

Curriculum Vitae & Teaching Philosophy for Jørgen Ellegaard Andersen

Personal

Born 1965 in Odense, Denmark. Danish National.

Academic degree

Bachelor of Science, University of Southern Denmark (1988)

Master of Science (cand.scient.), University of Southern Denmark (1989)

DPhil. in Mathematics, University of Oxford (1992): Title: Jones-Witten theory and the Thurston Compactification of Teichmüller space, pp.129. Advisors/mentors: N. Hitchin, J. Roe, G. Segal and S.K. Donaldson

Appointments

1992 - 1994 C.B. Morrey Jr. assistant professor, University of California Berkeley

1992 - 1996 Assistant professor, Aarhus University

1996 Visiting scholar, University of California Berkeley

1996 General membership, Mathematical Sciences Research Institute

1996 - 1997 Research associate professor, Aarhus University

1997 - 2007 Tenured associate professor, Aarhus University

Fall 2000 Visiting associate professor, University of California Berkeley

Spring 2001 General membership, Mathematical Sciences Research Institute

2001 - 2002 Visiting Clay professor, University of California Berkeley (funded by the CMI)

2006 - 2011 Director, Center for the Topology and Quantization of Moduli Spaces (CTQM)

2007 - 2019 Professor, Aarhus University

2009 - 2019 Director, Centre for Quantum Geometry of Moduli Spaces (QGM)

2013 - Distinguished visiting professor, California Institute of Technology

2019 - Professor, Mads Clausen Institute, University of Southern Denmark

2019 - Director, Centre for Quantum Mathematics (QM), University of Southern Denmark

Scholarships and prizes

1988 Rentokil Foundation travel scholarship

1988 The Odd Fellow prize for best student of Science at University of Southern Denmark

1988 - 1992 The Danish Academy of Science scholarship

1989 - 1992 The Danish Council for Independent Research, PhD scholarship

1989 - 1990 The Royal Society (UK), European Science Exchange Fellowship

1992 - 1994 Fulbright scholar

1996 - 1997 The Denmark-America Foundation scholarship

2000 - 2001 Danske Bank scholarship prize

2001 - 2002 Clay Mathematical Institute research scholar

2019 - 2025 ERC Synergy Grant, ReNewQuantum, corresponding PI

Grants

1992 - 1996 National Science Foundation, USD 1 million (joint with Alan Weinstein)

2006 - 2011 Danish Independent Research Foundation (DFF), (CTQM), DKK 5 million

2006 - 2011 Danish National Research Foundation, DNRF Niels Bohr Professorship (Nicolai

Reshetikhin), DKK 21.1 million

2008 - 2009 Danish Agency for Science and Higher Education (Proof of concept), DKK

500,000
 2008 - 2009 Aarhus University (Proof of concept), DKK 500,000
 2008 - 2012 Danish Agency for Science and Higher Education (GEOMAPS), DKK 7.8 million
 2009 Villum Kann Rasmussen postdoc block grant, DKK 1 million
 2009 - 2014 European Science Foundation Research Networking Program (ITGP), DKK 4.5 mill.
 2009 - 2019 DNRF Center of excellence (QGM), DKK 89.3 million
 2009 - 2017 Aarhus University Research Foundation (AUFF), Guest researcher grant (B. Penner, 2x P. Zograf, D. Lebedev, L. Chekhov, R. Kashaev & H. Wenzl), DKK 1.4 million
 2014 - 2018 AUFF, research group meetings at Sandbjerg, DKK 827,000
 2014 - 2017 EU-IRSES, MODULI, EUR 144.500
 2015 - 2016 VILLUM visiting professor grant (Leonid Chekhov), DKK 400,000
 2015 - 2017 Conference grants (GEAR-network, Clay Mathematics Institute, Foundation Compositio Mathematica, DYGEST, Luxembourg Univ., Carlsberg Foundation), DKK 800,000
 2016 - 2019 AUFF starting grant (Associate Professor Cristiano Spotti), DKK 2.7 million
 2017 - 2019 EU-H2020, Marie-Curie Individual Fellowship (Roberta Iseppi), EUR 200,000
 2019 - 2025 ERC Synergy Grant, ReNewQuantum, EUR 10 million
 2020 – 2022 EU-H2020, Marie-Curie Individual Fellowship (Nezhla Aghaei), EUR 200,000

Research, groups & networks

1992 - 2019 Member of the topology research group at Aarhus University
 1992 - 1996 Symplectic geometry and quantum topology (project funded by NSF at University of California Berkeley)
 1995 Six month special session on geometry and physics, Aarhus University (organiser)
 1998 - 2005 Principal investigator of DNRF network in mathematical physics & stochastics
 2000 - 2004 Aarhus coordinator for the European Differential Geometry Endeavour (EU-network)
 2005 - 2019 Board member of Centre for Theory in Natural Science, Aarhus University
 2008 - 2009 Director of System and method for modelling a molecule with a graph (project funded by the Danish Agency for Science and Higher Education and Aarhus University)
 2008 - 2012 Director of Geometry and Mathematical Physics School (GEOMAPS), funded by the Danish Agency for Science and Higher Education
 2009 - 2014 Director of Interactions of low dimensional Topology and Geometry with mathematical Physics (ITGP-network)
 2011 - Member of the steering committee for the NSF research network GEAR (Geometric structures and Representation varieties)
 2013 - 2016 Member of the steering committee for the Tsinghua Sanya Intl. Mathematics Forum
 2015 - 2019 Member of the Modelling and Medicine research groups at iNANO, Aarhus University
 2016 - 2019 Member of the BFI national committee for Mathematics (BFI = bibliometric research indicator), Danish Agency for Science and Higher Education
 2017 - Member of the advisory board of the Doctoral Training Unit, GSM, Luxembourg Univ. Editorships
 2005 - Journal of Knot Theory and Its Ramifications
 2007 - Geometriae Dedicata
 2010 - European Mathematical Society, QGM masterclass series (editor in chief)

Academic services

- 1992 - Referee for a broad spectrum of main journals in mathematics
- 1992 - Member of hiring committees for postdocs, associate- and full professor positions at Technical Univ. of Denmark, the Univ. of Aarhus, Luxembourg, Porto and Chalmers
- 1992 - Member of committees for MSc theses, PhD theses and habilitations at Aarhus University, Uppsala University, Univ. of Amsterdam, Univ. of Geneva and Paris VII
- 1992 - 2019 Graduate teaching committee, Department of Mathematics, Aarhus University, DK
- 2011 Award Committee, Yau High School Mathematics Awards, China
- 2012 Prize Committee, EMS Prizes of 2012 (presented at 6th ECM, Krakow, Poland)
- 2013 - 2016 Steering Committee, Tsinghua Sanya Intl. Mathematics Forum, China
- 2016 - 2019 Research Committee, Department of Mathematics, Aarhus University, DK
- 2016 - 2019 BFI-expert panel for mathematics, Agency for Science and Higher Education, DK
- 2017 - Advisory board, Doctoral Training Unit, GSM, Luxembourg University, Luxembourg
- 2017 Evaluation panel for Math., 2017 Call for SR & TD FCT Project Grants, Portugal
- 2018 Evaluation panel, Evaluation of Heidelberg Institute for Theoretical Studies (HITS), Germany

Distinguished lectures

1. Lecture series, Hitchin connection, Toeplitz Operators and Reshetikhin-Turaev TQFT, University of California Berkeley, October 2007
2. Indiana University distinguished lecture series, Hitchin connection, Toeplitz Operators, and Reshetikhin-Turaev TQFT, Indiana University Bloomington, October 2008
3. Lecture series, Geometry of gauge theories and the geometric quantization, Science Park Amsterdam, June 2010
4. Lecture series, Folding of RNA proteins using moduli space techniques, Kyoto, January 2012
5. Seminar Sophus Lie, The geometric construction of the Reshetikhin-Turaev Topological Quantum Field Theory, University of Luxembourg, June 2012
6. Lecture series, Hitchin connection, Toeplitz Operators, and Reshetikhin-Turaev TQFT, ICMAT School on Conformal Blocks, Madrid, October 2012
7. Lecture series, Moduli space approach for RNA structure analysis (I), Moduli space approach for protein structures (II), Quantum Chern-Simons field theory (III), Tokyo University, July 2013
8. The Chern-Simons Research Lectures, The geometric construction of the Witten-Reshetikhin-Turaev TQFT's and applications, University of California Berkeley, May 2014
9. Lecture series, Geometric quantization and topological recursion, Max Planck Institute for Mathematics, Bonn, November 2014
10. 125'th Annual Meeting of the Deutsche Mathematiker-Vereinigung, Plenary lecture, Topological quantum field theory in low dimensional topology, Hamburg, September 2015
11. AMS von Neumann Symposium, Lecture series, Geometric quantisation of moduli spaces and topological recursion, Charlotte, NC, July 2016
12. Distinguished IGA Lecture Series, Univ. of Adelaide, Australia, December 2017
13. International Congress of Mathematical Physics (ICMP), Contributed talk, Montreal, July 2018

Summary of academic achievements

- Publications: 66 peer reviewed published papers.
- 57 in pure mathematics including Proc. Int. Congress of Math. (1), Proc. Int. Congress of Math. Phys. (1), Ann. Math. (1), Invent. Math. (1), Adv. Math. (3), *J. Reine Angew. Math.* (1), Topology (1), Math. Ann. (1), Asian J. Math. (1), Transactions AMS (1), Quantum Topology (5), Comm. Math. Phys. (4), Proc. Amer. Math Soc. (1), Int. J. Math (2), Math. Proc. Camb. Phil. Soc. (2), J. Knot Theory Ramifications (4), Q. J. Math. (1), J. Math. Kyoto Univ. (1), Algebr. Geom. Topol. (1), Topol. Appl. (1), Lett. Math. Phys. (3), Travaux Math. (8), J. Geometry Phys. (1), Theoret. and Math. Phys. (1), J. Comput. Appl. Math. (1).
- 9 in bioinformatics including Nature Commun. (1), Comm. Pure App. Math. (1), Bioinformatics (2), J. Comp. Biol. (1), J. Math Biol. (1), Biochem. Soc. Trans. (1), Nucl. Phys. B (1).
- 4 proceedings edited & 2 patent manuscripts.
- Invited talks: 211 (13 distinguished lectures, 115 conferences/workshops, 83 colloquia/seminars)
- Grants obtained: EUR 30 million (Danish: DKK 131 mill., EU: EUR: 11 mill., US: USD 1.1 mill.)
- Events organized: 107 (49 conferences/workshops/special events, 32 masterclasses/schools, 10 mini-courses & 16 distinguished lectures)
- Courses taught: 57 (47 at Aarhus University, 10 at UC Berkeley)
- PhD students: 25 (19 supervised, 4 co-supervised, 2 currently under co-supervision)
- Postdocs: 37 (35 supervised, 2 currently under supervision)
- Outreach activities: 63 features (15 interviews/expert statements, 48 event related features)

Dedicated journal volumes

- Quantum Topology 3, issue 3/4 (2012)
- Travaux Mathématiques, vol. XXV (2017)

Area of Expertise

Quantum topology, Geometric quantization of moduli spaces, Topological quantum field theory, Low dimensional geometry and topology, Foundation of Quantum Theory, Applications of moduli spaces techniques to RNA and protein folding.

Publications

Peer reviewed mathematics research publications

1. J.E. Andersen, J. Mattes & N. Reshetikhin, The Poisson structure on the moduli space of flat connections and chord diagrams. *Topology* 35 (4) (1996), 1069-1083.
2. J.E. Andersen, Geometric quantization of symplectic manifolds with respect to reducible non-negative polarizations. *Comm. Math. Phys.* 183 (2) (1997), 401-421.
3. J.E. Andersen, Fixed points of the mapping class group in the $SU(n)$ moduli spaces. *Proc. Amer. Math. Soc.* 125 (5) (1997), 1511-1515.
4. J.E. Andersen, New polarizations on the moduli spaces and the Thurston compactification of Teichmüller space. *International Journal of Mathematics*, 9 (1) (1998), 1-45.
5. J.E. Andersen, J. Mattes & N. Reshetikhin, Quantization of the algebra of chord diagrams. *Math. Proc. Camb. Phil. Soc.* 124 (3) (1998), 451-467.
6. J.E. Andersen & G. Masbaum, Involutions on moduli spaces and refinements of the Verlinde formula. *Mathematische Annalen* 314 (2) (1999), 291-326.

7. J.E. Andersen & V. Turaev, Higher skein modules. *Journal of Knot Theory and its Ramifications* 8 (8) (1999), 963-984.
8. J.E. Andersen & V. Turaev, Higher skein modules, II in *Topology, Ergodic Theory, Real Algebraic Geometry: Rokhlin's Memorial*. Edited by V. Turaev & A. Vershik, 21-30, Amer. Math. Soc. Transl. Ser. 2, 202, Adv. Math. Sci., 50, Amer. Math. Soc., Providence, RI, USA, 2001.
9. J.E. Andersen, The asymptotic expansion conjecture, section 7.2 of *Problems on invariants of knots and 3-manifolds*. Edited by T. Ohtsuki, in "Invariants of knots and 3-manifolds (Kyoto 2001)", Editors: Tomotada Ohtsuki, Toshitake Kohno, Thang Le, Jun Murakami, Justin Roberts and Vladimir Turaev in, "Geometry & Topology Monographs", 4 (2002), 474-481.
10. J.E. Andersen, Deformation Quantization and Geometric Quantization of Abelian Moduli Spaces. *Comm. Math. Phys.* 255 (3) (2005), 727-745.
11. J.E. Andersen, Asymptotic faithfulness of the quantum $SU(n)$ representations of the mapping class groups. *Annals of Mathematics*, 163 (1) (2006), 347-368.
12. J.E. Andersen & J. Grove, Automorphism Fixed Points in the Moduli Space of Semi-Stable Bundles. *The Quarterly Journal of Mathematics*, 57 (1) (2006), 1-35.
13. J.E. Andersen & S.K. Hansen, Asymptotics of the quantum invariants for surgeries on the figure 8 knot. *Journal of Knot theory and its Ramifications*, 15 (4) (2006), 479-548.
14. J.E. Andersen, G. Masbaum & K. Ueno, Topological Quantum Field Theory and the Nielsen-Thurston classification of $M(0,4)$. *Math. Proc. Camb. Philos. Soc.* 141 (3) (2006), 477-488.
15. J.E. Andersen & K. Ueno, Geometric Construction of Modular Functors from Conformal Field Theory. *Journal of Knot theory and its Ramifications*. 16 (2) (2007), 127-202.
16. J.E. Andersen & K. Ueno, Abelian Conformal Field Theories and Determinant Bundles. *International Journal of Mathematics*. 18 (8) (2007) 919-993.
17. J.E. Andersen, The Nielsen-Thurston classification of mapping classes is determined by TQFT. *J. Math. Kyoto Univ.* 48 (2) (2008), 323-338.
18. J.E. Andersen & R. Villemoes, The first cohomology of the mapping class group with coefficients in algebraic functions on the $SL_2(\mathbb{C})$ moduli space. *Algebr. Geom. Topol.* 9 (2) (2009), 1177-1199.
19. J.E. Andersen & C. Berg, Quantum Hilbert matrices and orthogonal polynomials. *Journal of Computational and Applied Mathematics* 233 (3) (2009) 723-729.
20. J.E. Andersen, A. J. Bene & R. C. Penner, Groupoid extensions of mapping class representations for bordered surfaces. *Topology and its Applications* 156 (17) (2009) 2713-2725.
21. J.E. Andersen, Asymptotics of the Hilbert-Schmidt norm of curve operators in TQFT. *Letters in Mathematical Physics* 91 (3) (2010) 205-214.
22. J.E. Andersen & J. Fjelstad, Reducibility of quantum representations of mapping class groups. *Letters in Mathematical Physics* 91 (3) (2010) 215-239.
23. J.E. Andersen, Toeplitz operators and Hitchin's projectively flat connection in *The many facets of geometry: A tribute to Nigel Hitchin*. Edited by O. Garcia-Prada, J.P. Bourguignon & S. Salamon, 177-209, Oxford Univ. Press, Oxford, 2010.
24. J.E. Andersen & J. Fjelstad, On reducibility of mapping class group representations: the $SU(n)$ case in Noncommutative structures in mathematics and physics. Edited by S. Caenepeel, J. Fuchs, S. Gutt, C. Schweigert, A. Stolin & F. Van Oystaeyen, 27-45, Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten, Brussels, 2010.
25. J.E. Andersen, A.J. Bene, J.-B. Meilhan & R.C. Penner, Finite type invariants and fatgraphs. *Advances in Mathematics*. 225 (4) (2010) 2117-2161.

26. J.E. Andersen & R. Villemoes, Degree one cohomology with twisted coefficients of the mapping class group in Proceedings of 17th Gökova Geometry-Topology Conference 2010. Edited by S. Akbulut, T. Önder & D. Auroux, 64-78, International Press, Somerville, Massachusetts, 2011.
27. J.E. Andersen & N.L. Gammelgaard, Hitchin's projectively flat connection, Toeplitz operators and the asymptotic expansion of TQFT curve operators in Grassmannians in Moduli Spaces and Vector Bundles. Edited by D.A. Ellwood & E. Previato, 1-24, Clay Math. Proc., 14, Amer. Math. Soc., Providence, RI, 2011.
28. J.E. Andersen & J. L. Blaavand, Asymptotics of Toeplitz operators and applications in TQFT. *Travaux Mathématiques*, 19 (2011), 167-201.
29. J.E. Andersen & K. Ueno, Modular functors are determined by their genus zero data. *Quantum Topology* 3 (3-4) (2012), 255-291.
30. J.E. Andersen, Hitchin's connection, Toeplitz operators and symmetry invariant deformation quantization. *Quantum Topology* 3 (3-4) (2012), 293-325.
31. J.E. Andersen, N.L. Gammelgaard & M.R. Lauridsen, Hitchin's connection in metaplectic quantization. *Quantum Topology* 3 (3-4) (2012), 327-357.
32. J.E. Andersen & R. Villemoes, Cohomology of mapping class groups and the abelian moduli space. *Quantum Topology* 3 (3-4) (2012), 359-376.
33. J.E. Andersen & B. Himpel, The Witten-Reshetikhin-Turaev invariants of finite order mapping tori II. *Quantum Topology* 3 (3-4) (2012), 377-421.
34. J.E. Andersen, The Witten-Reshetikhin-Turaev invariants of finite order mapping tori I. *Journal für die Reine und Angewandte Mathematik*. 681 (2013), 1-38.
35. J.E. Andersen & R.M. Kashaev, Quantum Teichmüller theory and TQFT in XVIIIth International Congress on Mathematical Physics. Edited by A. Jensen, 684-692, World Sci. Publ., Hackensack, NJ, 2014.
36. J.E. Andersen & R.M. Kashaev, A TQFT from quantum Teichmüller theory. *Comm. Math. Phys.* 330 (3) (2014), 887-934.
37. J.E. Andersen & K. Ueno, Construction of the Witten-Reshetikhin-Turaev TQFT from conformal field theory. *Invent. Math.* 201 (2) (2015), 519-559.
38. J.E. Andersen & R.M. Kashaev, Faddeev's quantum dilogarithm and state-integrals on shaped triangulations in *Mathematical Aspects of Quantum Field Theories*. Edited by D. Calaque & T. Strobl, *Mathematical Physics Studies*. Springer. XXVIII (2015), 133-152.
39. J.E. Andersen & S.F. Jørgensen, On the Witten-Reshetikhin-Turaev invariants of torus bundles. *Journal of Knot Theory and its Ramifications*, 24 (11) 1550055 (2015), 1-48.
40. J.E. Andersen, L.O. Chekhov, P. Norbury & R.C. Penner, Models of discretized moduli spaces, cohomological field theories, and Gaussian means. *Journal of Geometry and Physics*, 98 (2015), 312-339.
41. J.E. Andersen, L.O. Chekhov, P. Norbury & R.C. Penner, Topological recursion for Gaussian means and cohomological field theories. *Theor. Math. Phys.* 185 (3) (2015), 1685-1717.
42. N.V. Alexeev, J.E. Andersen, R.C. Penner, P.G. Zograf, Enumeration of chord diagrams on many intervals and their non-orientable analogs. *Adv. Math.* 289 (2016), 1056-1081.
43. J.E. Andersen, P. Masulli, F. Schätz, Formal connections for families of star products. *Comm. Math. Phys.* 342 (2) (2016), 739-768.
44. J.E. Andersen, B. Himpel, S.F. Jørgensen, J. Martens & B. McLellan, The Witten-Reshetikhin-Turaev invariant for links in finite order mapping tori I. *Adv. Math.* 304 (2017), 131-178.
45. J.E. Andersen & N.S. Poulsen, Coordinates for the Universal Moduli Space of Holomorphic Vector Bundles, *Travaux Math.* XXV (2017), 9-39.
46. J.E. Andersen & J.-J.K. Nissen, Asymptotic aspects of the Teichmüller TQFT, *Travaux*

Math. XXV (2017), 41-95.

47. J.E. Andersen & S. Marzioni, Level N Teichmüller TQFT and Complex Chern-Simons Theory, *Travaux Math. XXV* (2017), 97-146.
48. J.E. Andersen & W.E. Petersen, Construction of Modular Functors from Modular Tensor Categories, *Travaux Math. XXV* (2017), 147-211.
49. J.E. Andersen, H. Fuji, R.C. Penner, C. Reidys, The boundary point-length enumeration of partial chord diagrams via cut and join recursion, *Travaux Math. XXV* (2017), 213-232.
50. J.E. Andersen, H. Fuji, M. Manabe, R.C. Penner & P. Sulkowski, Partial Chord diagrams and Matrix models, *Travaux Math. XXV* (2017), 232-283.
51. J.E. Andersen, H. Fuji & M. Manabe, R.C. Penner & P. Sulkowski, Enumeration of chord diagrams via topological recursion and quantum curve techniques, *Travaux Math. XXV* (2017), 285-323.
52. J.E. Andersen & R. Kashaev, The Teichmüller TQFT in Proceedings of the International Congress of Mathematicians 2018 (ICM 2018), Edited by: B. Sirakov, P. N. de Souza & M. Viana, Vol. 2, 2527–2552, World Sci. Publ., 2018.
53. J. E. Andersen & K. Rasmussen, A Hitchin connection for a large class of families of Kähler structures, *Geometry and Physics, A Festschrift in Honour of Nigel Hitchin*, Ed. J.E. Andersen, A. Dancer & O. Garcia-Prada, Vol. 1, 135-162, Oxford University Press, 2018.
54. J.E. Andersen, G. Borot, & N. Orantin, Modular functors, cohomological field theories and topological recursion, *Proceedings of the 2016 von Neumann Symposium in Proceedings of Symposia in Pure Mathematics (PSPUM) book series*, 1-58, AMS, 2018.
55. J.E. Andersen & N.S. Poulsen, An explicit Ricci potential for the Universal Moduli Space of Vector Bundles, *Asian Journal of Mathematics*, 23 (3), 369-382, 2019.
56. J.E. Andersen & A. Malusà, Asymptotic properties of the Hitchin-Witten connection. *Letter of Mathematical Physics*, 109 (8) 1747 – 1775, 2019.
57. J.E. Andersen & W.E. Petersen, Asymptotic expansions of the Witten-Reshetikhin-Turaev Invariants of Mapping Tori I. *Transactions of AMS*, 372 (8) 5713-5745, 2019.

Peer reviewed bioinformatics research publications

- BI1. R.C. Penner, M. Knudsen, C. Wiuf & J.E. Andersen, Fatgraph Models of Proteins. *Communication in Pure and Applied Math* 63 (10) (2010), 1249-1297.
- BI2. R.C. Penner, M. Knudsen, C. Wiuf & J.E. Andersen, An Algebro-Topological Description of Protein Domain Structure. *PLoS ONE* 6 (5) e19670 (2011), 1-14.
- BI3. C.M. Reidys, F.W.D. Huang, J.E. Andersen, R.C. Penner, P.F. Stadler & M. Nebel, Topology and prediction of RNA pseudoknots. *Bioinformatics* 27 (8) (2011) 1076-1085.
- BI4. C.M. Reidys, F.W.D. Huang, J.E. Andersen, R.C. Penner, P.F. Stadler & M. Nebel, Addendum: Topology and prediction of RNA pseudoknots in *Bioinformatics* 28 (2) (2012) 300-300.
- BI5. J.E. Andersen, F.W.D. Huang, R.C. Penner & C.M. Reidys, Topology of RNA-RNA interaction structures. *Journal of Computational Biology* 19 (7) (2012), 928-943.
- BI6. J.E. Andersen, R.C. Penner, C.M. Reidys & M.S. Waterman, Topological classification and enumeration of RNA structures by genus. *Journal of Mathematical Biology* 67 (5) (2013), 1261-1278.
- BI7. J. E. Andersen, L. O. Chekhov, R.C. Penner, C. M. Reidys & P. Sulkowski, Enumeration of RNA complexes via random matrix theory. *Biochemical Society Transactions* 41 (2) (2013), 652-655.
- BI8. J. E. Andersen, L. O. Chekhov, R. C. Penner, C. M. Reidys & P. Sulkowski, Topological recursion for chord diagrams, RNA complexes, and cells in moduli spaces. *Nuclear Physics, Section B*, 866 (3) (2013), 414-443.
- BI9. R.C. Penner, E.S. Andersen, J.L. Jensen, A.K. Kantcheva Maiké Bublitz, P. Nissen,

A.M.H. Rasmussen, K.L. Svane, B. Hammer, R. Rezazadegan, N.Chr. Nielsen, J.T. Nielsen & J.E. Andersen, Hydrogen bond rotations as a uniform structural tool for analyzing protein architecture. Nature Communications 5 (2014), article no. 5803.

Proceedings edited

1. J.E. Andersen, J. Dupont, H. Pedersen & A. Swann. Editors of Geometry and Physics, proceedings of the conference at Aarhus University, Aarhus, Denmark. Lecture Notes in Pure and Applied Mathematics 184, Marcel Dekker Inc., 1997.
2. J.E. Andersen, H.U. Boden, A. Hahn & B. Himpel. Editors of Chern-Simons Gauge Theory: 20 Years After. Studies in Advanced Mathematics 50, American Mathematical Society, International Press, 2010.
3. L. Alvarez-Consul, J.E. Andersen, I. Mundet i Riera. Editors of Geometry and Quantization of Moduli Spaces. Advanced Courses in Mathematics - CRM Barcelona. Birkhäuser, 2016.
4. J.E. Andersen, A. Dancer & O. Garcia-Prada, Editors of Geometry and Physics, A Festschrift in Honour of Nigel Hitchin, Vol. 1 & 2, Oxford University Press, 2018.

Patent manuscripts

- 1 R.C. Penner, J.E. Andersen, M. Knudsen, C. Wiuf, System and method for modelling a molecule with a graph, Patent number PA 2008 01009. 17.01.2008, pp. 13 & 19.
2. J.E. Andersen, R.C. Penner, System and method for associating a moduli space with a molecule, Patent number PA 2009 70162. 19.10.2009, pp. 49 & 10.

Invited talks

Invited talks - Conferences/workshops (plenary speaker, since 2007)

1. Opening of the Mathematics-Physics Center (MP2), The WRT-TQFT via geometric quantization of moduli spaces, Gothenburg, April 2007
2. Eleventh NRW Topology Meeting, The Hitchin connection, Toeplitz operators and TQFT, Universität Bielefeld, May 2009
3. The 2009 Georgia International Topology Conference, The Hitchin connection, Toeplitz operators and TQFT, University of Georgia, Athens, May 2009
4. Third International Conference on Geometry and Quantization (GEOQUANT), The Hitchin connection, Toeplitz operators and TQFT, University of Luxembourg, September 2009
5. NZIMA workshop on TQFTs and Knot Homology Theories, Asymptotics in TQFT, University of Auckland, January 2010
6. Seventeenth Gökova Geometry / Topology conference, TQFT, Hitchin's connection and Toeplitz operators, Gökova, Turkey, May 2010
7. 2nd workshop on combinatorics of moduli spaces, cluster algebras, and symplectic invariants, TQFT, Hitchin's connection and Toeplitz operators, Laboratoire J.-V. Poncelet, Steklov Mathematical Institute, May 2010
8. ESF conference on Teichmüller Theory and its Interactions in Mathematics and Physics, TQFT, Hitchin's connection and Toeplitz operators, Centre de Recerca Matemàtica, Bellaterra, Spain, June/July 2010
9. Workshop on Quantum geometry and topology, Quantum geometry of moduli spaces, CIRM, Luminy, France, July 2010
10. FRG Workshop: Mathematical 2D-field theory and the algebraic topology of closed manifolds, An application of quantization ideas to pure mathematics: TQFT, Hitchin's connection and Toeplitz operators, Stony Brook, August 2010
11. Journées en l'honneur de Pierre Vogel, TQFT, Hitchin's connection and Toeplitz

- operators, Institut Henri Poincaré, October 2010
12. Conference on Representation of Surface Groups and Higgs Bundles, Asymptotics in TQFT, Isaac Newton Institute, March 2011
 13. Second Conference of Tsinghua Sanya International Mathematics Forum, Asymptotics of the Reshetikhin-Turaev TQFT, TSIMF, Sanya, December 2011
 14. Conference on Topological Quantum Field Theories, Asymptotics in TQFT, University of Barcelona, December 2011
 15. Workshop on Geometry and analysis of surface group representations, Asymptotics of the Hitchin connection, Institut Henri Poincaré, February 2012
 16. Winter School in Mathematical Physics, A TQFT from Quantum Teichmüller Theory, Les Houches, February 2012
 17. Masterclass and workshop: Topological Quantum Field Theories, The geometric construction of the WRT-TQFT, Centre de Recerca Matemàtica, April 2012
 18. Conference on Algebraic Topology, Field Theory and Strings, A TQFT from Quantum Teichmüller Theory, Simons Center, Stony Brook, May 2012
 19. Conference on Conformal Field Theory and von Neumann Algebras, The geometric construction of the Reshetikhin-Turaev TQFT, Vanderbilt University, May 2012
 20. Conference on Mapping class groups and quantum topology, The geometric construction of the Reshetikhin-Turaev Topological Quantum Field Theory, University of Strasbourg, June 2012
 21. Conference on Geometry and Quantization of Moduli Spaces, The Hitchin connection in geometric quantization, CRM Barcelona, June 2012
 22. New Perspectives in Topological Field Theories, The geometric construction of the Reshetikhin-Turaev Topological Quantum Field Theory, Universität Hamburg, August 2012
 23. 18th International Conference on DNA Computing and Molecular Programming, Geometry-based prediction and classification of biomolecular architecture, Centre for DNA Nanotechnology, Aarhus University, August 2012
 24. Conference on Teichmüller Theory: Quantization and relations with physics, Asymptotics in TQFT, Erwin-Schrödinger Institute, Vienna, April 2013
 25. Conference on Moduli Spaces and Macromolecules, Tutorial on Moduli Spaces, Institut des Hautes Études Scientifiques, May 2013
 26. Workshop: Quantization, topological models and generalized geometries, The Hitchin connection, Toeplitz operators and deformation quantization, Bayrischzell, May 2013
 27. The Fourth Conference of Tsinghua Sanya International Mathematics Forum (grand opening), Open problems in and around Quantum Chern-Simons theory, Tsinghua Univ., December 2013
 28. Calabi-Yau Geometry and Mirror Symmetry conference, The Hitchin connection and non abelian theta functions, National Taiwan University, January 2014
 29. Workshop: New Trends in Teichmüller Theory and Mapping Class Groups, Quantum representations of mapping class groups and asymptotics in Teichmüller space, Oberwolfach, February 2014
 30. Modern trends in topological quantum field theory, Quantum representations of mapping class groups via geometric quantization of moduli spaces, Erwin-Schrödinger Institute, February 2014
 31. Analytic & Algebraic Geometry Conference, Quantum representations of mapping class groups and applications, India, March 2014
 32. GEAR Network Retreat, Quantum representations of Mapping Class Groups via geometric quantization of Moduli Spaces, Maryland, March 2014
 33. Conference "On Quantization of Moduli Spaces", The Hitchin-Witten connection and quantum Chern-Simons theory for complex gauge groups, Geneva, April 2014

34. 4th workshop: Combinatorics of Moduli Spaces, Cluster Algebras and Topological Recursion, The representation of the mapping class group from the quantum Chern-Simons theory for the complex gauge groups $SL(n, \mathbb{C})$, Steklov Mathematical Institute, May 2014
35. Colloquium: Understanding the geometry of moduli spaces via curves on surfaces, University of California Berkeley, May 2014
36. Conference on Noncommutative Geometry and Mathematical Physics, Representations of mapping class groups arising from Quantum Chern-Simons theory, Scalea (Italy), June 2014
37. Conference on Geometry, Quantum Topology and Asymptotics, The Hitchin connection, degenerations in Teichmüller space and SYZ-mirror symmetry, Geneva, June 2014
38. DRSC summer conference, Chern-Simons quantum field theory and moduli spaces: Applications to protein and RNA folding and quantum computing, Darpa (Virginia), July 2014
39. Conference on The Geometry, Topology and Physics of Moduli Spaces of Higgs Bundles, The Hitchin-Witten connection and quantum Chern-Simons theory for complex gauge groups, Singapore, August 2014
40. Workshop: Low-dimensional Topology and Number Theory, Oberwolfach, Quantum Chern-Simons theory for $SL(n, \mathbb{C})$, August 2014
41. Workshop: Quantum curves, Hitchin systems, and the Eynard-Orantin theory, Geometric quantization, Hitchin connection and Topological Recursion, American Institute of Mathematics, September 2014
42. Irish Quantum Foundations 75th Anniversary, Quantum Chern-Simons theory via geometric quantisation of moduli spaces, Dublin, May 2015
43. Workshop: Geometric Invariants and Spectral Curves, Quantization of Moduli Spaces, Leiden, June 2015
44. International conference on subfactor theory in mathematics and physics, Moduli spaces and TQFT, Qinhuangdao, July 2015
45. International Conference on Geometry and Quantization (GEOQUANT), The Hitchin connection in geometric quantization, Madrid, September 2015
46. 96e rencontre entre mathématiciens et physiciens théoriciens: Géométrie et biophysique, H-bond rotations in proteins and H-bond networks, IRMA, Strasbourg, September 2015
47. Workshop: Spectral data for Higgs bundles, Geometric Quantization of Moduli spaces flat connections, American Institute of Mathematics, September 2015
48. RMT2015 workshop: Random matrix theory from fundamental mathematics to biological applications, H-bond rotations in proteins and H-bond networks, Japan, November 2015
49. In celebration of Kenji Ueno's 70th birthday: Various Aspects of Algebraic Geometry, Construction of the Witten-Reshetikhin-Turaev TQFT from conformal field theory, Tokyo, December 2015
50. 27th Nordic Congress of Mathematicians, Quantization of Moduli Spaces and Quantum Chern-Simons Theory, Institut Mittag-Leffler, March 2016
51. 5th Workshop: Combinatorics of Moduli Spaces, Hurwitz Spaces and Cohomological Field Theories, Geometric quantisation of Higgs moduli spaces, Steklov Mathematical Institute, June 2016
52. Workshop: New perspectives on Higgs bundles, branes and quantization, Geometric quantisation of Higgs moduli spaces, Simons Center (NY), June 2016
53. Conference on Quantum Algebras, Quantum Integrable Models and Quantum Information, Geometric quantisation of Higgs moduli spaces, University of Gothenburg, July 2016
54. Conference on Interactions between topological recursion, modularity, quantum

- invariants and low-dimensional topology, The Verlinde formula for Higgs Bundles, University of Melbourne, December 2016
55. QUANTMOD-Quantization and Moduli Spaces, The Verlinde formula for Higgs bundles, University of Luxembourg, January 2017
 56. Workshop on Physics and knot homologies, The Verlinde formula for Higgs bundles, Isaac Newton Institute, University of Cambridge, April 2017
 57. Tsinghua's Mathematical Sciences Discipline Celebrated its 90th Anniversary, The Verlinde formula for Higgs bundles, Tsinghua University, April 2017
 58. Conference on Invariants in low dimensional geometry & topology, The Verlinde formula for Higgs bundle moduli spaces, Toulouse, May 2017
 59. Conference on Higgs bundles and related topics, The Verlinde formula for Higgs bundle moduli spaces, Laboratoire J.A. Dieudonné, June 2017
 60. Foundations of Computational Mathematics (FoCM) conference, Topological determination of H-bonds rotations in Proteins, University of Barcelona, July 2017
 61. GEOQUANT school 2017, lecture series, Quantisation of Moduli Spaces, Aarhus University, July/August 2017
 62. Gauge theories, monopoles, moduli spaces and integrable systems; a conference honouring Prof. Jacques Hurtubise on his 60th birthday, The Verlinde Formula for Higgs Bundle Moduli Spaces, CRM, Montreal, August 2017
 63. Conference: Representation Theory, Mathematical Physics and Integrable Systems, Geometric Recursion, CIRM, Marseille, June 2018
 64. Conference: The 101th Encounter between Mathematicians and Theoretical Physicists, Geometric Recursion, IRMA, Strasbourg, June 2018
 65. Workshop: Universality of Resurgence in Quantization Theories, Geometric Recursion, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, June 2018
 66. VBAC 2018, The Verlinde formula for Higgs bundles, CIRM, Luminy, June 2018
 67. Workshop on Genomes, Cells and Mathematics, Folding of Proteins and RNA Using the Quantum Topology of Moduli Spaces, IAS, Hong Kong, July 2018
 68. ICMP 2018, Complex Quantum Chern Simons Theory, Montreal, July 2018
 69. Conference: Geometry and Physics of Quantum Curves (18w5078), Geometric Recursion, BIRS, Canada, September 2018
 70. Conference: Geometric Analysis and Mathematical Physics, Geometric Recursion, Oldenburg, September 2018
 71. Workshop: Geometry and Physics of Higgs Bundles, Oberwolfach, May 2019
 72. Conference: Calabi-Yau and Geometry, The Hitchin connection and Witten's interpretation of the BCOV-formulation, Rome, May 2019
 73. Conference: New Developments in Quantum Topology, Geometric Recursion, Pasadena, June 2019
 74. Conference: Resurgence in Mathematics and Physics, Geometric Recursion with a View Towards Resurgence, IHES, June 2019
 75. Conference: New Directions in Mathematics of Coulomb Cases and Quantum Hall Effect, Mittag-Leffler Institut, July 2019
 76. Workshop: Holomorphic Differentials in Mathematics and Physics, Geometric Recursion, MSRI, November 2019
 77. Workshop: BPS states, topological recursion, exact WKB and abelianisation, Geometric Recursion, Universität Hamburg, November 2019
 78. Workshop: Homological Mirror Symmetry and Topological Recursion, Geometric Recursion I, IMSA, Miami, January-February 2020
 79. Workshop: Homological Mirror Symmetry and Topological Recursion, Geometric Recursion II, IMSA, Miami, January-February 2020

80. Workshop: Topological & Geometric Recursion, Geometric Recursion, IMSA, Miami, February 2020.

Invited talks - Colloquia/seminars (since 2005)

1. Seminar, Asymptotic Faithfulness of the Quantum $SU(n)$ Representations of the Mapping Class Groups, Atlanta, Georgia, November 2005
2. Seminar, Topological Quantum Field Theory and Conformal Field Theory, Kyoto, December 2005
3. Seminar, Toeplitz Operators and Hitchin's Projectively Flat Connection, Madrid, September 2006
4. Seminar, Asymptotic faithfulness and Toeplitz operators, Universität Basel, February 2007
5. Seminar, The geometric construction of TQFT's, Paris, July 2007
6. Seminar, Toeplitz Operators, Hitchin's Connection and the Reshetikhin-Turaev TQFT, Roskilde University, April 2008
7. Seminar, Hitchin connection, Toeplitz operators, and Reshetikhin-Turaev TQFT, Strasbourg, September 2007
8. Seminar, The Hitchin connection, geometric quantization of moduli spaces and mapping class groups, University of Oxford, February 2008
9. Seminar series: Toeplitz Operators, Hitchin's Connection and the Reshetikhin-Turaev TQFT, Moscow, June 2008
10. Seminar, Geometric quantization of moduli spaces, Marseille, September 2008
11. Seminar, The Hitchin connections, TQFT and quantum representations of the mapping class group, University of Barcelona, July 2009
12. Seminar, TQFT and the quantum geometry of moduli spaces, UCSD, September 2009
13. Seminar talk on Maxim Kontsevich's work, Institut des Hautes Études Scientifiques, November 2009
14. Seminar, Topological Quantum Field Theory and Mapping Class Groups, Lausanne, December 2009
15. Seminar, Asymptotics in TQFT, University of Amsterdam, September 2010
16. Algebraic topology and physics seminar, Asymptotics in Reshetikhin-Turaev TQFT, Simons Center, Stony Brook, April 2012
17. Algebraic Geometry Seminar, The geometric construction of the Reshetikhin-Turaev mapping class group representations and asymptotics, Columbia University, New York, May 2012
18. Seminar, Enumeration of chord diagrams using moduli space techniques and applications to RNA and Protein folding, DTU, April 2013
19. Seminar, Protein folding and Moduli Spaces, Hong Kong, September 2013
20. Seminar, RNA and protein folding via moduli space techniques, Loughborough, October 2013
21. Geometry and Physics Seminar, The Hitchin connection and quantum Chern-Simons theory Oxford, October 2013
22. Geometry and Topology Seminar, The Hitchin connection and quantum complex Chern-Simons theory, Caltech, November 2013
23. Colloquium, The Witten-Reshetikhin-Turaev quantum representations of mapping class groups and applications, Ruprecht-Karls Universität Heidelberg, May 2014
24. Geometry/Topology Seminar, The Witten-Reshetikhin-Turaev quantum representations of mapping class groups, Chicago, May 2014
25. Seminar, Moduli spaces and folding of RNA and protein molecules, UC Davis, October 2014

26. Seminar, Complex TQFT and the Hitchin connection, Copenhagen, DTU, August 2015
27. Geometry seminar, Quantization of Moduli Spaces and Quantum Chern-Simons Theory, University of Glasgow, February 2016
28. Geometry working seminar, Quantization of Moduli Spaces and Quantum Chern-Simons Theory, EPFL, Lausanne, March 2016
29. Seminar, Moduli Space Techniques in RNA and Protein Folding, Kyoto University, February 2017
30. Seminar, Geometric Quantisation of Moduli Spaces and Relations to TQFT, Kyoto University, February 2017
31. Seminar, The Verlinde formula for Higgs bundles, Tokyo University, February 2017
32. Topology seminar, Geometric Recursion, UC San Diego, February 2018
33. High Energy Theory Meeting, Geometric Recursion, Caltech, February 2018
34. Colloquium, RNA Secondary Structures Enumeration and Prediction and their Relation to Moduli Spaces, California State University, Long Beach, February 2018
35. FMSP lecture, Geometric Recursion, University of Tokyo, 23 March 2018
36. FMSP lecture, Geometric Recursion, University of Tokyo, 26 March 2018
37. Mathematics colloquium, Geometric Recursion, California State University, Long Beach, April 2018
38. Mathematics colloquium, Geometric Recursion, University of California, Los Angeles, May 2018
39. Colloquium, Geometric Recursion, National Research University Higher School of Economics (HSE), Moscow, November 2018
40. Mathematics Colloquium: Geometric Recursion, Caltech, March 2019
41. Kolloquium über Reine Mathematik: How do we quantize curved phase spaces? Univeristät Hamburg, November 2019.

Organiser of events

Organiser - Distinguished Lectures (since 2006)

1. CTN Lindhard Lecture by Edward Witten (Institute for Advanced Study, Princeton), Aarhus, June 2006
2. CTQM Nielsen Lecture by Edward Witten (Institute for Advanced Study, Princeton), Aarhus, June 2006
3. CTQM Nielsen Lecture I & II by Ludwig Faddeev (Steklov Institute of Mathematics, Moscow), Aarhus, March 2007
4. CTQM Nielsen Lecture by Curtis T. McMullen (Harvard University), Aarhus, April 2008
5. CTQM Nielsen Lecture by Vaughan Jones (University of California Berkeley), Aarhus, August 2008
6. Colloquium by Ludwig Faddeev (Steklov Institute of Mathematics, Moscow), Aarhus, August 2010
7. QGM Nielsen Lecture by Stanislav Smirnov (University of Geneva), Aarhus, September 2010
8. ITGP talk by Richard Thomas (Imperial College), Cambridge, March 2011
9. ITGP talk by Nigel Hitchin (University of Oxford), Cambridge, March 2011
10. ITGP talk by Samson Shatashvili (Trinity College Dublin), Aarhus, January 2012
11. QGM Nielsen Lecture by Don Zagier (Max Planck Institute for Mathematics, Bonn), Aarhus, January 2013
12. QGM Nielsen Lecture by Jürg Frölich (ETH Zürich), Aarhus, June 2013
13. QGM Nielsen Lecture by Shing-Tung Yau (Harvard University), Aarhus, July 2013
14. QGM Colloquium by Barry Simon (California Institute of Technology), Aarhus, January 2014

15. QGM Colloquium by Seth Putterman (UCLA), Aarhus, December 2014
16. QGM Seminar by Maxim Kontsevich (IHES), Aarhus, August 2016

Organiser - Mini courses (since 2007)

1. Sergei Gukov, California Institute of Technology, Gauge Theory and Categorification, Aarhus, June, 2007
2. Dmitry Lebedev, Institute for Theoretical and Experimental Physics, Moscow, TFTs and local Archimedean Langlands Correspondence (3 lectures), Aarhus, 2011
3. Dmitry Lebedev, Institute for Theoretical and Experimental Physics, Moscow, Whittaker function and beyond (3 lectures), Aarhus, June 2012
4. Vladimir Fock, Strasbourg University, Integrable systems, affine Lie groups and dimers (6 lectures), Aarhus, June 2012
5. Jonathan Weitsman, Northeastern University, Equivariant Morse Theory, Old and New (3 talks), Aarhus, June 2012
6. Christian Zickert, University of Maryland Triangulations, gluing equations, and simplicial Chern-Simons theory (3 lectures), Aarhus, August 2012
7. Oscar Garcia Prada, ICMAT, Higgs bundles (4 lectures), Aarhus, August 2013
8. Dmitry Lebedev, Institute for Theoretical and Experimental Physics, Moscow, Lectures on Whittaker function (6 lectures), Aarhus, June 2014
9. Nicolai Reshetikhin, University of California Berkeley, Topological field theories on cell complexes (6 lectures), Aarhus, January 2017
10. Hartmut Weiss, Christian-Albrechts-Universität, Kiel, & Steven Rayan, University of Saskatchewan, Asymptotics of Higgs bundles and hyperpolygons (12 lectures), Aarhus, June 2017

Organiser - Masterclasses/Schools (since 2006)

1. Robert C. Penner, California Institute for Technology, Decorated Teichmüller Theory, Aarhus August/September 2006
2. David Hernandez, Centre National de la Recherche Scientifique, An Introduction to Affine Kac-Moody Algebras, Aarhus, October 2006
3. Martin Schlichenmaier, University of Luxembourg, Berezin-Toeplitz Quantization, Aarhus, March 2007
4. Athanase Papadopoulos, Strasbourg University, Hyperbolic Geometry and Thurston's Boundary of Teichmüller Theory, Aarhus, April 2007
5. Anton Kapustin, California Institute of Technology, Electric-Magnetic Duality and the Geometric Langland's Programme, Aarhus, August 2007
6. Gregor Masbaum, Université de Paris VII, Integral TQFT, Aarhus, October 2007
7. Andrew Putman, Massachusetts Institute of Technology, The Torelli Group, Aarhus, March 2008
8. Xiping Zhu, Sun Yat-sen University & Binglong Chen, Sun Yat-sen University, Ricci Flow and Geometrization of Three-Manifolds, Aarhus, June 2008
9. Vaughan Jones, Vanderbilt University, Planar Algebra, Aarhus, August 2008
10. Dylan Thurston, Indiana University, Bordered Heegaard Floer Homology, Aarhus, October/November 2008
11. Nicolai Reshetikhin, University of California Berkeley, Quantization of gauge systems, Aarhus, November 2009
12. Sergey Fomin, University of Michigan and Phillippe Di Francesco, Institut de Physique Theorique, CEA Saclay, Cluster algebras, Aarhus, June 2010
13. Maxim Kontsevich, Institute de Haute Études Scientifique, Wall-crossing, Aarhus, August 2010

14. Volodymyr Mazorchuk, Uppsala University, Categorification, Aarhus, October 2010
15. Nigel Hitchin, University of Oxford & Marco Gualtieri, University of Toronto, Generalized Geometry, Aarhus, May/June 2011
16. Tomaz S. Mrowka, Massachusetts Institute of Technology, Instantons, Knots and Khovanov, Aarhus, August 2011
17. Anton Alekseev, University of Geneva, Anna Lachowska, University of Geneva & Pavel Severa, University of Geneva, Drinfeld associators and the Kashiwara-Vergne problem, Aarhus, October 2011
18. Ignasi Mundet i Riera, University of Barcelona, Vortex equations and Hamiltonian GW invariants, Aarhus, January 2012
19. Jeremy Kahn, Brown University & Vladimir Markovic, California Institute of Technology, The Ehrenpreis conjecture, Aarhus, August 2012
20. Bertrand Eynard, Institut de Physique Theorique, CEA Saclay & Nicolas Orantin, Instituto Superior Técnico, Lissabon, Recursion from matrix models to quantum algebraic geometry, Aarhus, January 2013
21. Dror Bar Natan, University of Toronto, (u,v,w knots)x(topology, combinatorics, low and high algebra), Aarhus, May/June 2013
22. Ben Elias, Boston University & Geordie Williamson, Max Planck Institute for Mathematics, Bonn, Soergel bimodules & Kazhdan-Lusztig conjectures, Aarhus, March 2013
23. Martin Bridgeman, Boston College, Dick Canary, University of Michigan & A. Sambarino, Université de Paris VII, Pressure and Weil-Petersson metrics, Aarhus, August 2013
24. Barry Simon, California Institute of Technology, Spectral Theory of Orthogonal Polynomials, Aarhus, February 2014
25. Nitin Nitsure, TATA Institute of Fundamental Research, Mumbai, Indranil Biswas, TATA Institute of Fundamental Research, Mumbai & Vikraman Balaji, Chennai Mathematical Institute, Principal Bundles/ Algebraic Stacks/ Deformation Theory and Moduli/ Instability and tensor products, Aarhus, June 2014
26. Ivan Loseu, Northeastern University, Quantized quiver varieties, Aarhus, March 2015
27. Dominic Joyce, University of Oxford and Limo Amorim, University of Oxford, Derived Differential Geometry/ Applications of moduli spaces of J-holomorphic curves to symplectic geometry, Aarhus, August 2015
28. Nicolai Reshetikhin, University of California Berkeley, Perturbative quantization of gauge theories on manifolds with boundary, Aarhus, September 2015
29. Dominic Joyce & Yuuji Tanaka, University of Oxford, Riemannian holonomy groups & Gauge theory and instanton moduli spaces, Aarhus, August 2018
30. Giovanni Landi, University of Trieste & Roberta Iseppi, QGM, Aarhus University, Noncommutative geometry: spaces, bundles and connections, Aarhus, September 2018
31. School on Resurgence, IMSA Miami, March 2020
32. Thomas Creutzig, University of Alberta, A modern introduction to vertex algebras, SDU Odense, August 2020

Organiser - Conferences/workshops (since 1995)

1. Conference, Geometry and Physics, Aarhus, July 1995
2. Workshop, Topology, Geometry and Quantization, Aarhus, July 2005
3. Symposium, Opening Symposium for CTQM, Aarhus, March 2006
4. Workshop, Quantum Moduli Spaces and TQFT, Aarhus, August 2006
5. Workshop and PhD School, Inflation and String Cosmology in collaboration with The Danish Astrophysics Research School, Aarhus, October 2006

6. Workshop, CTQM Nielsen Retreat, Sandbjerg, Nov/Dec 2006
7. Workshop, Toeplitz Operator Theory and Deformation Quantization, Aarhus, March 2007
8. Workshop, Geometry and TQFT, Aarhus, June 2007
9. Workshop, Algebraic and Geometric Lie Theory (AGLT), Aarhus, June, 2007
10. Workshop, CTQM Nielsen Retreat, Sandbjerg, October, 2007
11. Workshop, Finite Type Invariants, Fat Graphs and Torelli-Johnson-Morita Theory, Aarhus, March/April, 2008
12. Workshop, CTQM-GEOMAPS Nielsen Retreat, Sandbjerg, October, 2008
13. Conference, Chern-Simons Gauge Theory: 20 years after, Max Planck Inst., Bonn, August 2009
14. Workshop, CTQM-GEOMAPS Nielsen Retreat, Sandbjerg, October, 2009
15. Workshop, q-Representation theory, Aarhus University, December 2009
16. Workshop, GEOMAPS Retreat, Aarhus University, March 2010
17. Workshop, RNA workshop by Michael Waterman & Christian Reidys, Aarhus, April 2010
18. Symposium, QGM Official Opening Symposium, Aarhus, May 2010
19. Workshop, Quantum Dilogarithm & Quantum Teichmüller Theory, Aarhus, August 2010
20. Workshop, QGM/CTQM Nielsen Retreat, Sandbjerg, October 2010
21. Conference and winter school, Quantization of Singular Spaces by Huebschmann, Posthuma and Lerman, Aarhus, December 2010
22. Spring School, Geometry and Quantum Topology, Les Diablerets, Switzerland, March 2011
23. Workshop, GEOMAPS retreat, Aarhus, June 2011
24. Workshop, Aarhus Gauge Theory Workshop, Aarhus, August 2011
25. Workshop, QGM Nielsen Retreat, Sandbjerg, October 2011
26. Masterclass and workshop on Topological Quantum Field Theories, Centre de Recerca Matemàtica, Barcelona, April 2012
27. Workshop, Retreat for QGM and GEOMAPS PhD students, Aarhus, May/June 2012
28. Conference, Progress in low-dimensional topology: Teichmüller theory and 3-manifold groups, Aarhus, August 2012
29. Workshop, QGM Nielsen Retreat, Sandbjerg, October 2012
30. Conference, Topological recursion and quantum algebraic geometry, Aarhus, Jan/Feb 2013
31. Conference, EMS/DMF Joint Mathematical Weekend, session: Quantum and Riemannian Geometry, Aarhus, April 2013
32. Conference, Moduli Spaces and Macromolecules, Institut des Hautes Études Scientifiques, May 2013
33. Workshop, QGM Nielsen Retreat, Sandbjerg, October 2013
34. Workshop, QGM Nielsen Retreat, Sandbjerg, October 2014
35. Conference, New Developments in TQFT, Aarhus, July 2015
36. Workshop, Spectral data for Higgs bundles (AIM-workshop), California, September 2015
37. Workshop, QGM Nielsen Retreat, Sandbjerg, November 2015
38. Summer School by Tobias Ekholm & Nicolai Reshetikhin, Aarhus, August 2016
39. Conference, Hitchin 70, Triple event in honour of Nigel Hitchin, Aarhus, September 2016
40. Workshop, QGM Nielsen Retreat, Sandbjerg, October/November 2016
41. Workshop, QUANTMOD-Quantization and Moduli Spaces, Luxembourg, January 2017
42. GEOQUANT school (Aarhus University) & conference (Sandbjerg), July/Aug 2017

43. Workshop, QGM Nielsen Retreat, Sandbjerg, November 2017
44. Summer School & Conference, Geometry, Quantum Topology and Asymptotics, Geneva/Sandbjerg, July 2018
45. Conference, Geometric and Categorical Aspects of CFTs, Oaxaca, Mexico, September 2018
46. Workshop, QGM Nielsen Retreat, Sandbjerg, October 2018
47. Conference, Vector Bundles on Algebraic Curves (VBAC) 2019, Sandbjerg Estate, June 2019
48. Workshop, Topological & Geometric Recursion, IMSA Miami, February 2020
49. Workshop, Resurgence and Quantum Invariants, IMSA Miami, March 2020

Supervision of undergraduate students

Anders T. K. Skov, MSc (2000)

Thesis title: Versillievinvarianter og MMR-formodningen

Karsten Hansen, BSc (2000)

Thesis title: Knuder og Knudediagrammer

Claus Simonsen, BSc (2003)

Thesis title: Knudeteori

Troels Færgen-Bakmar, BSc (2008)

Thesis title: Farvede Jones polynomier af knuder

Eva Gjaldbæk Frandsen, BSc (2011)

Thesis title: Kauffman bracket skeinmodulet og det farvede Jones-polynomium

Mathias Mosegaard Nielsen, BSc (2016)

Thesis title: Knudeteori - Knuder, Invarianter og det Farvede Jones-Polynomium

Supervision of PhD students

Current PhD students

Andreas Skovbakke (2020), co-supervisor

Yuki Koyanagi (2020), co-supervisor

Previous PhD students

Søren Kold Hansen (1999)

Thesis title: Reshetikhin-Turaev invariants of Seifert 3-manifolds and their asymptotic expansions

Senior Quantitative Analyst, Nordea Markets / lecturer at University of Copenhagen (current position)

Jakob Grove (1999)

Thesis title: Modular functors, TQFTs, and moduli spaces of vector bundles

Associate professor at Bioinformatics Research Centre (BiRC), Aarhus University, (2009-present)

Frank Nasser (2005)

Thesis title: Torsion Subgroups of Jacobians Acting on Moduli Spaces of Vector Bundles
Teacher, Odense Tekniske Gymnasium, (2004-present)

Lecturer at the Department of Mathematics and Computer Science, SDU (2007-present)
CEO at IT Teaching Tools (2010-present)

Anders Reiter Skovborg (2006)

Thesis title: The Moduli Space of Flat Connections on a Surface Poisson Structures and Quantization

Software developer at Edlund A/S (current position)

Rasmus Villemoes (2009)

Thesis title: Cohomology of Mapping Class Groups with Coefficients in Functions on Moduli Spaces
Software developer, Prevas (current position)

Niels Leth Gammelgaard (2010)

Thesis title: Kähler Quantization and Hitchin Connections

VP of Engineering, LogPoint (current position)

Magnus Roed Frydenberg (2010)

Thesis title: Aspects of Quantum Mathematics – Hitchin Connections and AJ Conjectures

Senior Pricing Specialist, MHI Vestas Offshore Wind (current position)

Sam Lewallen (visiting PhD student June-Oct 2011)

Thesis title: 'Floergåsbord' (General subject matter: Low-Dimensional Topology), Princeton

Swartz fellow, Harvard University – Center for Brain Science (current position)

Hiro Lee Tanaka (visiting PhD student Jun-Dec 2011)

Thesis title: A Functor from Lagrangian Cobordisms to the Fukaya Category

Assistant Professor at Texas State University (current position)

Søren Fuglede Jørgensen (2013)

Thesis title: Semi-classical properties of the quantum representations of mapping class groups

Senior Numerical Specialist, Ørsted (current position)

Amit De (2013)

Thesis title: On the asymptotic expansion of the curvature of perturbations of the L2 connection

Senior Quantitative Analyst, Danske Commodities (current position)

Jens-Jakob Kratmann Nissen (2014)

Thesis title: The Andersen–Kashaev TQFT

Senior Portfolio Manager, ATP (current position)

Shehryar Sikander (2014)

Thesis title: Riemann Surfaces: vector bundles, physics, and dynamics

Postdoc at ICTP, Italy (current position)

Paolo Masulli (2014)

Thesis title: Formal connections in deformation quantization

Premier assistant at the Neuroheuristic Research Group, University of Lausanne (2014-2017)

Postdoc at Technical University of Denmark (DTU) (2017-2021)

Jens Kristian Egsgaard (2015)

Thesis title: Hitchin connections for genus 0 quantum representations

Research Assistant, QGM, Aarhus University, 2015

Postdoc at Max Planck Institute for Mathematics, Bonn (current position)

Simone Marzioni (2016)

Thesis title: Complex Chern-Simons Theory: Knot Invariants and Mapping Class Group Representations

Risk Analyst at Danske Bank (current position)

Niccolo S. Poulsen (2016)

Thesis title: The Universal Moduli Space of pairs of a Riemann surface and a Holomorphic Vector Bundle and its Hitchin Connection

Model developer at Nordea (current position)

Kenneth Rasmussen (2017)

Thesis title: Hitchin Connections for Various Families of Kähler Structures

IT Consultant at Netcompany (current position)

Gabriele Rembado (2018) (co-supervisor)

Thesis title: Quantification d'espaces de modules et de connexions

Postdoc at ETH Zürich / University of Geneva (2018-2020)

Alessandro Malusà (2018)

Thesis title: Geometric quantisation, the Hitchin-Witten connection and quantum operators in complex Chern-Simons theory

Postdoc at the University of Saskatchewan, Canada (current position)

Mette Bjerre (2018)

Thesis title: The Hitchin connection for the Quantization of the moduli space of parabolic bundles on surfaces with marked points

Adjunktvikar ved VIA pædagogik og samfund, med fokus på matematikdidaktik (current position)

Yuta Nozaki (visiting PhD student March-September 2018)

Meiji University, Japan

William Petersen (2019)

Thesis title: Quantum Invariants and Chern-Simons Theory

Postdoc at IST Austria + University of Sheffield (2019-2021)

Supervision of postdocs

Karl Magnus Jacobsson (2006-2007)

Associate Professor, Uppsala University

Dorin Cheptea (2006-2007)

Researcher, Institute of Mathematics of the Romanian Academy

Guillaume Théret (2006-2008)
Researcher, Université de Bourgogne

Cristina Martínez (2006-2008)

Jens Fjeldstad (2007-2008)
Associate Professor at Örebro University

Nuno Miguel Romão (2007-2008)
Scientific Assistant, Augsburg University

Jean-Baptiste Meilhan (2007-2008)
Maître de Conférences, Institut Fourier, Université Grenoble

Thomas Kragh (2007-2008)
Associate Professor, Uppsala University

Alex Bene (2007-2008)
Data Engineer, IRIS TV

Emmanuel Wagner (2008-2009)
Maître de Conférences, Université de Bourgogne

Matthew Bainbridge (2009-2010)
Associate Professor at Indiana University

Dezhen Xu (2009-2010)
Postdoc, Sichuan

Gor Sakissian (2009-2010)
Researcher, Yerevan State University

Rasmus Villemoes (2009-2011/2013-2014)
Private software developer, Prevas

Johan Martens (2009-2011)
Chancellor's Fellow and Lecturer, University of Edinburgh

Reza Rezazadegan (2009-2011)
Research Scientist at Biocomplexity Institute at University of Virginia

Benjamin Himpel (2009-2012)
Head of industrial Mathematics, TWT GmbH

Hans-Christian Herbig (2009-2013)
Professor, Department of Mathematics, Federal University of Rio de Janeiro

Mario Garcia Fernandez (2010-2012)
Postdoc, ICMAT, Madrid

Douglas LaFountain (2010-2012)
Tenure track, Western Illinois University

Kasper K. S. Andersen (2011)
Associate Professor, Lund University

Vito Iacovino (2011-2012)

Brendan McLellan (2011-2013)
Postdoc, Harvard

Subhojoy Gupta (2012-2015)
Assistant Professor, Indian Institute of Science, IISc Bangalore

Daniel Tubbenhauer (2013-2014)
Postdoc, Hausdorff Center for Mathematics (HCM), Bonn

Travis Mandel (2013-2015)
Research Assistant Professor, University of Utah

Florian Schätz (2013-2015)
Postdoc, University of Luxembourg

Niels Leth Gammelgaard (2013-2015)
Chief analytics officer, Ontame.io

Sudarshan Gurjar (2014-2015)
Assistant Professor, Indian Institute of Technology Bombay

Qionglin Li, Aarhus University (2014-2018)
Associate research fellow, Chern Institute of Mathematics, Nankai University

Satoshi Nawata, Aarhus University (2015-2016)
Tenured position, Fudan University, Japan

Du Pei, Aarhus University (2016-2019)
Postdoc, Center of Mathematical Sciences and Applications, Harvard University (2020-2022)

Roberta Iseppi, Aarhus University (2017-2019)
Marie Curie Fellow at QGM, Aarhus University

Alexander Soibelman, Aarhus University (2018-2019)
Postdoc at QGM, Aarhus University

Dmitri Gekhtman, Aarhus University (2019)
Researcher, Theorem LP (current position)

Yang Huang, Aarhus University (2014-2017) + University of Southern Denmark (2020)
Postdoc, Munich University

Postdoc, University of Southern Denmark (2020)

Nezhla Aghaei, University of Southern Denmark (2020-2022)

Marie Curie Fellow at QM, University of Southern Denmark

Teaching

PhD and graduate courses at Aarhus University

Gauge-theory and invariants of 3-dimensional manifolds, fall 1994

Gauge-theory and invariants of 3-dimensional manifolds, spring 1995

Gauge-theory and invariants of 3-dimensional manifolds, fall 1995

Riemann surfaces and holomorphic vector bundles, spring 1997

Riemann surfaces and holomorphic vector bundles, fall 1997

Knot theory, spring 1998

Complex geometry, fall 1998

Seminar in symplectic geometry and topology, fall 1999

Geometric Quantization, spring 2004

Topological Quantum Field Theory and Knot Theory, fall 2004

Conformal Field Theory and TQFT, spring 2005

Topology and Quantization of Moduli Spaces, fall 2005

String topology, spring 2006

Riemann Surfaces, spring 2006

Quantization of moduli spaces, fall 2006

Quantization of moduli spaces, spring 2007

Quantization of moduli spaces, fall 2007

Geometric Quantum Field Theory, spring 2008

Riemann Surfaces, spring 2008

Torelli-Johnson-Morita theory and Finite-Type Invariants, spring 2008

Quantization of Moduli Spaces and TQFT, fall 2008

Conformal and Topological Quantum Field Theory, fall 2008

Lie Groups and Chern-Simons Theory, fall 2009

Higgs Bundles and the Geometric Langlands Program, spring 2010

Moduli spaces of vector bundles on Riemann surfaces, fall 2010

Quantum theory, real and imaginary, spring 2011

Topological Quantum Field Theories and Moduli Spaces, spring 2011

Symplectic Geometry, Non-Abelian Localization and Path Integrals, fall 2011

Introduction to Gauge Theory, fall 2011

Smooth Manifolds, Group Actions and Moduli Spaces, fall 2012

Conformal Field Theory, spring 2012

Smooth Manifolds, Group Actions and Moduli Spaces, spring 2013

Smooth Manifolds, Group Actions and Moduli Spaces, fall 2013

Riemann Surfaces, spring 2014

Knot Theory, fall 2014

Symplectic Geometry and Equivariant Cohomology, fall 2014

Differential Geometry, spring 2015

Gauge Theory and characteristic classes, fall 2015

Complex Geometry, spring 2016

An introduction to Higgs bundles, fall 2016

Differential Geometry, spring 2017

Riemann Surfaces, fall 2018

Quivers and moduli problems in algebraic geometry, spring 2019

Undergraduate courses at Aarhus University

Geometry 1, spring 1998

Geometry 1, spring 1999

Geometry 1, spring 2000

Geometry 1, spring 2010

Graduate and advanced graduate courses at University of California Berkeley

Algebraic Topology, fall 1993

Gauge theory and quantum Chern-Simons theory, spring 1994

Undergraduate courses at University of California Berkeley

Ordinary differential Equations, fall 1992

Complex Function theory (honors course), spring 1993

Introduction to Mathematical Analysis, spring 1993

Elementary Algebraic Topology, spring 1994

Complex Function theory, spring 1996

Complex Function theory (honors course), spring 1996

Complex Function theory, spring 2000

Complex Function theory, spring 2000

Outreach

PI for DNRF grant: Niels Bohr Professorship for Nicolai Reshetikhin

•"Universitetet får tre superprofessorer" in CAMPUS, Aarhus University newspaper no. 2, 2006, 30.01.2006.

Portrait of Department of Mathematics, Aarhus University

•"A trio of institutes" by Allyn Jackson in Notices of the American Mathematical Society (AMS), Vol 56, 11., 09.12.2009, <http://www.ams.org/notices/200911/rtx091101426p.pdf>

Grantholder of DFF-FNU grant (CTQM)

•"Det matematiske fundament for alt" i "Forskning i vækst – Fri forskning giver næring til vækstlaget". Published by Det Frie Forskningsråd, Forsknings- og Innovationsstyrelsen, 36pp., ISBN: 978-87-923-7227-7, October 2009.

•"Det matematiske fundament for alt" i "FNU – Mod", Published by Det Frie Forskningsråd (DFF), Styrelsen for Forskning og Innovation, 19.04.2010, 6pp.

<http://ufm.dk/publikationer/2010/filer-2010/fnu-mod.pdf>

•Interview i Videnskab.dk om Matematisk Grundforskning, 2010

Center Director for DNRF Centre of Excellence

•"Jørgen Ellegaard Andersen modtager Centre of Excellence bevilling fra Danmarks Grundforskningsfond", math.au.dk, 11.02.2009,

<http://math.au.dk/aktuelt/nyheder/nyhed/artikel/joergen-ellegaard-andersen-modtager-centre-of-excellence-bevilling-fra-danmarks-grundforskningsfond/> "Official opening of Centre for Quantum Geometry of Moduli Spaces", scitech.au.dk, 17.05.2010

•"Sorte huller i moderne fysiks matematiske grundlag. Nyt grundforskningscenter indvies", math.au.dk, 18.05.2010, <http://math.au.dk/aktuelt/nyheder/nyhed/artikel/sorte-huller-i-moderne-fysiks-matematiske-grundlag-nyt-grundforskningscenter-indvies/>

•"Dansk forskningscenter vil fundere kvantefeltteorien", newz.dk, 20.05.2010

Interview

- "Matematiker: Her tænker vi totalt ud af boksen", Videnskab.dk, 28.09.2010, <http://videnskab.dk/miljo-naturvidenskab/matematiker-her-taenker-vi-totalt-ud-af-boksen>

North European node of GEAR

- "Nyt netværk for matematisk grundforskning med centerleder Jørgen Ellegaard Andersen i spidsen for Nordeuropa" Dg.dk, news item, 10.11.2011. <http://dg.dk/2011/11/10/nyt-netvaerk-for-matematisk-grundforskning-med-centerleder-joergen-ellegaard-andersen-i-spidsen-for-nordeuropa/>
- Press release at Department of Mathematics, University of Illinois at Urbana-Champaign, 04.10.2011. <http://www.math.illinois.edu/GEAR/PressRelease-GEAR.pdf>

Organiser of 4-day course for high school students

- Organiser of 4-day course for high school students 27 Aug, 17 Sept, 8 Oct & 5 Nov 2011 <http://qgm.au.dk/events/outreach-activities/geekclub/>

Article on the career situation for postdocs

- "Talentfulde løsarbejdere eller laboratorieslaver?", UNivers no. 15 2011, Aarhus University newspaper, au.dk/univers, 08.12.2011, <http://www.au.dk/univers/nyhed/artikel/talentfulde-loesarbejdere-eller-laboratorieslaver/>

Collaboration agreement with Tsinghua University

- "Center for Kvantegeometri af Modulirum og Tsinghua Universitetet i Kina indleder samarbejde", Dg.dk, news item, 31.05.2013. <http://dg.dk/2013/05/31/center-for-kvantegeometri-af-modulirum-og-tsinghua-universitetet-i-kina-indleder-samarbejde/>
- "Collaboration agreement with Chinese premier mathematical research center at Tsinghua", math.au.dk, 29.05.2013, <http://qgm.au.dk/news/show/artikel/collaboration-agreement-signed-with-tsinghua/>

Double issue of QT dedicated to Jørgen Ellegaard Andersen

- "Dobbelt-issue af det internationale tidsskrift Quantum Topology dedikeres til QGM", Dg.dk, news item, 12.06.2012. <http://dg.dk/2012/06/12/dobbelt-issue-af-det-internationale-tidsskriftquantum-topology-dedikeres-til-qgm/>

- "Perspektiverne i gfold-algoritmen", Science Media Lab, 13.06.2012

<https://vimeo.com/33665101>

- "Perspektiverne i gfold-algoritmen", Aktuel Naturvidenskab.dk, 19.01.2012 (Video)

Organiser of weekend course for high school students 24-25 November 2012

- <http://qgm.au.dk/events/outreach-activities/math-club-weekend-2012/>
- "Lokkende kurver, kryptologi og knuder", htXskjern.dk, 22.11.2012

Organiser of "IMAGINARY" - Mathematical exhibit at the Steeno Museum, April-August 2013

- ST website, 09.04.2013: <http://scitech.au.dk/en/current-affairs/news/show/artikel/den-smukke-matematik/>
- Ingeniøren (Engineering magazine), <http://ing.dk/artikel/software-skaber-kunst-baseret-paa-kompliceret-matematik-158205>
- 'Stenomusen' no 60, Newsletter: <http://www.stenomuseet.dk/informa/pdf/stenomusen60.pdf>

- Århus Onsdag': <http://dinby.dk/aarhus-onsdag/smuk-matematik-paa-steno>
- Jyllands-Posten: Article, culture section, 29.06.2013
- Aktuel naturvidenskab, nr. 2, May 2013, a feature on IMAGINARY
- 'Mathilde', The Danish Mathematical Society's Newsletter, an article on IMAGINARY
- Danish Mathematical Society's website, 09.09.2013:
<http://mathematics.dk/aktiviteter/nyheder/artikel/artikel/imaginary-paa-3-minutter-1/>
- "Imaginary på 3 minutter", math.au.dk, 09.09.2013,
<http://math.au.dk/aktuelt/nyheder/nyhed/artikel/imaginary-paa-3-minutter/>

Collaboration with India

- New collaboration with outstanding Indian research institutes, math.au.dk / qgm.au.dk, 13.09.2013, <http://qgm.au.dk/news/show/artikel/new-collaboration-with-outstanding-indian-research-institutes/>

Center Director prolonged five years

- "Grundforskningscentre forlænget", scitech.au.dk, 23.09.2013, <http://scitech.au.dk/om-science-and-technology/aktuelt/nyheder/vis/artikel/grundforskningscentre-forlaenget/>

Organiser of weekend course for high school students 25-26 January 2014

- <http://qgm.au.dk/events/show/artikel/math-club-2014/>
- "Gymnasieelever fordyber sig i matematikkens gåder på Aarhus Universitet", scitech.au.dk, 24.01.2014, <http://scitech.au.dk/om-science-and-technology/aktuelt/nyheder/vis/artikel/gymnasieelever-fordyber-sig-i-matematikkens-gaader-paa-aarhus-universitet/>
- "Hej Matematik for en weekend", Stiften.dk, print and web media, 25.01.2014
- "Her er der tid til at nørde", TV2 Østjylland webnews, 25.01.2014
- "Paradisweekend for matematiknørder", Jyllands-Posten Aarhus, print and web media, 27.01.2014
- "Matematikelever til Aarhus", Nordjyske Stiftstidende, 20.01.2014
- "Weekend med matematik", in "... Kort nyt" in Aarhus Onsdag, 22.01.2014
- "Gymnasieelever i matematik-himlen", math.au.dk, 30.01.2014,
<http://math.au.dk/aktuelt/nyheder/nyhed/artikel/gymnasieelever-i-matematik-himlen/>

Nature Communications on rotational descriptor of hydrogen bonds in proteins

- "Forskere fra Institut for Matematik publicerer i Nature Communications", math.au.dk, 18.12.2014, <http://math.au.dk/aktuelt/nyheder/nyhed/artikel/qgm-publicerer-i-nature-communications/>
- "Proteiners tredimensionelle struktur kan nu analyseres med ny matematisk metode", Dg.dk, news item, 18.12.2014 <http://dg.dk/2014/12/18/proteiners-tredimensionelle-struktur-kan-nu-analyseres-med-ny-matematisk-metode/>
- "Ny matematisk drejning i proteinforskning", ST Newsletter Rømer, december 2014 <http://scitech.au.dk/roemer/dec14/ny-matematisk-drejning-i-proteinforskning/>
- "Matematik giver vigtigt overblik over proteiner", Videnskab.dk, 05.01.2015:
<http://videnskab.dk/kort-nyt/matematik-giver-vigtigt-overblik-over-proteiner%20>

"Serious Science" (videos on YouTube 12.09.2016)

- <https://www.youtube.com/watch?v=oYU4G5ftB0c> (Quantum Field Theory and Quantum Topology) <https://www.youtube.com/watch?v=BnillKN63to> (Protein Folding Using Quantum Topology)

Expert statement on a current research breakthrough

- "Verdensrekord: Forskere binder kompleks knude, du slet ikke kan se", Videnskab.dk, 12.01.2017 <http://videnskab.dk/teknologi-innovation/glem-alt-om-raabaandsknob-forskere-binder-knude-paa-et-helt-nyt-niveau>

Special issue of Journal dedicated to QGM/Jørgen Ellegaard Andersen

- The Journal Travaux Mathématiques dedicates a special issue to the Centre for Quantum Geometry of Moduli Spaces (QGM), Math.au.dk, 28.03.2017 (also shown from scitech.au.dk newsfeed). <http://math.au.dk/en/currently/news/news-item/artikel/the-journal-travaux-mathematiques-dedicates-a-special-issue-to-the-centre-for-quantum-geometry-of-mo/>
- Journal dedicates a special issue to the Centre for Quantum Geometry of Moduli Spaces (QGM), dg.dk, 06.04.2017. <http://dg.dk/en/2017/04/06/journal-dedicates-a-special-issue-to-the-centre-for-quantum-geometry-of-moduli-spaces-qgm/>

Verdensrekord: Forskere binder kompleks knude, du slet ikke kan se (12 January 2017)

- Videnskab.dk (<https://videnskab.dk/teknologi-innovation/glem-alt-om-raabaandsknob-forskere-binder-knude-paa-et-helt-nyt-niveau>)

Video from "Geometry and Physics of Quantum Curves", BIRS, Canada (13 September 2018)

- <https://www.birs.ca/events/2018/5-day-workshops/18w5078/videos/watch/201809131330-EllegaardAndersen.html>

Awarded an ERC Synergy Grant (October 2018)

- <https://sciencereport.dk/penge/aarhus-universitet-spidsen-eus-mest-prestigefulde-bevillinger/>
- <https://stiften.dk/navne/Matematikprofessor-lander-10-mio-euro-til-forskningsprojekt/artikel/540842>
- <https://newsbreak.dk/presse/prm-matematikprofessor-paa-aarhus-universitet-lander-10-mio-euro-til-forskningsprojekt/>
- <https://via.ritzau.dk/pressemeddelelse/matematikprofessor-pa-aarhus-universitet-lander-10-mio-euro-til-forskningsprojekt?publisherId=12670538&releaseId=13562875>
- <http://www.industrie-mag.com/article18762.html>
- <http://www.twipu.com/AarhusUni/tweet/1055063029354770432>
- <http://www.twipu.com/AnneNcp/tweet/1057601132103634946>
- <https://id-id.facebook.com/UniAarhus/app/298792973507623>
- <https://www.kamikposten.gl/2018/10/23/matematikprofessor-paa-aarhus-universitet-lander-10-mio-euro-til-forskningsprojekt/>
- <https://ufm.dk/forskning-og-innovation/tilskud-til-forskning-og-innovation/eu-og-internationale-programmer/horizon-2020/nyheder-om-horizon-2020/135-millioner-kroner-til-to-danske-forskere-fra-det-europaeiske-forskningsraadff45c4b2c120435f971d935dd4a23a9a>
- <https://www.altinget.dk/rssitem.aspx?id=1360774>
- <https://videnskab.dk/teknologi-innovation/danske-forskere-faar-135-millioner-fra-det-europaeiske-forskningsraad>
- <https://www.magisterbladet.dk/news/2018/november/matematikprofessormodtagermillioner-radeteuropaeiskeforskningsraad>

Interview on primetime National Danish television "Aftenshowet" (7 August 2019)

- <http://qgm.au.dk/news/show/artikel/joergen-ellegaard-andersen-on-primetime-national-tv/>
- <https://www.facebook.com/Aftenshowet/posts/2288461701469035>

•<https://www.dr.dk/tv/se/aftenshowet-9/aftenshowet-11/aftenshowet-2019-08-07>

Move to University of Southern Denmark by 1 November 2019

•SDU picks world-famous leading professor to head SDU Centre for Quantum Mathematics, sdu.dk, 01.11.2019:

https://www.sdu.dk/en/om_sdu/institutter_centre/qm/newcentreforquantummathematics

•Video, YouTube, 01.11.2019:

<https://www.youtube.com/watch?v=fO1dBt4mq9c&feature=youtu.be>

Teaching Philosophy

The most important tool I use in my teaching is to show real enthusiasm for the topic I am teaching. At the same time I make sure to teach at the correct level of understanding of the students in the class.

The subject which I teach, Mathematics, is not possible to learn by heart or by repetition, it has to be grasped and understood by each student. This requires each student to have a genuine interest and /or put in a serious effort to do so. The enthusiasm displayed by the teacher can therefore not be overestimated, but of course this has to be a true and heartfelt enthusiasm to have any effect.

There is a fine balance in the art of teaching mathematics as the richest knowledge is obtained when the students through their own efforts in working with the topic understand, but this approach entails a great risk of losing the lesser students on the way. Therefore there must be help at hand and the support of a teacher.

My preferred way of conducting a lecture is at the black board, going through mathematical proofs step by step, asking for student input at various stages of the process - letting them ponder what could be a good idea at a given point in a proof. This requires a good and genuine contact with the class and this is only possible if the students feel safe and appreciated in class. This is something which you as teacher must build up via an openness and willingness to involve all and answer many questions and thereby providing a continuous involvement of the students.