, and quantum information. Both analytically and numerically minded candidates will be considered.

Application instructions: Applicants should send a single PDF file that contains CV, publication list, a brief (typically up to 3 pages) statement of research interests and arrange for three letters of recommendation to be sent to iyer@physics.utoronto.ca

Application review will begin on December 1, 2019 and continue until the position is filled.

The advertisement in the Academic Jobs Online can be found here.
https://academicjobsonline.org/ajo/jobs/15036
Postdoctoral Openings in Condensed Matter Theory at Harvard

We would like to bring to your attention multiple postdoc positions in Condensed Matter Theory at Harvard University. For full consideration applications should be received by November 1, although later applications may also be considered on a rolling basis.

Application can be submitted on Academic Jobs Online:
https://academicjobsonline.org/ajo/jobs/14679.

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08.10.19
Postdoctoral Fellowship Openings — Simons Collaboration on Ultra-Quantum Matter

We would like to draw your attention to several postdoctoral fellowship openings in the Simons Collaboration on Ultra Quantum Matter (UQM) with a Fall 2020 start date. We would appreciate your bringing this to the notice of interested individuals.

Simons UQM Postdoctoral Fellows will be selected though a common application process. Although they will be associated with a single institution, they are free to work with all collaboration members and attend all meetings.

The collaboration brings together condensed matter, high-energy, quantum information and atomic theorists with the goal of classifying and characterizing topological and fracton matter, developing dualities and other approaches to strongly coupled gapless phases, as well as finding novel platforms to realize and probe highly entangled quantum states in the laboratory.

Applications can be submitted here [1]. Applicants must indicate their preferred UQM institutions in their cover letter. The deadline is November 15 and more information can be found here [2].

The collaboration anticipates appointing postdoctoral fellows starting in Fall 2020 at the following institutions:

CALIFORNIA INSTITUTE OF TECHNOLOGY (Xie Chen)
HARVARD UNIVERSITY (Subir Sachdev and Ashvin Vishwanath)
STANFORD UNIVERSITY (Shamit Kachru)
UNIVERSITY OF CALIFORNIA SAN DIEGO (John McGreevy)
UNIVERSITY OF COLORADO BOULDER (Victor Gurarie and Michael Hermele)
UNIVERSITY OF MARYLAND AND JOINT QUANTUM INSTITUTE (Victor Galitski)
UNIVERSITY OF TEXAS AUSTIN (Andreas Karch)

Other institutions and faculty participating in the collaboration are:

INSTITUTE FOR ADVANCED STUDY (Nathan Seiberg)
MASSACHUSETTS INSTITUTE OF TECHNOLOGY (Senthil Todadri and Xiao-Gang Wen)
UNIVERSITY OF CALIFORNIA SANTA BARBARA (Leon Balents and Matthew Fisher)
UNIVERSITY OF CHICAGO (Michael Levin and Dam Thanh Son)
UNIVERSITY OF INNSBRUCK (Peter Zoller)

Links:
[1] https://secure-web.cisco.com/198Yimb39vGm0vial2pjhL-0_vpVe8vymrKEGYnvPyEZhWZxew4158Tz580-7N831_O70e9wKPjd7Z1UckvU7wmk0lB2Ovryz4VDBpLuXkokWWRmR12biKbbHbtscfyseUKdRAS9xhDRDQkzzF6dUjhXyKWRtNpKoN9korisfs0-DaK2E1-BxyQl3VVjzO8JAJeCAuz6nbsavdWQR6raGnEurCB8KbjYVJoFo_eElBdTljJklAnj8m1A7HukGJO
07.10.19
Two Faculty Positions in Condensed Matter Physics/Quantum Information Science a Rutgers, New Jersey;

The Rutgers Condensed Matter group is conducting a search for two junior faculty positions in Experimental and Theoretical Physics in the area of Quantum Information Science, broadly defined as all subfields of QIS, including many body physics, computation, communication, and sensing, and working with various platforms (e.g., solid state and AMO). Please find attached, advert for the position with the link for the application. Please post and forward to colleagues who may be interested.
http://jobs.rutgers.edu/postings/99727

07.10.19
Postdoctoral position in theoretical condensed matter physics/semiconducting quantum computing;

Applications are invited for a postdoctoral scientist position in the group of Professor Susan Coppersmith at the University of New South Wales. The group focuses on theoretical questions in condensed matter physics, particularly those relevant to silicon quantum computation. Theory that has direct impact on experiments is particularly encouraged.

Applicants are expected to have a Ph.D. and a strong publication in theoretical condensed matter physics, quantum computation, or a related field.

All applications must be made online by following the link at https://external-careers.jobs.unsw.edu.au/cw/en/job/497906/research-associate-physics. Names and contact information for three recommenders should be included in the application. The application deadline is 24 October 2019, but applications will be considered until the position is filled.

Susan N. Coppersmith
Professor, School of Physics
The University of New South Wales
Sydney NSW 2052, Australia
s.coppersmith@unsw.edu.au

07.10.19
Postdocs to independent researchers, MCQST is offering Junior Researcher START Fellowships.

In this first call, the MCQST Executive Committee, together with an international Advisory Board, will select one Junior Researcher START Fellow. Selection criteria are scientific
excellence and an original research proposal. The start date of the fellowship will be fixed in agreement with the MCQST office, but should begin no later than 1 January 2020.

MCQST is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals. Furthermore, MCQST seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply

https://www.mcqst.de/support/start-fellowship/

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02.10.19
Postdoc and PhD positions to fill at TU Braunschweig;
I would appreciate if you could forward this announcement to potential candidates: We are looking for Postdocs as well as PhD students who are interested in joining the Condensed Matter Theory Group at the Technical University of Braunschweig in Germany. Potential candidates should have a background in the physics of strongly correlated systems.

Preferably, they should have experience with either the functional renormalization group or with computational matrix product state techniques (DMRG). Alternatively, they should have convincingly demonstrated the ability to learn and implement complex analytical or computational methods. Possible areas of future research include strongly-correlated two-dimensional systems such as twisted bilayers, non-equilibrium phenomena, and many-body localization in topological systems. Interested candidates are encouraged to contact me at c.karrasch@tu-bs.de

Christoph Karrasch

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01.10.19
New call - MPHQ Postdoctoral Fellowships in Quantum Optics
We would like to draw your attention to a new call for Postdoctoral Fellowships at the Max Planck Harvard Research Center for Quantum Optics (MPHQ).

The Max Planck Harvard Research Center for Quantum Optics (MPHQ) has been founded by the Max Planck Institute of Quantum Optics (MPQ) and the Harvard University Physics Department. In the framework of this world-class cooperation, research and educational activities take place in fundamental and applied fields in the quantum realm including sensing, metrology, control, chemistry, many-body systems, and information science.

Postdoctoral Fellowships have a duration of two years and can take place at either Max Planck Institute of Quantum Optics (MPQ) or Harvard University Department of Physics. Applications have to be submitted electronically before 15 NOVEMBER 2019. Please find more information in the attached call announcement.

If you have any questions, please do not hesitate to contact me at mphq@mpq.mpg.de

Bianca Lenhard
Coordinator Max-Planck-Harvard Research Center for Quantum Optics
Max-Planck-Institut für Quantenoptik
Hans-Kopfermann-Str. 1
85748 Garching
Email: bianca.lenhard@mpq.mpg.de
http://www.mph-quantum.mpg.de/
MORE INFORMATION:
The Max Planck Harvard Research Center for Quantum Optics invites applications for two-year Postdoctoral Fellowships in Quantum Optics

About
In order to expand on their research in the interdisciplinary field of quantum science and to promote the career of excellent young scientists, the Max Planck Institute of Quantum Optics (MPQ) and the Harvard University Department of Physics founded the Max Planck Harvard Research Center for Quantum Optics (MPHQ). In the framework of this world-class cooperation, research and educational activities take place in fundamental and applied fields in the quantum realm including sensing, metrology, control, chemistry, many-body systems, and information science. Please find further information at http://www.mph-quantum.mpg.de/ and https://mphq.physics.harvard.edu/

Your Qualifications
MPHQ is looking for excellent candidates for two-year Postdoctoral Fellowships based at the Max Planck Institute of Quantum Optics or the Harvard University Department of Physics. Successful candidates will have the opportunity to take advantage of the unique cooperation including a joint postdoc mentoring scheme and frequent opportunities for exchange between the two institutions. In addition to that, fellowships highly encourage the development of joint research projects. Applications should address one of the following scientific core areas: Quantum Simulation; Quantum Phases of Matter; Quantum Information Science; Quantum Sensing and Metrology; Quantum Networks; Quantum Dynamics and Ultracold Quantum Chemistry.

Application Requirements
Applicants should have completed their PhD no more than three years before starting the fellowship. The starting date of the fellowships is flexible and should be within one year after application. To apply, please submit a curriculum vitae, transcripts, a list of publications, a brief description of your research interests (1000 characters max.) and a description of your scientific goals for the fellowship (5000 characters max.). Applicants are also asked to arrange for at least two letters of reference.

Applications for Postdoctoral Fellowships based at the Max Planck Institute of Quantum Optics have to be submitted at https://lotus2.gwdg.de/mpg/mgqo/mpqharvard_2019.nsf/application

01.10.19
We would like to draw your attention to open postdoctoral positions in Condensed Matter Theory at Stanford University.

Applications are invited for the Gordon and Betty Moore Postdoctoral Scholars in Theory of Quantum Materials at the Stanford Institute for Theoretical Physics (SITP) beginning in Fall 2020. This postdoctoral program is part of the Moore Foundation's Emergent Phenomena in Quantum Systems Initiative (EPiQS) [1]. We seek exceptional theorists who will flourish in, and contribute to, the highly interactive and collaborative materials research environment at Stanford. More information is available at: https://glam.stanford.edu/gordon-and-betty-moore-foundation-fellowships

Applicants should submit a cover letter, curriculum vitae, publication list and outline of research interests, and should arrange for three or four letters of reference to be sent electronically through ACADEMIC JOBS [3] Online at: https://academicjobsonline.org/ajo/jobs/14546

APPLICATION DEADLINE: NOVEMBER 7, 2019. Applications from women or minority candidates will be particularly welcome. For assistance or accommodation in completing this application, please contact Noelle Rudolph, nrudolph@stanford.edu.

ABOUT THE GORDON AND BETTY MOORE FOUNDATION AND EPiQS INITIATIVE
The Gordon and Betty Moore Foundation believes in bold ideas that create enduring impact in the areas
of science, environmental conservation and patient care. Visit Moore.org or follow @MooreScientific. The foundation's $97-million EPiQS initiative promotes discovery-driven research in the field of quantum materials. Through a variety of funding approaches, EPiQS aims to enable a community of leading experimentalists, materials synthesis experts and theorists to maximize their potential to explore, discover and understand emergent behavior of complex quantum matter. The Moore Postdoctoral Scholars in Theory of Quantum Materials program supports some of the most promising theoretical physicists at an early stage of their careers. The Moore Postdoctoral Scholars are provided with a significant independence in selection of their research directions within their departments and can acquire a breadth of expertise by working with multiple faculty members.

Stanford University is an Affirmative Action/Equal Opportunity employer and is committed to increasing the diversity of its workforce and welcomes nominations of and applications from women, members of minority groups, protected veterans and individuals with disabilities.

Please find attached to this email the announcement for the Gordon and Betty Moore postdoctoral positions at the Stanford Institute for Theoretical Physics.

We appreciate you drawing the attention of interested individuals to these openings, and feel free to reach out to us if you have further input.

Steve Kivelson
Prabhu Goel Family Professor of Physics kivelson@stanford.edu

Srinivas Raghu
Associate Professor of Physics sraghu@stanford.edu

Links:
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27.09.19
Postdoc opening at University of Florida
I am writing to advertise an opening for a postdoc position at the condensed matter theory group at the University of Florida at Prof. Yuxuan Wang’s group. Interactions with faculty, postdocs, and students as well as the experimentalists are encouraged. This postdoctoral position supports two years of funding, with the possibility of extension to a third year upon mutual agreement. The successful candidate will also be provided with travel funds to facilitate scientific collaboration and communication of ideas.

https://academicjobsonline.org/ajo/jobs/14803 [1].

Yuxuan Wang, Assistant Professor
Department of Physics, University of Florida
Gainesville, FL

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27.09.19
CMT faculty position at Perimeter, Waterloo, Canada;
We are currently inviting applications for a tenure track faculty position (equivalent to the level of assistant professor) in theoretical condensed matter physics at Perimeter. Exceptional
candidates may also be considered for a tenured senior faculty position. Please bring this to the attention of any applicant who you think might be interested.

https://www.perimeterinstitute.ca/tenure-track-faculty-position-condensed-matter-theory

Roger G. Melko  
Professor, Department of Physics & Astronomy, University of Waterloo Canada  
Research Chair in Computational Quantum Many-Body Physics  
Associate Faculty, Perimeter Institute for Theoretical Physics  

I have an immediate opening available for a postdoctoral fellowship in theory and computation for work on reservoir engineering of ion-trap-based quantum computers. This position is funded by the National Science Foundation and we plan to collaborate with experimental and theoretical groups at JILA. The work will explore different ways to exploit the coupling of a system to its reservoir to protect entanglement in a quantum computation.

If you know of anyone who might be interested please let me know or have them contact me directly. The best candidates will have experience and skill at computation and many body physics. Candidates should send to me a CV and publication list. They should also arrange to have 2-3 letters of recommendation forwarded to me.

Jim Freericks  
Professor of Physics and McDevitt Chair  
Georgetown University  
James.Freericks@georgetown.edu

Postdoc Opening at Iowa State University; I am writing to advertise a postdoctoral position in quantum condensed matter theory in my group at Iowa State University. My research focuses on nonequilibrium quantum dynamics, topological aspects of quantum many-body systems, and related topics. The term of the position will be up to three years, with an expected start date in Fall 2020. I would be grateful if you could bring this opportunity to the attention of any strong candidates of whom you might be aware.

Review of applications will begin immediately and continue until the position is filled. Interested candidates should apply via the following link: https://tinyurl.com/ISUPostdoc

Thomas Iadecola

Condensed Matter Theory faculty position, University of California, Irvine; The Department of Physics and Astronomy at the University of California, Irvine invites applications for a tenure-track position in Condensed Matter Theory. The search is focused on strongly correlated systems, particularly areas with significant overlap with quantum information, quantum simulation, or quantum materials. The appointment is at the rank of Assistant Professor. Appointment at a more senior
rank could be considered in exceptional cases. The successful candidates should have a Ph.D. degree or equivalent in Physics, and are expected to establish a dynamic research program and participate effectively in teaching at the undergraduate and graduate levels. Salary is commensurate with qualifications, training, and experience.

Applicants should submit a letter of application, curriculum vitae, list of publications, a minimum of three letters of reference, and statements of research and teaching interests. A separate statement that addresses past and/or potential contributions to diversity, equity, and inclusion must also be included in the application materials, as described here.

Submit application materials through the UCI Recruit website:
https://recruit.ap.uci.edu/apply/JPF05728

For full consideration, candidates should apply on-line by December 1, 2019. Review of applications will begin immediately upon receipt of a completed application. The search will remain open until the position is filled.

The Physics and Astronomy Department and the School of Physical Science is committed to inclusive excellence and diversity. The University of California, Irvine is an Equal Opportunity/Affirmative Action Employer advancing inclusive excellence. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, protected veteran status, or other protected categories covered by the UC nondiscrimination policy.

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25.09.19

Postdoctoral Research Associate in Theoretical Condensed Matter Physics, School of Physics and Astronomy, University of Minnesota;

The School of Physics and Astronomy at the University of Minnesota invites applications for a research associate position in theoretical condensed matter physics, with a starting date in the summer or fall of 2020. Applicants are expected to have completed their PhD in physics or related areas before the starting date of the position. The successful candidate will work in the research group of Prof. Rafael Fernandes, and will be expected to interact with the condensed matter experimental groups as well. Specific research topics include, but are not limited to, high-temperature superconductors, vestigial orders, quantum magnets, Mott insulators, and graphene. More information about the group can be found at www.physics.umn.edu/people/rfernand.html

The position is expected to last for up to two years. Please apply online at:
https://hr.myu.umn.edu/jobs/ext/333086 (Job ID 333086)

The application material consists of a curriculum vitae, a brief research statement, and the names and complete contact information for three references. Please arrange for three letters of reference to be sent by email to rfernand@umn.edu. Review of applications will begin immediately and will continue until the position is filled.

The University of Minnesota shall provide equal access to and opportunity in its programs, facilities, and employment without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression.

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23.09.19

Postdoc position: Quantum materials & information at Brown's new Theoretical Physics Center, Brown University, Providence, Rhode Island, USA;
The Brown University NSF EPSCOR Center focused on Harnessing the Data Revolution for the Quantum Leap: From Quantum Control to Quantum Materials [1] seeks a highly talented and motivated postdoctoral fellow interested in working at the interface of quantum matter theory, quantum information, and machine learning. THE FELLOW WILL HELP LEAD CENTER EFFORTS AND DEFINE THE CENTER’S VISION TO DEVELOP NEW THEORIES THAT LEVERAGE MACHINE LEARNING AND QUANTUM CONTROL TO ACCELERATE MATERIALS DISCOVERY. The fellow will therefore be engaged in multi-group collaborative research with other theorists and experimentalists at Brown, Dartmouth, and the University of New Hampshire, and will be expected to help train graduate and undergraduate students. The position represents an excellent opportunity to develop professional networks and enhance communications skills.

The fellow will become a member of Brown’s new Center for Theoretical Physics, which is comprised of a number of highly-regarded theorists from Brown’s physics, chemistry, environmental science, and applied mathematics communities. Brown University is a private, Ivy League University located in Providence, RI, less than an hour away from Boston and less than four hours away from New York City. The University is home to a lively campus, where students are intellectually engaged both inside and outside the classroom. Brown boasts a number of top-ranked Departments and is an institution at which interdisciplinary research is strongly embraced.

QUALIFICATIONS
Ideal candidates should have a background in quantum condensed matter physics, familiarity with machine learning, and, at a minimum, an appreciation of quantum information science. An ability to work well with others is a must. Candidates with a demonstrated record of creativity and independent thought are preferred. Applicants from diverse backgrounds are strongly encouraged to apply. All hires will also be given time to explore research topics, continue past research, and develop collaborations of their own.

APPLICATION INSTRUCTIONS
Those interested in applying should submit their cover letter, CV, and three recommendation letters through Interfolio [2] (<https://apply.interfolio.com/68383>) by November 1, 2019 for full consideration. The position is expected to begin by January 1, 2020 but there is some flexibility regarding the start date.

Brad Marston marston@brown.edu
Professor of Physics Associate Director
office: (401) 863-2061 Brown Theoretical Physics Center
https://www.brown.edu/Research/Environmental_Physics

Links:
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22.09.19
Postdoctoral Position at CQU, P. R. China

Applications are invited for a postdoctoral position in Prof. Xue-Feng Zhang’s group of “Theory of strongly correlated many body system” at the Chongqing university, P. R. China. We are looking for a young researcher (m/f) with experience in advanced numerical or analytical techniques for many body quantum systems (antiferromagnets in low dimensions, strongly correlated systems, ultra-cold quantum gases, Floquet system etc.). For more information, please also see the group homepage http://cqutp.org/users/xfzhang/

A Ph.D. is required. The abilities of numerical skill (QMC, DMRG, ED, TRG etc.) or the field theory
will be preferred. Possible starting date is Spring or Fall of 2020. The appointment will be for three years. The salary will range from 300,000 to 400,000 RMB/YEAR (about 250,000~350,000 RMB/YEAR after tax.) The applicants can also apply local special grants.

Applications and questions can be sent via e-mail to zhangxf@cqu.edu.cn until DEC. 31TH, 2019. Please include:

CURRICULUM VITAE
PUBLICATION LIST
STATEMENT OF RESEARCH INTERESTS AND PLANS
2 LETTERS OF REFERENCE TO BE SENT DIRECTLY TO zhangxf@cqu.edu.cn

Applications will be accepted until the position has been filled.

Chongqing (formerly spelled Chungking), is an economically important municipality in West China and is the biggest inland municipality of the country with plans for even more massive growth (@WIKI). Chongqing University is a key national university, a member of the "Excellence League", a Chinese Ministry of Education Class A Double First Class University, and also one of the "Project 211" and "Project 985" universities.

Prof. Dr. Xuefeng Zhang
Department of Physics, Chongqing University,
Chongqing 401331, People's Republic of China
Homepage: http://cqutp.org/users/xfzhang/

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18.09.19

19.09.19

Postdoctoral Positions at the Institute for Condensed Matter Theory of the University of Illinois at Urbana-Champaign; beginning in the Fall 2020.

This year we will have Gordon and Betty Moore Postdoctoral Scholar positions as part of the EPiQS Program on Quantum Materials. We will also have openings supported by departmental grants. In particular we will have an opening one in computational materials science, working primarily with Profs. David Ceperley and/or Lucas K. Wagner. Applicant should have skills in Density Functional Calculations, Quantum Monte Carlo and Data Science. We will also have a postdoctoral opening in the area of quantum computing algorithms and quantum simulation with Prof. Bryan Clark. The focus of this position will be on quantum simulations of condensed matter physics/chemistry with an emphasis on NISQ machines. We will also have a postdoctoral opening on areas of topological phases of matter (including quantum Hall states) and their geometric properties, and/or in high Tc superconductors. We will be grateful if you could advertise this announcement at your institution and if you encourage strong candidates to apply for these postdoctoral positions.

To apply, please visit our website:

HTTP://ICMT.ILLINOIS.EDU/OPPS-POSTDOCS.ASP

Eduardo Fradkin
Donald Biggar Willett Professor of Physics Director, Institute for Condensed Matter Theory Department of Physics University of Illinois 1110 West Green Street Urbana Illinois 61801-3080, USA
e-mail: efradkin@illinois.edu
homepage: http://eduardo.physics.illinois.edu/homepage/
ICMT homepage: http://icmt.illinois.edu/

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POSTDOCTORAL POSITION IN CONDENSED MATTER THEORY, RICE UNIVERSITY, Houston, Texas;

The Condensed Matter Theory Group at Rice University expects the opening of a postdoctoral position with a start date in Fall 2020. The successful candidate will work in Prof. Qimiao Si’s research group, in a setting interactive with other faculty, postdocs and students in our CMT group, as well as an active group of experimentalists. The position is targeted towards strongly correlated electron systems, broadly construed. Examples of the specific areas of interest include quantum phase transitions, unconventional superconductivity, topological matter in strongly correlated settings, and frustrated quantum magnetism. Both analytically and numerically minded candidates will be considered. Applicants should send a single PDF file that contains a CV, a brief (typically up to 3 pages) statement of research interests and 2 (p)reprints, and arrange for three letters of recommendation to be sent, through the AcademicJobsOnline system:

https://academicjobsonline.org/ajo/jobs/14639

Application review will begin on November 1, 2019, and will continue until the position is filled. Rice University is an EO/AA employer.

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17.09.19
Submit nominations for the Princeton Center for Theoretical Science Postdoctoral Fellowships. Center Postdoctoral Fellowships are among the most prestigious postdoctoral positions offered in the theoretical sciences at Princeton. They are intended for early-career theoretical scientists, broadly construed, including the fields of astrophysics, biology, chemistry, geosciences, physics, and engineering. The nominees should be individuals with outstanding talent and accomplishment who are eager to broaden their scientific horizons. We particularly encourage nominations of qualified candidates who are women or members of other groups that are underrepresented in the theoretical sciences. Fellows receive a three-year appointment in the Center fully supported by Center funds, an office in the Center facility, and have full freedom to develop their scientific interests with the support and mentoring of the senior Faculty Fellows. It is our intention that the Center experience will have a profound impact on the scientific development and future careers of the Fellows.

The deadline for receipt of the Postdoctoral nomination, reference letters, and supporting materials from the candidate is October 15, 2019 so it is important for you to submit your nomination as soon as possible to give your candidate and their references time to complete their parts.

The candidates will then be sent information necessary to complete their application and to submit letters of reference should they choose to accept the nomination. (Please note, this is a new nomination site, so please use this link to make sure you get to the correct page.) A doctorate degree in a related field is required.

The PCTS Faculty Fellows begin evaluation and invitation to interview on October 15, 2019. (The website will continue to accept late nominations and applications, but there can be no assurance they will be considered.)

The mission of the Center is to foster interaction and collaboration between theorists across the natural sciences at Princeton to enhance research and education. We pursue this goal through our Center Postdoctoral Fellowships and our sponsorship of focused programs of study in frontier areas in theoretical science that cut across traditional disciplinary boundaries. A group of Senior Faculty Fellows, coming from a broad range of disciplines and departments, take active responsibility for guiding the intellectual life of the Center. Information about all PCTS programs can be found at our new website: http://pcts.princeton.edu

Igor Klebanov, Director klebanov@princeton.edu
Ned Wingreen, Associate Director wingreen@princeton.edu
Princeton University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to age, race, color, religion, sex, sexual orientation, gender identity or expression, national origin, disability status, protected veteran status, or any other characteristic protected by law. These positions are subject to the University’s background check policy.

17.09.19
Postdoctoral openings in condensed matter theory at University of California, Santa Barbara. For best consideration, we recommend applying before 1. November. All positions can be applied for on Academic Jobs Online.
Here are the links:

https://academicjobsonline.org/ajo/jobs/14267
https://academicjobsonline.org/ajo/jobs/14681
https://academicjobsonline.org/ajo/jobs/14183

We appreciate you drawing the attention of interested individuals to these opening, and feel free to reach out to any of us here at UCSB if you have further input.

17.09.19
Postdoc position at University of Waterloo, Kanada
This is to bring to your attention that I have a postdoc position available in my group to start in the Fall of 2020 or earlier. The position is for two years, with a possible extension. The research area is topological phases of matter. The position will be based at University of Waterloo, but collaboration with nearby Perimeter Institute researchers is possible and will be encouraged. Interested candidates should submit a CV and arrange for 2-3 recommendation letters to be emailed directly to me at aburkov@uwaterloo.ca.
Professor Anton Burkov
Department of Physics and Astronomy
University of Waterloo
200 University Avenue West
Waterloo, Ontario, Canada N2L 3G1
Ph: 519-888-4567, ext 36901
Web: http://www.science.uwaterloo.ca/~aburkov

17.09.19
Postdoctoral positions at QMI, University of British Columbia, Vancouver, Canada;
We expect to appoint one or more postdoctoral fellows in Condensed Matter Theory funded in part through Quantum Matter Institute at The University of British Columbia in Vancouver. I would appreciate if you could forward this message to any qualified candidates you might know.

A more detailed description of the positions can be found at https://qmi.ubc.ca/employment and the application deadline is October 15, 2019.

17.09.19
Multiple postdoctoral prize fellowships at Cornell;
We have a search for a new prize fellowship at the college of arts and science (Klarman fellowship) and a bi-annual search for the Bethe-KIC fellowship. In addition, we have several regular postdoc positions. Together with two new quantum matter theory faculties (Debanjan Chowdhury and Chao-Ming Jian), we are looking forward to a dynamic community bubbling with idea and energy that we will build with incoming postdocs.

Since the deadline for the Klarman fellowship is rather early, we are seeking your help in identifying promising candidates by Sep 30. We will continue to accept applications past this deadline until positions are filled.

ALL applications are accepted through a single portal in AJO: https://academicjobsonline.org/ajo/jobs/13989 [1]

In short, 3 letters, a CV and a research statement to the above link by Sep 30, 2019!

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17.09.19
Post-Doctoral Positions at DIPC, in Donostia-San Sebastian, Spain;
The Donostia International Physics Center (DIPC) is currently accepting applications for a post-doctoral appointment in the field of strongly correlated electron physics and tensor networks, under the supervision of Roman Orus and Fernando de Juan. This is a unique opportunity for highly motivated junior researchers with a recent PhD degree in physics or related fields to join one of DIPC’s high-profile research teams. Interested candidates should send an updated CV, a brief statement of interest, a minimum of two recommendation letters and contact information to roman.orus@dipc.org or fernando.dejuan@dipc.org .

Review of applications is scheduled for October 15th 2019. Applications must be received before this date and will be evaluated by a Committee designed by the DIPC board on the basis of the following criteria (with point weights indicated in parentheses):
- CV of the candidate (40%)
- Adequacy of the candidate’s scientific background to the project (40%)
- Reference letters (10%)
- Others: Diversity in gender, race, nationality, etc. (10%)

Evaluation results will be communicated to the candidates soon after. Positions will only be filled if qualified candidates are found.

The candidate is expected to join DIPC by January 1st 2020, but earlier starting dates will also be considered if needed. The DIPC could revoke its decision in case the candidate breaches the condition of joining before January 1st 2020, proceeding in that case to grant the position to the next candidate based on the classification order, and provided that he or she has obtained a score higher than 50 (out of 100) in the evaluation.

However, the selected candidate may keep the position if, in the opinion of the Evaluation Committee, the candidate duly justifies the reasons why he or she cannot join before the specified deadline, and as long as the project allows it.

The duration of the appointment will be 1 year. The appointment could be renewed for a second year, subject to performance and to the availability of funding.

The salary will be 34642.20 euros per year before taxes.

JOB OPENING DETAILS
- Modeling of strongly correlated electronic systems with tensor network methods
Supervisors: Roman Orus (roman.orus@dipc.org) and Fernando de Juan (fernando.dejuan@dipc.org).
Reference: 2019/05.
A joint postdoctoral appointment is offered to work in the groups led by Roman Orus and Fernando de Juan at DIPC, in Donostia-San Sebastian, Spain. We are looking for a candidate interested in the physics
of strongly correlated electron systems and unconventional superconductivity, in the modeling of such systems with numerical techniques, and in particular with tensor network methods. We aim to describe the low-temperature ground states of a variety of systems such as twisted bilayer graphene or doped topological insulators, and our interest is to work towards fermionic finite-temperature tensor network simulations in two and three dimensions.

We are looking for a researcher with a strong background in the physics of interacting electron systems, electronic phase transitions and superconductivity, as well as with relevant experience in the numerical simulation of fermionic systems, ideally with tensor network techniques. Excellent communication skills and good command of English will be strongly valued.