

# CURRICULUM VITAE

## 1. PERSONAL DATA

Official Name: Prof. Cristiane de Morais Smith Lehner

Professional Name: **Prof. C. Morais Smith**

Birth date: February 12, 1964

Nationality: Brazilian

Female, married with Stefan Lehner (Swiss) on September 2002

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## Professional career

- from 08/2004 - now: Full Professor  
Instituut voor Theoretische Fysica, Universiteit Utrecht, **The Netherlands**
- 04/2001 to 08/2004: Associate Professor  
10/1998 to 03/2001: Maître Assistante  
Institut de Physique Théorique, Université de Fribourg, **Switzerland**
- 04/1995 to 10/1998: wissenschaftliche Assistentin, German public employee C-1 level,  
Institut für Theoretische Physik, Universität Hamburg, **Germany**
- 08/1994 to 03/1995: Assistant (post-doctoral)  
07/1992 to 07/1994: Academic Guest (PhD student)  
Institut für Theoretische Physik, ETH Zürich, **Switzerland**
- 01/1992 to 07/1992: Visiting Scientist, ICTP, Trieste, **Italy**
- 05/1989 to 08/1994: Lecturer (permanent faculty position)  
Department of Physics, State University of São Paulo (UNESP), Bauru, **Brazil**

## Other professional activities

To financially support my Bachelor Physics studies at the University of Campinas, I worked during 2.5 years at the Brazilian Bank (6 hs/day, every day), from 02/1983 to 07/1985. During the Master Programme in Physics, I gave French lessons at the Brazilian Telecommunications Company (TELEBRAS), from 03/1986 to 11/1988, and later I founded a French language school, where I was also teaching. Although I had a Fellowship from the Brazilian agency CNPq for the Master, the payment was unstable (you could wait for 3 months to be payed).

## Diplomas

**Ph.D.**, University of Campinas, Brazil, August 1994 (the highest honor), most of the work developed at ETH-Zurich. Thesis title: Quantum and Classical Creep of Vortices Intrinsically Pinned in High-Tc Superconductors, Supervisors: Prof. Amir Caldeira / Prof. Gianni Blatter

**Master's Degree**, University of Campinas, Brazil, May 1989 (the highest honor). Thesis

topic: The Effect of the Initial Preparation to Describe the Dynamics of a Quantum Brownian Particle, Thesis supervisor: Professor Amir Caldeira

**Bachelor in Physics**, University of Campinas, Brazil, June 1985

**French Studies Superior Diplome**, Degrees 1, 2, 3, 1986-1988, Nancy University II, France (Alliance Française, Campinas, Brazil), equivalent to a Univ. Degree in Letters

### Languages

Fluent in Portuguese (mother tongue), English (excellent), French (excellent), Italian (very good), German (reasonable), Spanish (reasonable), and Dutch (reasonable).

### Scientific Prizes, Awards and honors

- **Emy Noether Distinction** of the European Physical Society, Winter 2019, "for her outstanding contributions to the theory of condensed matter systems and ultracold atoms to unveil novel quantum states of matter"
- Invited member of the **International Advisory Council** (since 2018) and **Fellow** (since 2019) of the **T.D. Lee Institute** in Shanghai Jiao-Tong University, **China**
- **2016 Dresselhaus Prize**, Hamburg University CUI, **Germany** Senior scientist Prize, Euro 20.000 (personal money), "for her outstanding contribution to the understanding of topological phases in two-dimensional atomic and electronic systems"
- **High-End Foreign Experts (HEFE)** Team Award, from the Chinese State Administration of Foreign Experts Affairs, to work at the Wilczek Quantum Center together with Frank Wilczek and Andreas Hemmerich, Hangzhou, **China**, 2015 and 2014
- **Special Visiting Professor Award, Science without Borders**, CNPq, **Brazil**, 2013-2016, collaboration with Prof. E. Marino, Federal University of Rio de Janeiro, Brazil
- **2008 VICI-Award** from the Dutch Research Organization (**NWO, the Netherlands**) N.680-47-312 (2 or 3 awarded per year in Physics in the Netherlands), Personal fellowship for developing a research project (3 PhDs, 3 post-docs), Value: Euro 1'350'000,00 Period: 2008-2013, Title: "Low-dimensional quantum matter: secrets between two and three dimensions"
- **2001-2004 Professeur Boursier du Fond National Suisse** N. 620-062868. (2 or 3 awarded per year in Physics in **Switzerland**), Personal fellowship for developing a research group (2 PhDs, 1 post-doc). Value: CH 1'097'770,00 Period: 2001-2004, Title: "Pattern Formation in 2D Strongly Interacting Electron Systems"
- Selected by the Utrecht Students Organisation (SONS) for the **second Prize as the Lecturer of the Year - Master** 2014/2015 and one of the **three finalists for the best lecturer of the year 2008**, the Netherlands
- **"Spotlight Prize"** of the Faculty of Sciences of Utrecht University for exceptional visibility of my work at the Press (September 2015), the Netherlands
- Selected for the **Dutch Highlights in Theoretical Physics** in 2008 and 2013, published in the magazine of the Dutch Research School on Theoretical Physics (2009 and 2014) (one work in condensed matter, one in high-energy physics selected per year)
- Invited member of the **Alexander von Humboldt** Foundation for Research Fellowships and Prizes, **Germany**, 2014-2020

## Prizes for students that I supervised

- 2019 Mickey Brammer was awarded the **best BONZ talk** during the Physics Bachelor thesis event at Utrecht University, NL
- 2017 Anton Quelle was awarded a **Cum Laude for his PhD thesis (top 5%)**. DITP co-supervisor: J. S. Caux. University of Utrecht (NL)
- 2015 Guido van Miert was selected among the **3 finalists for the "Best Master Thesis Award"** of the University of Utrecht in 2015, all disciplines included
- 2015 **"Science and Technology Student Award for Master students"**: awarded to Marianne Knoester, for the idea of her Master thesis Value: EU 2.500,00
- 2008 Master-Prize for my Master student (Martijn Mink): awarded with the **Shell Prize 2008** for one for the best Master Theses in the Netherlands in 2008 (9 students awarded) (Co-advisor: Rembert Duine). Value: EU 2.000,00
- 2004 PhD-Prize for my PhD student (Mark Goerbig): awarded with the **Chorafas Prize 2004** for the best thesis from the Science Faculty of the University of Fribourg, Switzerland. Value: US\$ 4.000,00
- 2001 PhD-Prize for my PhD student (Nils Hasselmann): awarded with a **Suma Cum Laude and a "Dotierter Preis des Fachbereichs Physik"** for one of the best thesis of the University of Hamburg, Germany

## 2. EDUCATION ACTIVITIES

### Courses taught in Brazil, Germany, Switzerland and Netherlands

**Bachelor level:** Applied Physics, Quantum Mechanics, General Physics I and II, Structure of the Matter I and II, Condensed Matter Physics, Mesoscopic Physics, Quantum Dissipation in Superconducting Microstructures, Transport, Superfluidity and Superconductivity (with J. Mesot), Quantum Field Theory (with D. Baeriswyl), Quantum Many-Body Theory, Thermal Physics II, Quantum Matter, Lab courses in Theoretical Physics and Mathematics, Lab course on Bose-Einstein Condensates Theory, The quantum-nano world (with F. Rabouw).

**Master level:** Electron Correlations, Student Seminar Course, Statistical Field Theory, Field theory in condensed matter, Advanced Topics in Theoretical Physics

### Supervision of 24 Bachelor Theses

**Fribourg, CH:** Marc Rossier, Markus Niffenegger, Yannick Bochud, Claude Money.

**Utrecht, NL:** Jildou Baarsma, Koen Havlik, Jacco Heres, Dejan Gajic, Robert Schoo, Stella Boeschoten, Daniel Rutten, Joren Brunekreef, Ezequiel Rodriguez, Astor Hermans, Tim A. Neutel, Ariane Dekker, Jaylesh Soebedar, Maarten Kries, Wies Uijttewaal, Simon de Groot, Mickey Brammer, Salma Ismaili, Luuk Goode (in progress), and August Röell (in progress) .

### Supervision of 43 Master Theses

**Fribourg, CH:** Mark Görbig, Yannick Bochud, Claude Money, Thomas Farage.

**Utrecht, NL:** Lyudmyla Adamska, Dmytro Makogon (Cum Laude), Marnix Wakker, Nora de Jeu, Oleksandr Poplavsky (Cum Laude), Ties Lucassen, Miriam Loois (Cum Laude), Ardavan Alamir (Cum Laude), Martijn Mink (Cum Laude and Shell Prize), Olivier Tieleman (Cum Laude), Thomas Troppenz, Marco Di Liberto, (Cum Laude at Catania University, Erasmus student), Selma Koghee, Richard Olsen, Jeffrey C. Everts, Mathijs Janssen, Tommaso

Comparin, Daniele Malpetti (Cum Laude), Ido Niesen, (Cum Laude, UvA), Jeroen van Dongen, Guido van Miert, Simon Stuij, Flore Kunst, Marianne Knoester, Peter Kristel (Honors Student Physics and Mathematics, Cum Laude), Sander Kooi (Cum Laude), Sander Kempkes (Cum Laude), Sam Eigenhuis, Victor Dagnelie, Jette van den Broeke, (Cum Laude), Peter Cats, (Cum Laude), Ruward Mulder, (Cum Laude), Charlotte Beneke (Erasmus student from TU Munich), Albert Pool, Stefan Boere (in progress), Robin Verstraten (in progress), Anouar Moustaj (in progress), Silke Schonecker (in progress), Wies Uijttewaal (in progress).

### Supervision of 23 PhD Theses

1. Nils Hasselmann (Suma Cum Laude and Hamburg University Prize), 2001, “Spiral and Striped Phases in Cuprates: the Role of Disorder”, Hamburg University, Germany
2. Thorsten Dröse, October 2001, “Metastability & Depinning in Inhomogeneous Driven Dissipative Systems”, Hamburg University, Germany
3. Mark Görbig (Chorafas Prize 2004), 2004, “Theoretical studies of inhomogeneous phases in quantum Hall systems”, University of Fribourg, Switzerland
4. V. Juričić, 2006, “Field Theoretical Studies of a Doped Mott Insulator”, University of Utrecht, the Netherlands
5. Lih-King Lim, 2010, “Ultracold gases in 2D: novel superfluid phases for bosons and fermions”, University of Utrecht, the Netherlands
6. Dmytro Makogon, 2010, “Novel Quantum Phases, Excitations, and Transport in Low-D Systems”, University of Utrecht, the Netherlands
7. Wouter Beugeling, 2012, “Topological states of matter in two-dimensional fermionic systems”, University of Utrecht, the Netherlands
8. Ralph van Gelderen, 2013, “Magnetic properties of single- and multi-layer graphene”, University of Utrecht, the Netherlands
9. Christoph Horig, 2014, formal supervisor, real supervisor was Dr.D. Schuricht, “Nonequilibrium transport through Kondo quantum dots: a real-time renormalization group analysis”, University of Utrecht, the Netherlands
10. Marco Di Liberto, 2015, “Quantum phase transitions in low-dimensional optical lattices”, University of Utrecht, the Netherlands
11. Carolin Küppersbusch, 2015, formal supervisor, real supervisor was Dr. L. Fritz, “Magnetic oscillations in 2D Dirac systems and shear viscosity and spin diffusion in a 2D Fermi gas”, University of Utrecht, the Netherlands
12. Anton Quelle (Cum Laude), 2017, DITP co-supervisor: J. S. Caux, “Geometrical, non-equilibrium, and thermodynamic effects in topological systems”, University of Utrecht, the Netherlands
13. Niklas Gerg, 2017, formal supervisor, real supervisor was Dr.D. Schuricht, “Transport and topological states in strongly correlated nanostructures”, University of Utrecht, the Netherlands
14. Guido van Miert, Co-supervisor: Dr.C.Ortiz, defence June 2018, “Dirac cones and defect charges”, University of Utrecht, the Netherlands
15. Natalia Menezes, defence August 2018, “Quantum Field Theory in low-dimensional condensed-matter systems”, University of Utrecht, the Netherlands
16. Tycho Sykkenk, defence October 2019, formal supervisor, real supervisor is Dr.L.Fritz,

subject: "Weyl-cone systems", University of Utrecht, the Netherlands

17. Sander Kempkes (in progress), begin: 2016, thesis topic: "Quantum simulations with electrons", University of Utrecht, the Netherlands
18. Sander Kooi (in progress), begin: 2016, thesis topic: "Higher-order topological insulators", University of Utrecht, the Netherlands
19. Mariya Lizunova (in progress), co-supervisor: J. van Wezel, begin: 2016, thesis topic: "Duality between CDW and Laughlin states", University of Utrecht, the Netherlands
20. Jette van den Broeke (in progress), co-supervisor: D. Vanmaekelbergh begin: 2017, thesis topic: "Spin-orbit effects in artificial lattices", University of Utrecht, the Netherlands
21. Ward Vleeshouwers (in progress), co-supervisor: V. Gritsev (UvA), begin: 2018, thesis topic: "Disorder: the multifractal bridge between strings and experiment", University of Amsterdam/University of Utrecht (NL) ‘
22. Rodrigo Arouca (in progress), co-supervisor, together with E. Marino, begin in Utrecht: 2018, thesis topic: "Thermodynamics of higher order topological insulators", University of Utrecht, the Netherlands and Federal University of Rio de Janeiro, Brazil
23. Rodrigo Ozela (in progress), co-supervisor, together with Van Sergio Alves, begin in Utrecht: 2019, thesis topic: "Pseudo QED in low dimensional systems", University of Utrecht, the Netherlands and Federal University of Para, Brazil

### Supervision of 16 postdocs

1. Dr. Lara Benfatto, 2001-2004, Fribourg University (CH), now **permanent researcher** at National Research Council (CNR), Rome, **Italy**
2. Dr. Marcello Barbosa da Silva Neto, 2004-2006, Fribourg University (CH) and Utrecht University (NL), now **Associate Professor** at Federal University of Rio de Janeiro, **Brazil**
3. Dr. Ricardo Luis Doretto, 2005-2007, Utrecht University (NL), now **Assistant Professor** at UNICAMP, Campinas, **Brazil**
4. Dr. Achilleas Lazarides, 2008-2010, Utrecht University (NL), now **staff scientist** at Max Planck Institute in Dresden, **Germany**
5. Dr. Lih-King Lim, 2010-2010, Utrecht University (NL), now **Assistant Professor** at Hangzhou, **China**
6. Dr. Dmytro Makogon, 2010-2011, Utrecht University (NL), **Senior Modelling Analyst**, ABN AMRO Bank N.V., **Netherlands**
7. Dr. Charles Creffield, 2012, Utrecht University (NL), now **Professor** at Universidad Complutense de Madrid, **Spain**
8. Dr. W. Beugeling, 2012, Utrecht University (NL), now postdoc in Molenkamp's group, **Germany**
9. Dr. V. Juricic, 2013-2014, Utrecht University (NL), now **Assistant Professor** at Nordita, Stockholm, **Sweden**
10. Dr. E. Cobanera, 2014-2015, Utrecht University (NL), now **Assistant Professor** at SUNY Polytechnic Institute, New York, **USA**
11. Dr. C. Ortix, 05/2015-04/2017, Utrecht University (NL), DFG fellowship to do a Habilitation Thesis in my group, now **Associate Professor** at Università di Salerno, **Italy**

12. Dr. M. Caracanhas, 01/2016 - 01/2017, Utrecht University (NL), now **permanent position** at USP Sao Carlos, **Brazil**
13. Dr. G. Palumbo, 01/2016 - 09/2017, Utrecht University (NL), now postdoc in Brussels, **Belgium**
14. Dr. C. Silva Farias, from 12/2018 to 07/2019, Utrecht University (NL)
15. Prof. Lizardo N. Ferreira, visitor, from 07/2019 to 06/2020, Utrecht University, NL
16. Prof. Danilo Belli, from 07/2020 to 06/2021, Utrecht University, NL

### 3. ADMINISTRATION ACTIVITIES

#### Boards and Councils

- Member of the **Beta Faculty Diversity Committee**, since 2019
- Member of the Netherlands Research Organisation (**NWO**) **Physics Table** (Utrecht University representative for Physics), since 2017
- **Director of the ITP Master Programme** since 2016  
**Programme coordinator** from 2006-2016
- **Member of the Delta ITP Executive Board** since 2016, a collaboration among the universities of Amsterdam, Leiden and Utrecht, awarded 18 Million euro in the framework of a Dutch Gravitation Program (NWO, 2012-2022)
- **Director of the Center for Extreme Matter and Emergent Phenomena EM-MEPH**, since 2014
- **Member of the Selection Committee of the Feodor Lynen Research fellowships of the Alexander von Humboldt Foundation**, 2014 - 2020
- **Member of the Governing board of the Dutch Research School in Theoretical Physics**, since 2008
- **Member of the Nano-Committee of FOM**, NWO, 2013-2018
- **Member of the Advisory Board of the Lorentz Center**, Leiden, NL, 2012-2017
- **Science Fellow**, representing the Physics and Mathematics Departments of the Utrecht University at the University College Utrecht (2011-2017)
- **Member of the “Board of Governors”** representing the Dutch Consortium (Utrecht, Leiden, and Amsterdam Universities) at ICAM (2008-2014)
- **Member of the NWO-VICI Committee**, 2013 and 2014
- **Member of the FOM Best PhD thesis Committee**, 2011 and 2012
- **Member of the NWO-Rubicon Committee**, 2009 and 2010
- **Member of the Advisory Committee for Education (OAC) for the Bachelor Program** of the Physics and Astronomy Department, University of Utrecht (2006-2007)
- **Responsible for Landelijk Seminarium Gecondenseerde Materie** (2006 -2012)
- **Study-mentor (Tutor)** of a group of first and second year Bachelor students (2005/2006, 2006/2007, 2012-2013)
- **Member of the Science Faculty Council of the University of Fribourg**, Switzerland, from March 2001 to July 2004

- **Member of the Physics Department Council of the University of Fribourg**, Switzerland, from March 2001 to July 2004

### **Fundraising:**

- **NWO-program** 2020 - 2025 (in progress) "Driving phase transitions in topological correlated matter (TOPCORE)" total 2.9 mio euro; co-applicant, 1 PhD position for 4 years starting 2020
- **NWO-program** 2019 - 2024 (in progress) "Atomic Quantum Simulators 2.0 - taming the long-range electronic interactions" total 2.3 mio euro; co-applicant, 1 postdoc position for 3 years starting 2020
- **CAPES-NUFFIC project Brazil/Holland** (in progress, 2018-2021), "Dinâmica e correlações de sistemas quânticos em baixas dimensões", Joint Project with Federal University of Rio Grande do Norte, Prof. Tommaso Macri (Brazilian Project Leader), Prof. C. Morais Smith (Dutch Project Leader) funding for 5 year postdocs, 5 year PhD students, and visit of involved professors; PhD student: Rodrigo Ozela (in progress)
- **FOM Projectruimte, the Netherlands** together with Ingmar Swart (2016-2020), "Functionalized Organo-Metal (FOM) Networks", PhD student: Sander Kempkes (in progress)
- **Gravitation Project, the Netherlands** - co-applicant (in progress, 2012-2022), Joint Project for 3 Universities (Leiden, Amsterdam, Utrecht), Delta ITP, co-applicant, Euro 18 million "Matter at all scales", 3 shared PhD student positions: Anton Quelle (graduated 2017), Maryia Lizunova, (in progress) Ward Vleeshouwers (in progress); 1 Postdoc position: Cobanera/ Palumbo (finished)
- **NWO Free Program, the Netherlands** - co-applicant (2014-2019), Joint Project for Utrecht University, Technical University Eindhoven, and Technical University Delft, PhD student: Guido van Miert, graduated 2018
- **Science without Borders - Brazil**, 2013 - 2016, Fellowship for joint PhD and post-doc position with Federal University of Rio de Janeiro, Brazil US \$ 138.000,00 (in addition to normal PhD fellowship for same period in Brazil) "Applications of Field Theory to condensed matter" PhD student visitor: Leandro Oliveira Nascimento
- **VICI, the Netherlands** N.680-47-312, 2008-2014, Personal fellowship for developing a research project (3 PhDs, 3 post-docs), Euro 1'350'000,00 "Low-dimensional quantum matter: secrets between two and three dimensions"
- **Professeur Boursier du Fond National Suisse** N. 620-062868, 2001-2004, Personal fellowship for developing a research project (2 PhDs, 1 post-doc), CH 1'097'770,00 "Pattern Formation in 2D Strongly Interacting Electron Systems"
- **National Fond Project, Switzerland** 20-61470.00, 2001-2002 (co-applicant with Prof. D. Baeriswyl and Prof. X. Bagnoud), CH 525'672,00 "Correlations and Disorder in Models of Strongly Interacting Electrons and in Classical Non-equilibrium Systems"
- **Project Superconducting Structures** 1996-1998 (responsible for one of the research groups taking part in the **Graduiertenkolleg** "Physik nanostrukturierter Festkörper" at the Univ. of Hamburg, **Germany**)
- **European Project FMRX-CT96-0042**, co-applicant with Prof. B. Kramer, 1997
- **Project DAAD-PROBRAL** N. 415-PROBRAL/SCHÜ, (Scientific Collaboration between **Brazil and Germany**), co-applicant, "Dynamics of Domain Walls in Doped An-

tiferromagnets under the Influence of Classical and Quantum Fluctuations”, 1997-1999

- **Project Daimler-Benz, Germany** N. 02/23-96, (fellowship for Nils Hasselmann for visiting University of California, Riverside), “Dynamical and Statical Properties of the Striped Phase”, 1997-1999
- **DFG Germany** MO 815, (PhD position from Deutsche Forschungsgemeinschaft-BAT IIa/half, “Classical and Quantum Relaxation of Metastable States”, 1997-99

#### 4. RESEARCH ACTIVITIES

##### Research interests

Strongly Correlated Electron Systems, Topological insulators, Transport and Spectroscopy in Low-Dimensional Systems, Quantum simulations in electronic and cold-atom systems, Quantum Dissipative Systems, Quantum Hall Systems, Artificial gauge fields in Bose-Einstein Condensates in optical lattices, Single- and Multi-Layer Graphene and other 2D Honeycomb Materials (transition-metal dichalcogenides, silicene, phosphorene), Floquet systems, High- $T_c$  Superconductors, Vortex dynamics (creep and flow) in High- $T_c$  Superconductors, Anisotropy and Pattern Formation in 2D Systems, Doped Mott Insulators: Nickelates and Manganites, Effects of Impurities and Glassy Behavior in Strongly Correlated Systems, Josephson Junction Devices and Arrays

##### Invited talks in conferences, colloquia, Summer schools: about 300

I have been invited to give **about 300 talks (conferences and colloquia) in 18 different countries in Europe, Asia, Africa, and America**. Among them, I gave talks in Brussels (Solvay Colloquium), Oxford (UK), Cambridge (UK), ETH Zurich and EPFL (CH), Harvard (USA), Princeton (USA), Santa Barbara (USA), Aspen (USA), Urbana-Champaign (USA), Ecole Normale Supérieure (Paris and Lyon, F), Tsukuba, Kyoto, and Sendai (J), La Sapienza-Rome, Trieste, Florence, Erice (I), Max-Planck Institutes (Dresden and Stuttgart), Hamburg, Hanover, Munich (D), Madrid and Barcelona (S), KITPC, Tsinghua University Beijing, and Tsung-Dao Lee Institute, Shanghai (PRC), Rio de Janeiro, Buzios, Natal and Campinas (BR), Vienna (A), Stockholm (S), Copenhagen (D), Leiden (Ehrenfestii colloquium, NL), and Veldhoven (plenary talk FOM meeting, NL), Tbilisi (G), Luxembourg, Singapore, South Korea. I accept about 20 invitations per year to give talks in conferences, and decline about 20 more. I was also invited to teach in Summer/Spring/Winter Schools in Italy, France, Brazil, Germany and in the Netherlands.

##### Conferences and Colloquia: invited speaker (since 2017), highlights in bold

*Talk: Atom-by-atom engineering of electronic states of matter*

1. 2019 November 21, Seminar Xianmin Jin group, Shanghai Jiao Tong University, China
2. 2019 November 12, Joint Seminar of the WQC and TDL Institute, Shanghai, China
3. 2019 October 21-25, Conference on Signatures of topology in condensed matter, Lecturer, ICTP, Trieste, Italy
4. 2019 October 14-17, Conference on Quantum Simulation and Computation, QSC2019, Madrid, Spain
5. 2019 October 10, Condensed Matter Seminar, Université Paris-Sud, Orsay, Paris, France



6. 2019 October 9, IMPMC Seminar, Sorbonne Universite Jussieu, Paris, France
7. 2019 September 16-18, Joint DesOEQ-QSUM Workshop, Oxford, UK, external speaker
8. **2019 September 7-14, BEC2019 Conference, Saint Feliu, Spain, invited hot topics**
9. 2019 October 23-25, The wonders of theoretical physics: celebrating the 60 years of Giuseppe Mussardo, Trieste, Italy, *Surely you are joking, Giuseppe*
10. **2019 August 27-29, Quantum and Topological Thermodynamics Workshop, Istanbul, Turkey, opening talk** *Thermodynamic description of topological insulators: the search for universal behavior*  
*Talk: Atom-by-atom engineering of topological states of matter*
11. **2019 July 15-19, Designing Artificial Quantum Matter, San Sebastian, Spain, keynote**
12. 2019 July 8, Colloquium Regensburg, Germany
13. 2019 July 1-3, DIEP Conference on Topology and Broken Symmetries, Utrecht, NL  
*Talk: There is plenty of room at the bottom... but even more in a fractal*
14. 2019 June 4-10, Low-dimensional emergent phenomena in correlated systems and topological quantum matter, Tbilisi, Georgia
15. 2019 May 20-24, Lorentz Center Conference on Compound (atomic) quantum simulators, Leiden, NL
16. 2019 May 1st, Birmingham University Colloquium, Birmingham, UK
17. **2019 April 5-6, Dresselhaus Conference, plenary talk, Hamburg, Germany**
18. **2019 March 27-29, Graphene Korea, plenary talk** *"Controlled design of 2D structures"*, Incheon, South Korea
19. 2019 March 18-20, SFB/TR49 Symposium, *"Atom-by-atom engineering of novel quantum states of matter"*, Bonn, Germany
20. 2019 March 13, ITP Colloquium, *"There is plenty of room at the bottom, but even more in a fractal"*, Utrecht, Netherlands
21. 2019 March 11, USP Colloquium (Bagnato group), *"Quantum simulations with electrons"*, Sao Carlos, SP, Brazil
22. **2019 January 29, Solvay Colloquium,** *"There is plenty of room at the bottom, but even more in a fractal"*, **Bruxelles, Belgium**
23. 2019 January 23, Focus Session at National NWO Dutch Meeting , *"Atom-by-atom engineering of novel quantum states of matter"*, Veldhoven, Netherlands
24. 2018 November 22, Stockholm University Colloquium, *"There is plenty of room at the bottom, but even more in a fractal"*, Stockholm, Sweden
25. 2018 November 19, Würzburg University Colloquium, *"There is plenty of room at the bottom, but even more in a fractal"*, Würzburg, Germany
26. 2018 November 15, SONS Colloquium, *"There is plenty of room at the bottom, but even more in a fractal"*, Utrecht, Netherlands
27. 2018 October 29 - November 9, two invited lectures at Summer School and conference

- on "Advances on Quantum Simulation with Ultracold Atoms", International Institute of Physics (IIP) in Natal, Brazil
28. 2018 October 27-28, Closing remarks and conclusions at Wilczek Quantum Center Conference, Shanghai, China
  29. **2018 October 22-26, Celebrating 100 years of Feynman birth, Singapore** "*Feynman integrals: setting the path and the pace in physics*"
  30. 2018 October 4-5, Workshop on "*Artificial Gauge Fields and Interacting Topological Phases in Ultracold Atoms*" DFG Research Unit FOR 2414, Frankfurt/Main, Germany
  31. 2018 October 1-5, International Conference on Nano-Structured Materials and Devices (ICNSMD-2018), University of Delhi, New Delhi, India (cancelled participation due to change in date)
  32. 2018 September 10-14, "*There is plenty of room at the bottom, but even more in a fractal*" at the 23rd ETSF Workshop on Electronic Excitations, Milan Italy
  33. 2018 August 23-24, "*There is plenty of room at the bottom, but even more in a fractal*" at UK & NL meeting, Oxford, UK
  34. 2018 August 21, Summer School, University of Utrecht, invited lecture "*What the frac? Electrons in 1.58 dimensions?*", Utrecht, Netherlands
  35. 2018 August 14-18, "*Thermodynamic description of topological insulators: the search for universal behaviour*", at ITF conference, Sao Paulo, Brazil
  36. 2018 August 9, UNICAMP Colloquium, "*There is plenty of room at the bottom, but even more in a fractal*", Campinas, Brazil
  37. 2018 July 23-27, "*There is plenty of room at the bottom, but even more in a fractal*" at ICSNN, Madrid Spain
  38. 2018 July 8-20, Nordita conference "Topological matter: beyond the ten-fold way", talk on July 10th, "*Thermodynamics of Topological Insulators: search for universalities*", Stockholm, Sweden
  39. 2018 June 24-28, Nordita, 3rd. Quantum Connections, under invitation only, topic Quantum Topology and Time, talk "*There is plenty of room at the bottom, but even more in a fractal*", Stockholm, Sweden
  40. **2018 April 15-17, Bad Honnef, Germany (after-diner colloquium at the Quantum Gases and Quantum Coherence 2018,** "*There is plenty of room at the bottom, but even more in a fractal*"
  41. 2018 April 11, CUI Colloquium, Hamburg, Germany "*Thermodynamic description of topological insulators: the search for universal behaviour*"
  42. 2017 September 15-16, Tsung-Dao Lee Institute, Shanghai, China, International Symposium on the Future of Physics and Astronomy, "*Electrons in non-integer dimensions*"
  43. **2017 September 9, Young German Physical Society Meeting (JDPG), Bad Honnef, Germany (plenary talk)** "*Graphene: the good, the bad, and the nano*"
  44. 2017 August 28 - 31, Buzios, Brazil, Meeting of the Brazilian Physical Society, "*Graphene: the good, the bad, and the nano*"
  45. 2017 August 13-21, Stockholm, Sweden, Nordita Workshop on Topological Phases in Cold Atom Systems "*Floquet topological insulators*"
  46. 2017 July 24-26, Luxembourg, Spin-Orbit Materials 2017 Conference, "*Thermodynamic signatures of topological edge states*"

47. 2017 July 3-7, Nordita, Stockholm, Sweden, II Quantum Connections in Sweden, "*Fermionic Lieb lattice and thermodynamics of topological insulators*"
48. 2017 June 28-30, Yale-NUS, Singapore, Workshop on interactions in Topological Materials, "*Effect of interactions in graphene and transition-metal dichalcogenides*"
49. 2017 May 10, Wuerzburg, Germany, Seminar at Molenkamp group, "*Thermodynamic signatures of topological states*"
50. 2017 May 5, Stockholm, Sweden, Nordita Conference Frontiers of topological quantum matter, "*Thermodynamic signatures of topological edge states*"
51. April 12, 2017, Sao Carlos, Brazil, Seminar Bagnato group, "*Ultracold atoms in optical lattices as cond-mat quantum simulators*"  
Talk: "*Graphene: the good, the bad, the nano and the pseudo*"
52. 2017 April 3, Madrid, Spain, Colloquium at Universidad Autonoma de Madrid
53. **2017 March 28-31, Graphene 2017 Meeting, Barcelona, Spain**
54. 2017 March 21-26, Natal, Brazil, IIP Conference on Topological States of Matter, "*Graphene: the nano, the high and the hot*"
55. Declined: 2017 July 22-24 invited talk at Osaka, Japan; August 12-17, invited talk at San Diego, USA; 2018 June 26-29, Graphene 2018 due to overlap with Quantum Connections, DOSQ Glasgow, key participant in KITP Santa Barbara program on open quantum systems, 2018 February 12-23 Wanaka New Zealand, etc.

#### Selected outreach talks and activities

1. October 4 2019, Swedish Physical Society meeting, plenary talk, Linköping, Sweden, "**The quantum world of electrons in 1.58 dimensions**"
2. May 15 2018, Louis Hartlooper Cinema, Utrecht, the Netherlands, **The Pint of Science**, "Physics a la Picasso "
3. April 25 2018, **Descartes lecture**, Utrecht University, the Netherlands, "What the frac? Electrons in 1.58 dimensions?"
4. March 2 2016 , **Descartes Lecture**, Utrecht University, the Netherlands, "Graphene: the good, the bad and the beauty"
5. June 1st 2015 an June 3rd 2016, Utrecht University, the Netherlands, **EMMEPH, PHEMME and PHAME** seminar, "Emmy Noether, the queen of invariants"
6. September 21 2015, University College Utrecht, the Netherlands, (**general lecture**) "The ultrathin world of graphene"
7. October 1 2014, Jaarbeurs, Utrecht, the Netherlands, invited talk in the event **Tomorrow's Electronics**, talk title: Artificial Graphene, Trade show World of Technology & Science 2014
8. April 24 2014, **Club of Amsterdam**, Amsterdam, the Netherlands, Title of the talk: How f-male a woman should be to succeed? Invited talk in the event Future of Women in Business
9. 2013 **Youtube Short movie**: "Physics a la Picasso" by Huub Rutjes, <http://www.youtube.com/watch?v=QrBaJKLcBY0>
10. September 6 2013, Utrecht University, the Netherlands, The cool world of ultracold atoms, **Inaugural lecture** to new Physics students

11. July 4 2011, University College Utrecht, the Netherlands, "100 years of superconductivity", "**Summer School for Secondary level students**"
12. February 20 2011, **Utrecht University Museum**, the Netherlands (public lecture), "The cool world of ultracold particles", "Physics exposition: Master the Universe"
13. October 28 2010, University College Utrecht, the Netherlands (talk), "Extremely thin", "**Masterclass** theoretical physics: the extreme world of physics"
14. April 22 2008, Utrecht, the Netherlands (talk), "Sociology of electrons", "**College van Bestuur**" University of Utrecht.
15. Participation on part of the Art Event at **Museum Casco** "Re-projecting Utrecht", by Ricardo Basbaum, on April 20 2008:"Me and You, choreographies, games and exercises (talk about diagrams in physics).
16. January 21 2008, Veldhoven, the Netherlands (talk), "Fund-raising" (hints to female physicists about grant applications), **f-FOM Symposium 2008**.
17. November 28 2007, The Hague, the Netherlands (talk), "Know-how: Possible connections between Switzerland and the Netherlands", Launching of the "Swiss Business Club", invited by the Ambassador of Switzerland, **Swiss Embassy, The Hague**.
18. Participation in the **film "Be(com)ing Dutch"** (reading and round table discussions) filmed in Den Haag (Mauritshuis) Museum and exhibited in CASCO Museum (Utrecht) from September 22nd to October 22nd (2006), and then exhibited in Schiller Theater on October 22nd. The "Maurits Script" is the third part of an art project by Wendelien van Oldenborgh called "A certain Brasilianness". Later the film was exhibited in Recife and Rio de Janeiro (Brazil), New York (USA), Rotterdam, and since 2008 it became part of the permanent collection of the Van Abbemuseum in Eindhoven.
19. October 26-27 2006, Driebergen, the Netherlands, (seminar), "**The future of condensed matter theory**", "DRSTP-Young Symposium: The Future of Theoretical Physics in the Netherlands"
20. April 04 2006, Utrecht, the Netherlands (colloquium), "The magic world of electrons in two-dimensions", "**Natuurkundig Gezelschap**", University of Utrecht
21. Seminar about the history of vacuum, **Art Gallery, Fribourg, Switzerland**, during the finissage of the exposition "Vacuum" by a Spanish artist (2004).

#### **Conferences: organization (selected)**

1. November 13-16 2019 Shanghai, China, Wilczek Quantum Center Conference "**Quo Vadis Quantum Simulators**", co-organizer together with Carlos Navarrete Benlloch, Andreas Hemmerich, and Zi Cai
2. November 4-5 2019 **NanoGe**, 2D Layered Semiconductors, co-organizer with Efrat Lifshitz and Doron Naveth, Berlin, Germany
3. July 2018, co-organizer of the "**Nordita Workshop Topological Matter beyond the ten-fold way**", together with V. Juricic, A. Bernevig, D. Abergel, A. Balatsky and H. Hansson (1 month program), Stockholm, Sweden.
4. June 2018, scientific committee of "**Graphene 2018**", Dresden, Germany
5. September 05-09 2016, member of the organizational board of the **Condensed-Matter Division (CMD)26 International Conference**, Groningen, and main organiser of a Mini-Colloquium "Geometric 2D semiconductors" as part of the CMD26 (with C.

- Delerue, D. Vanmaekelbergh, V. Pellegrini).
6. December 2015, co-organisation of the **New Spin 4 Conference**, Utrecht, with D. Schuricht, R. Duine, L. Fritz, and H. Stoof.
  7. May 3 2013, co-organisation, together with I. Swart and D. Vanmaekelbergh of the **"Graphene Day"**, Utrecht, NL
  8. August 20-31 2012, International Institute of Physics, Natal, Brazil, Co-organization of the **School and Conference "Advances in Quantum Technology: from quantum information to quantum devices"**
  9. , April 15 2011, co-organiser of the **workshop "Theoretical Physics in Fribourg: Past, Present, and Future"**, Fribourg, Switzerland, together with V. Gritsev
  10. April 23 2010, Utrecht, the Netherlands, main organizer of the **FYSICA 2010, joint conference of the Dutch and Belgian Physical Societies**
  11. May 14-15 2009, Dalfsen, the Netherlands, member of the organizing committee of the **"Biannual meeting of the Dutch Research School on Theoretical Physics (DRSTP)"**
  12. January 23-24, 2007 Veldhoven, the Netherlands, co-organizer, together with K. Schoutens (Amsterdam) of the **session on "Quantum Matter" in the annual FOM meeting**
  13. July 02-08 2006, Monte Verità, Ascona, Switzerland, co-organizer, together with R. Morf (PSI) and J. Fröhlich (ETH Zurich) of the **international conference "Strongly correlated systems in low dimension"**
  14. September 2004, Rome, Italy, **Microsymposium on "Stripes in quantum Hall systems"**, co-organizer, together with A. Bianconi (Università di Roma "La Sapienza")
  15. October 2000 and 2001, Fribourg, Switzerland, **"Rencontre romande sur les systèmes fortement corrélés"**
  16. October 1998, Sion, Switzerland, **"Coherence and Decoherence in Quantum Systems"**, together with P. Hänggi (Univ. of Augsburg, Germany) and A. Hemmerich (Univ. of Hamburg, Germany)

### **Outreach: organization**

1. Organisation of EMMEPH 't Hooft Lecture (500 people):  
 September 17 2014 (**Prof. Dan Shechtman**)  
 October 7 2015 (**Prof. François Englert**)  
 September 14 2016 (**Prof. Frank Wilczek**)  
 September 27 2017 (**Prof. Wolfgang Ketterle**)  
 September 5 2018 (**Prof. Duncan Haldane**)  
 September 4 2019 (**Prof. Gerard 't Hooft**).
2. Organisation of EMMEPH Colloquium (200 people):  
 April 23 2015 (**Dr. Fabiola Gianotti**), June 26 2015 (**Prof. Thomas Stocker**),  
 April 13 2016 (**Prof. Laurens Molenkamp**), June 08 2016 (**Prof. Charlie Kane**),  
 May 30 2018 (**Prof. Tom Lubensky**).
3. Organization of the event **EMMEPH, PHEMME and PHAME** (series of lectures about Gender, Science and Technology), May-June 2015 and 2016.
4. Chair of the "Denktank" for organizing the **Exposition "Master the Universe"** about Theoretical Physics in the University Museum, Utrecht, from April 2010 to May 2011.

5. Organization of two Masterclasses in Theoretical Physics (for secondary school pupils), Utrecht University June 9-10 and October 28-29, 2011 **Fascination for Extreme Worlds**.
6. Organisation of one workshop during the **"Beta onder the Dom"** event, with the title Master the Universe June 11 2010, for physics teachers.
7. Editor of the Outreach magazine **"It's only Natural"** - Master Magazine Utrecht University, 2010-2011.

## 5. General services

1. Participation in **48 PhD Theses committees** in the Netherlands, France, Germany, Switzerland, Sweden, Denmark and Spain.
2. Participation in **16 nomination and promotion committees** (Tenure-Track, Full Professor and Director positions) in Germany, Denmark, Netherlands, Sweden, China, in Physics and Mathematics.
3. **Referee for funding agencies:** Humboldt (Germany), since 2014; NWO-VICI (2014, 2015), NWO-Rubicon (150 projects in 2010), FOM (Projectruimte 2006 and Best PhD Thesis Prize 2011-2013) (the Netherlands); Swiss National Science Foundation (Switzerland); National Science Foundation (USA), Department of Energy (DOE-USA); CNRS Programme JCJC 2008 (France); DFG Research Unit 723 (Germany), DFG TRR 49 (Germany), DFG Trans-National- Humboldt Foundation (Germany), Helmholtz Foundation (Germany), National Sciences and Engineering Research Council (Canada), Marsden Fund (New Zealand), CNPq (Brazil).
4. **Referee for scientific journals:** Science, Nature, Nature Physics, Physical Review Letters, Physical Review A, B, D, and E, Europhysics Letters, Physica B and C, and Nuclear Physics B.
5. **Editorial board European Physics Journal B**, from 2011 - 2019.

## 6. Press commentary on my work and media interviews

1. **Nature Materials Highlights** "Robust zero-energy modes in an electronic higher-order topological insulator" by S. Kempkes, ... and C. Morais Smith, Nature Materials **18**, 1292 (2019) featured in News and Views: "Protected corners", by Motohiko Ezawa, Nature Materials **18**, 1266 (2019)
2. **Nature Physics Highlights:** "Design and characterization of electrons in a fractal geometry" by S. Kempkes, ... and C. Morais Smith, Nature Physics **15**, 127 (2019) has featured in:  
 Youtube: Seeker (745K views)  
<https://youtu.be/OsZHRCuTIS8>  
 Youtube: Multiverse (2.5K views)  
<https://www.youtube.com/watch?v=7XG1N3C2bSU>  
 Physics Today 72, 1, 14 (2019)  
<https://physicstoday.scitation.org/doi/full/10.1063/PT.3.4105>  
 NRC 12 November 2018  
<https://www.nrc.nl/nieuws/2018/11/12/elektronen-met-een-dimensie-van-158-a2754897>  
**Others**  
<https://phys.org/news/2018-11-physicists-fractal-electrons.html>

<https://www.sciencenews.org/article/physicists-wrangled-electrons-quantum-fractal>  
<https://www.genphys.com/general-physics/physicists-build-fractal-shape-out-of-electrons>  
<https://ciencia.pro/los-fisicos-agruparon-electrones-en-un-fractal-cuantico/>  
<https://www.iflscience.com/physics/this-is-what-happens-to-quantum-physics-in-between-dimensions/>  
<https://www.sciencealert.com/check-out-the-world-s-smallest-ever-sierpinski-triangles-made-out-of-electrons>  
<https://newscientist.nl/nieuws/elektronen-gerangschikt-in-dimensie-158/>  
<https://www.engineersonline.nl/nieuws/id30668-utrechtse-natuurkundigen-bouwen-fractalvorm-van-elektronen.html>  
<https://twitter.com/AlbertEinstein/status/1062729873054146561>  
<https://www.wired.it/scienza/lab/2018/11/16/elettroni-frattale-quantico/>  
<https://sciencemag.cz/elektrony-ve-fraktalu-158d-materialy/>  
<https://edgylabs.com/quantum-fractals>  
<https://www.europapress.es/ciencia/laboratorio/noticia-fisicos-construyen-formas-fractales-partir-electrones-20181113103317.html>  
<https://www.futura-sciences.com/sciences/actualites/physique-fractale-quantique-construite-partir-electrons-73572/>  
<http://www.pro-physik.de/details/news/11113296/FraktaleElektronen.html>  
<https://twitter.com/UUBeta/status/1093513696989626369>

3. **PRL Highlights:** “Proposed Spontaneous Generation of Magnetic Fields by Curved Layers of a Chiral Superconductor” by T. Kvorning, T. H. Hansson, A. Quelle, and C. Morais Smith, *Phys. Rev. Lett.* **120**, 217002 (2018), **Editor choice** has featured in: **Volkscrant**, (Dutch newspaper) May 3 2018, Martijn Calmthout press commentary on our work, <https://www.volkscrant.nl/wetenschap/mogelijk-enorme-openbaring-natuurkunde-vlakke-materialen-in-magneet-veranderen-als-ze-worden-verbogen-of-gedeukt> a4596990/?hash=b288f23f3a508db4f4efe7a82004a9628b4ac3fa **NRC** (Dutch newspaper), May 6 2018, Dorine Schenk press commentary on our work, <https://www.nrc.nl/nieuws/2018/05/04/vervormde-supergeleider-legt-magnetisch-veld-aan-a1601901>
4. Interviewed by Pranoti Kshirsagar for the Youtube series **The Science Talk**, <http://thesciencetalk.com/2018/03/18/42questions-with-cristiane-de-morais-smith-pranoti/>
5. “Topological states in multi-orbital HgTe honeycomb lattices”, by W. Beugeling, E. Kalesaki, C. Delerue, Y.-M. Niquet, D. Vanmaekelbergh, and C. Morais Smith, *Nature Communications* **6**, 6316 (2015), **highlighted in DITP, FOM, UU Faculty websites**, and many others in the Netherlands, Russia, Brazil.
6. “Dirac cones, topological edge states and non-trivial flat bands in two-dimensional semiconductors with a honeycomb nano-geometry”, *Phys. Rev. X* **4**, 011010 (2014), by E. Kalesaki, C. Delerue, C. Morais Smith, W. Beugeling, G. Allan, and D. Vanmaekelbergh, **highlighted in PRX, FOM and UU Science Faculty website**.
7. “Controlling coherence via tuning of the population imbalance in a bipartite optical lattice”, by M. Di Liberto, T. Comparin, T. Kock, M. Oelschlaeger, A. Hemmerich, and C. Morais Smith, *Nature Communications* **5**, 5735 (2014), **highlighted in Nature Communications, FOM News, UU Physics Department News**.
8. “Interaction-induced chiral px+ipy superfluid order of bosons in an optical lattice”, by M. Olschlager, T. Kock, G. Wirth, A. Ewerbeck, C. Morais Smith, and A. Hemmerich, *New Journal of Physics* **15**, 083041 (2013), selected to appear in the **Journal Club for Condensed Matter Physics, Sept. 2013**.

9. “Spin-charge-density wave in a squircle-like Fermi surface for ultracold atoms”, by D. Makogon, I. Spielman, and C. Morais Smith, EPL **97**, 33002 (2012), **Editor’s choice of EPL: scientific highlights**,
10. “Local density of states of electron-crystal phases in graphene in the quantum Hall regime”, by O. Poplavskyy, M. O. Goerbig, and C. Morais Smith, Phys. Rev. B **80**, 195414 (2009), **Editor’s choice of Phys. Rev. B: scientific highlights**.
11. “Exciting a d-density wave in an optical lattice with driven tunneling”, by A. Hemmerich and C. Morais Smith, Phys. Rev. Lett. **99**, 113002 (2007), **Editor’s choice of Science magazine: scientific highlights in physics (Sep. 28 2007)**
12. WEB interview about quantum physics : <http://musicofthequantum.rutgers.edu>
13. **Horizonte, Magazine of the Swiss National Foundation**, Nr. 60, “Theoretische Physik im Stile Picassos” March 2004, Switzerland.
14. “Second generation of composite fermions in the Hamiltonian theory”, by M. O. Goerbig, P. Lederer and C. Morais Smith, Phys. Rev. B **69**, 155324 (2004) featured in **Le Monde, Repères, 21.05.2004, Le Nouvel Observateur N. 2064, Découvertes, 27.05.2004, Communiqué de Presse du CNRS, 19.05. 2004, France, Wissenschaft Frankreich 55, 02/06/04 (Französische Botschaft in Deutschland)**.

#### **My career in numbers:**

I have published more than 130 papers and among those, 1 in Nature Materials, 2 in Nature Physics, 2 in Nature Communications, 3 in PRX, 10 in PRL, and 2 in 2D Materials. Most of the others are published in PRB, or PRA, (a few ones in PRD, PRE, NJP or EPJB). Several are editor choice or were highlighted in the media. My h-index is 31, my H-10 index is 85 and I have more than 3000 citations. I am first or last author in about 90% of my publications. I have supervised more than 100 students (24 Bachelor theses, 43 Master theses, 23 PhD theses, 16 postdocs). I was invited to give more than 300 talks (including several plenary talks in conferences and colloquium at Universities). I am very active in outreach and in administration activities. I have been teaching an enormous number of courses and they are all very well evaluated by the students.



## 8. SUMMARY

Name: C. Morais Smith (professional name)

Nationality: Brazilian

Year of birth: 1964 (Female)

Present employment: Utrecht Univ., Institute for Theoretical Physics, Full Professor.

Master degree 1989, University of Campinas, Brazil.

PhD degree 1994, University of Campinas, Brazil, work performed at ETH Zurich, Switzerland, co-supervision.

Docent title: Lehrbefähigung, Germany 1998, and Senior Qualification Docent, 2006, the Netherlands.

Number of articles in refereed periodicals: 137 papers in total, 70 during the last 10 years. Citation index (google scholar): 3028 citations, H-index: 31, Index-i10: 85

Number of invited talks in conferences and institutions: about 300 colloquia and talks in more than 15 different countries in Europe, Asia, Africa, and America.

Number of students supervised: 23 PhD students (16 PhD theses finished, 7 in progress), 43 Master theses (38 finished, 5 in progress), 16 postdocs, 24 Bachelor theses (2 in progress). Several of them received prestigious Prizes.

Pedagogical merits: excellent students evaluation in all courses, development and teaching of a large number of different courses for beginners, Master, and PhD students in Physics. Nomination as one of the 3 best lecturers of the Physics Department in Utrecht, to compete for lecturer of the year in 2008, and winner 2nd Prize in 2015.

Other information: recipient of two major Fellowship, the Professeur Boursier in Switzerland (more than one million Swiss Francs in 2001), and of the VICI NWO Dutch Prize (about one and half million euro in 2007).

High-End Foreigner Expert (HEFE) Visiting Professor in China (Wilczek Quantum Center) in 2015 and 2016 and Special Visiting Professor at Federal University of Rio de Janeiro (Sciences without Borders, CNPq) 2013-2016.

2016 Dresselhaus Prize, Hamburg University CUI Senior scientist Prize, Euro 20.000 (personal money) "For her outstanding contribution to the understanding of topological phases in two-dimensional atomic and electronic systems"

2019 Winter, Emy Noether Distinction of the European Physical Society "for her outstanding contributions to the theory of condensed matter systems and ultracold atoms to unveil novel quantum states of matter"

Home page: <http://www.phys.uu.nl/~demorais>

Utrecht, April 26 2020.