CURRICULUM VITAE

Lars Andersson

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PERSONAL

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EXPERIENCE

Professor, University of Potsdam	2014-
Professor, Albert-Einstein-Institut, Potsdam	2005-
Professor, University of Miami, Coral Gables	2003-2009
Associate Professor, University of Miami, Coral Gables	2001-2003
Professor, Royal Institute of Technology, Stockholm	2001-2003
Associate Professor, Royal Institute of Technology	1987-2001
NFR research position, Dept. math. Stockholm University	1986-87
Swedish Inst. of Applied Math. (ITM) research position	1986-87
University of California, Berkeley, NFR Post. Doc.	1984–1986
University of Umeå, Sweden, Mathematics Ph. D.	1984

Visiting professor positions:

Visiting Professor, IHP, Paris	Fall, 2015
Wallenberg Visiting Professor, R.I.T., Stockholm	2014-2015
Visiting Professor, Harvard University, Cambridge	Spring, 2011
Visiting professor, University of California, San Diego	Spring, 1998
Visiting professor, University of California, San Diego	Spring, 1997
Visiting professor, Yale University	Fall, 1996
Visiting professor, University of South Carolina, Columbia	Spring, 1991

Longterm research visits

Senior Research Professor, MSRI	Fall 2013
Visiting Member, MSC, Tsinghua University	April-May 2012
Visiting Member, MSC, Tsinghua University	Oct-Nov 2011
Visiting Member, Mittag-Leffler Institute, Stockholm	Fall 2008
Visiting Member, Albert Einstein Insitute, Potsdam,	Fall, 1997

Honors and Awards:

1996 Fulbright Fellowship
1994 Crafoord Foundation award, differential geometry

Professional and Honorary Organizations:
Lifetime member of the Society on General Relativity and Gravitation

RESEARCH FUNDING

My current position at the Albert Einstein Institute is a pure research position.

2014 Knut and Alice Wallenberg foundation grant, SEK 1,592,000 awarded to fund a visiting professorship for me at R.I.T., Stockholm.

2007-2010 NSF support (3 year grant for the project "Geometry, Analysis and General Relativity"), P.I. Lars Andersson, award amount $168,001

2004-2007 NSF support (3 year grant for the project "The Cauchy problem for the Einstein equations"), P.I. Lars Andersson, award amount $138,067

2001–2004 NSF support (3 year grant for the project "Global existence problems for the Einstein equations"), P.I. Lars Andersson, award amount $99,387

2001-2004. VR support (Swedish Research Council), (3 year grant for the project "Global existence problem for the Einstein equations"), P.I. Lars Andersson

1991–2000. NFR support (Swedish Natural Sciences Research Council), a succession of 3-year grants.

1987-1991. NFR support 100% "Research Assistant".

1986-1987 NFR 50%, ITM (Swedish Institute for Applied Mathematics) 50%

I am P.I. on all the above listed grants. The Swedish NFR (Natural Sciences Research Council) and VR (Science Council, the successor to the NFR) support pays 50% of the salary, and frees up the corresponding amount of time for research.

Miscellaneous grants, Co-PI

2007 Wenner-Gren Foundations, grant for the conference "Geometry and Analysis", Co-PI with Hans Ringström
2007 Swedish Resarch Council, grant for the conference "Geometry and Analysis", Co-PI with Hans Ringström
2004 NSF, grant for the conference Miami Waves, co-PI with Greg Galloway

PUBLICATIONS

Articles in refereed Journals:

1. *Andersson, L., "Best Approximations from Hilbert Submanifolds," J. Approx. Theory, 1985.*
2. *Andersson, L., "The Bonnet-Myers Theorem is True for Riemannian Hilbert Manifolds," Math. Scand., vol. 58, pp. 236-238, 1986.*
3. *Andersson, L., "Prequantization of Infinite Dimensional Dynamical Systems," J. Funct. Anal., vol. 75, pp. 58-91, 1987.*
4. *Andersson, L., "Momenta and Reduction for General Relativity," J, Geom. Phys., vol. 4, pp. 289-314, 1987.*
5. *Andersson, L., "Invariant Lagrangian Subspaces," Proc. A.M.S., vol. 103, pp. 1113-1119, 1988.*
6. *Andersson, L., "On the Space of Asymptotically Euclidean Metrics," Compositio Mathematica, vol. 69, pp. 61-81, 1989.*
7. *Andersson, L., Chrusciel, P. and Friedrich, H. "On the regularity of solutions to the Yamabe Equation and the existence of smooth hyperboloidal initial data for Einsteins equations", Comm. Math. Phys., vol. 149, pp. 587-612, 1992.*
8. *Andersson, L., Chrusciel, P. "On 'hyperboloidal' Cauchy data for vacuum Einsteins Equations and obstructions to smoothness of 'null infinity' ", Phys. Rev. Letters, vol. 70, pp. 2829-2832, May 1993. gr-qc/9304019*
9. *Andersson, L., "Elliptic Systems on manifolds with Asymptotically Negative Curvature", Indiana U. Math. J., vol. 42, pp. 1359–1388, 1993.*
10. *Andersson, L., Chrusciel, P. "On 'hyperboloidal' Cauchy data for vacuum Einstein equations and obstructions to smoothness of Scri", Comm. Math. Phys., vol. 161, pp. 533–568, 1994.*
11. *Andersson, L., Chrusciel, P. "On the Asymptotic Behaviour of Solutions of Constraint equations in general relativity satisfying hyperboloidal boundary conditions", Dissertationes Mathematicae, vol. 355, 1996.*
12. *Ingri, N., Andersson, I., Petterson, L., Yagasaki, A., Andersson, L., Holmström, K., "LAKE – A program system for equilibrium analytical treatment of multimethod data, especially combined potentiometric and NMR data", Acta Chem. Scand, vol. 50, pp. 717–734, 1996.*
13. *Andersson, L., Dahl, M., Howard, R., "Boundary and Lens Rigidity of Lorentzian Surfaces", Tr. A.M.S., vol. 348, pp. 2307–2329, 1996.*
14. *Andersson, L., Moncrief, V., Tromba, A. J., "On the global evolution problem in 2+1 gravity", J. Geom. Phys., vol. 23, pp. 191–205, 1997*
15. *Andersson, L., Dahl, M., "Scalar Curvature Rigidity for asymptotically locally hyperbolic manifolds", Ann. Glob. Anal. Geom., vol.16, pp. 1-27, 1998.*
16. *Andersson, L., Galloway, G. J., Howard, R., "A Strong Maximum Principle for Weak Solutions of Quasi-Linear Elliptic Equations with Applications to Lorentzian Geometry". Comm. Pure and Appl. Math., vol. 51, pp. 581–624, 1998.*
17. *Andersson, L., Galloway, G. J., Howard, R., "The Cosmological Time Function". Class. Quant. Grav. vol. 15, pp. 309–322, 1998.*
18. *Andersson, L., Howard, R., "Comparison and Rigidity Theorems for Riemannian and semi-Riemannian manifolds", Comm. Anal. Geom. vol. 6, pp. 819–877, 1998.*
19. *Andersson, L., Driver, B., "Finite dimensional approximations to Wiener measure and path integral formulas on manifolds", J. Funct. Anal. vol. 165, pp. 430–498, 1999.*
20. *Andersson, L., Iriondo, M., "Existence of Hypersurfaces of Constant Mean Curvature in Asymptotically Flat Spacetimes", Ann. Glob. Anal. Geom. vol. 17, pp. 503–538, 1999.*
21. *Andersson, L., Rendall, Alan D. "Quiescent cosmological singularities", Comm. Math. Phys. vol. 288, pp 479-511, 2001.*
22. *Andersson, L. "Constant mean curvature foliations of flat space—times", Comm. Anal. Geom. vol. 10, pp. 1094-1115, 2002.*
23. *Andersson, L., Galloway, G. "dS/CFT and spacetime topology", Adv. Theor. Math. Phys. Vol. 6, pp. 307-328, 2002.*

24. *Andersson, L., Moncrief, V. "Elliptic-hyperbolic systems and the Einstein equations", Ann. Henri Poincaré, vol. 4, pp. 1-34, 2003.*
25. *Andersson, L., Uggla, C., van Elst, H., "Gowdy phenomenology in scalefree variables", in "Spacetime Safari: Essays in Honor of Vincent Moncrief on the Classical Physics of Strong Gravitational Fields", special issue of Classical and Quantum Gravity, eds. J. Isenberg and B. Berger; Class. Quant. Grav. vol. 21, pp. S29-S57, 2004.*
26. *Andersson, L., "Bel-Robinson energy and constant mean curvature foliations", Ann. Henri Poincaré. vol. 5, no. 2, pp. 235-244, 2004.*
27. *Andersson, L., Lim, W.-C., Uggla, C., van Elst, H. "Asymptotic silence of generic cosmological singularities", Phys. Rev. Lett. 94 (2005) 051101.*
28. *Andersson, L., Mars, M., Simon, W., "Local existence of dynamical and trapping horizons", Phys. Rev. Lett. 95, 111102 (2005).*
29. *Andersson, L. "Constant mean curvature foliations of simplicial spacetimes", Comm. Anal. Geom. 13 (2005), pp. 1-17.*
30. *Andersson, L. "On the relation between mathematical and numerical relativity", Class.Quant.Grav. 23 (2006) S307-S318. Invited contribution to special issue on Numerical Relativity.*
31. *Allen, P., Andersson, L., Isenberg, J., "Timelike minimal submanifolds of general co-dimension in Minkowski spacetime", Journal of Hyperbolic Differential Equations. 3 (2006), 691-700.*
32. *Andersson, L., Heinzle, M. "Eternal acceleration from M-theory", Advances in Theoretical and Mathematical Physics 11(2007), 371-398.*
33. *Andersson, L., Barbot, T., Benedetti, R., Bonsante, F., Goldman, W., Labourie, F., Schlenker, J.-M. "Notes on a paper of Mess", Geometriae Dedicata 126 (2007), 47-70.*
34. *Andersson, L., Beig, R., Schmidt, B. "Static self-gravitating elastic bodies in Einstein gravity", Communications in Pure and Applied Mathematics, 61 (2008), 988-1023.*
35. *Andersson, L., Cai, M., Galloway, G. "Rigidity and positivity of mass for asymptotically hyperbolic manifolds", Annales Henri Poincaré, 9 (2008), 1-33.*
36. *Andersson, L., Mars, M., Simon, W. "Stability of marginally trapped surfaces and existence of marginally outer trapped tubes", Advances in Theoretical and Mathematical Physics, 12 (2008), 853-888.*
37. *Andersson, L., "Report on GRG18, Session A3: Mathematical Studies of the field equations", Classical and Quantum Gravity, 25 (2008) 114016.*
38. *Andersson, L., Bolejko, K. "Apparent and average acceleration of the Universe", Journal of Cosmology and Astroparticle Physics, 10 (2008) 003.*
39. *Andersson, L., Metzger, J. "The area of horizons and the trapped region", Comm. Math. Phys., 290 (2009), 941-972.*
40. *Andersson, L., Mars, M., Metzger, J., Simon, W. "The time evolution of marginally trapped surfaces", Classical and Quantum Gravity, 26 (2009) 085018.*
41. *Andersson, L., Garfinkle, D., Lim, W.-C., Pretorius, F., "Spikes in the mixmaster regime of G2 cosmologies", Phys. Rev. D., 79 (2009), 123526.*
42. *Andersson, L., Schmidt, B. "Static self-gravitating many-body systems in Einstein gravity", Classical and Quantum Gravity. Class.Quant.Grav., 26 (2009), 165007.*
43. *Andersson, L., Beig, R., Schmidt, B. "Rotating elastic bodies in Einstein gravity", Communications in Pure and Applied Mathematics, 63 (2010), 559-589.*
44. *Andersson, L., Metzger, J. "Curvature estimates for stable marginally trapped surfaces", Journal of Differential Geometry 84 (2010), 231-265.*
45. *Andersson, L., Aksteiner, S. "Linearized gravity and gauge conditions",* Class. Quant. Grav., *28 (2010) 065001.*
46. *Allen, P., Andersson L., Restuccia, A., "Local well-posedness for membranes in the light cone gauge", Comm. Math. Phys. 301 (2011), 383-410.*
47. *Andersson, L., Moncrief, V. "Einstein spaces as attractors for the Einstein flow", Journal of Differential Geometry 89 (2011), 1-47.*

48. *Andersson, L., Coley, A. "EDITORIAL: Inhomogeneous cosmological models and averaging in cosmology: overview Inhomogeneous cosmological models and averaging in cosmology: overview", Classical and Quantum Gravity 28 (2011) 160301*
49. *Andersson, L., Oliynyk, T., Schmidt, B. "Dynamical elastic bodies in Newtonian gravity", Classical and Quantum Gravity 28 (2011) 235006.*
50. *Andersson, L., Blue, P., Nicholas, J.-P. "A decay estimate for a wave equation with trapping and a complex potential", International Mathematics Research Notices 2013 (2013) 548-561.*
51. *Andersson, L., Barbot, T., Beguin, F., Zeghib, A. "Cosmological time versus CMC time in spacetimes of constant curvature". Asian Journal of Mathematics 16 (2012), 37-88.*
52. *Aksteiner, S., Andersson, L. "Charges for linearized gravity", Classical and Quantum Gravity 30, (2013) 155016.*
53. *Andersson, L., Oliynyk, T. "A transmission problem for quasi-linear wave equations", Journal of Differential Equations 256 (2014) 2023-2078*
54. *Andersson, L., Bäckdahl, T., Joudieaux, J. "Hertz potentials and asymptotic properties of massless fields", Comm. Math. Phys., June 2014,* doi: *10.1007/s00220-014-2078-x*
55. *Andersson, L., Bäckdahl, T., Blue, P. "Second order symmetry operators", Class. Quantum Grav. 31 (2014) 135015.*
56. *Andersson, L., Beig, R., Schmidt, B. "Elastic deformations of compact stars", Class. Quantum Grav. Class. 31 (2014) 185006.*
57. *Andersson, L., Blue, P. "Hidden symmetries and decay for the wave equation on the Kerr spacetime", Annals of Mathematics 182 (2015) 787-853.*
58. *Mösta, P., Andersson, L., Metzger, J., Szilagyi, B., Winicour, J. "The Merger of Small and Large Black Holes", Class. Quant. Grav. 32 (2015) 235003.*
59. *Andersson, L., Blue, P., "Uniform energy bound and asymptotics for the Maxwell field on a slowly rotating Kerr black hole exterior", J. Hyperbolic Differ. Equ. Vol. 12, No. 4 (2015) 1-55.*
60. *Andersson, L., Oliynyk, T., Schmidt, B. "Dynamical compact elastic bodies in general relativity'', Archive for Rational Mechanics and Analysis 220 (2015) 849-887.*
61. *T. Buchert, M. Carfora, G.F.R. Ellis, E.W. Kolb, M.A.H. MacCallum, J.J. Ostrowski, S. Räsänen, B.F. Roukema, L. Andersson, A.A. Coley, D.L. Wiltshire "Is there proof that backreaction of inhomogeneities is irrelevant in cosmology?", Class. Quantum Grav. 32 (2015) 215021*
62. *Andersson, L., Bäckdahl, T., Blue, P. "Decay of solutions to the Maxwell equation on the Schwarzschild background", Class. Quant. Grav. 33 (2016) 085010*
63. *Andersson, L., Gudapati, N., Szeftel, J. "Global Regularity for the 2+1 Dimensional Equivariant Einstein-Wave Map System", Annals of P.D.E. (2017) 3: 13*
64. *Andersson, L., Bäckdahl, T., Blue, P. "A new tensorial conservation law for Maxwell fields on the Kerr background", J. Differential Geom. 105 (2017), no. 2, 163-176*
65. *Andersson, L., Ma, S., Paganini, C., Whiting, B. F. "Mode stability on the real axis", J. Math. Phys. 58 (2017), 072501*
66. *Andersson, L., Blue, P., Joudioux, J. "Hidden symmetries and decay for the Vlasov equation on the Kerr spacetime", Comm. PDE 43 (2018) 47-65*
67. *Andersson, L., Dahl, M., Galloway, G., Pollack, D. "On the geometry and topology of initial data sets with horizons", Asian J. Math. 22 (2018), no. 5, 863-881.*
68. *Andersson, L., Burtscher, A.Y. "On the Asymptotic Behavior of Static Perfect Fluids", Ann. Henri Poincaré 20 (2019), 813 - 857.*
69. *Aksteiner, S., Andersson, L., Bäckdahl, T. "New identities for linearized gravity on the Kerr spacetime", Phys. Rev. D. 99 (2019), 044043.*
70. *Andersson, L., Blue, P., Wang, J. "Morawetz estimate for linearized gravity in Schwarzschild", Ann. Henri Poincaré 21 (2020), 761-813*
71. *Aghapour, S., Andersson, L., Rosquist, K. "The zilch electromagnetic conservation law revisited", J. Math. Phys. 61 (2020), 122902*
72. *Andersson, L., Fajman, D. "Nonlinear stability of the Milne model with matter", Comm. Math. Phys. 378 (2020), 261-298*

73. *Aghapour, S., Andersson, L., Rosquist, K. "The Zilch Electromagnetic Conservation Law in Variational Characteristic Form", J. Math. Phys. 61 (2020), 122902*
74. *Oancea, M., Joudioux, J., Dodin, I., Ruiz, D., Paganini, C., Andersson, L. "Gravitational spin Hall effect of light", Phys. Rev. D 102 (2020), 024075*
75. *Andersson, L., Joudioux, J., Oancea, M., Raj, A. "Propagation of polarized gravitational waves", Phys. Rev. D 103 (2021), 044053*
76. *Aghapour, S., Andersson, L., Bhattacharyya, R. "Helicity and spin conservation in Maxwell theory and Linearized Gravity", General Relativity and Gravitation 53 (2021) 102*
77. *Aghapour, S., Andersson, L., Rosquist, K. "Helicity, spin, and infra-zilch of light: A Lorentz covariant formulation", Ann. Phys. 431 (2021), 168535*
78. *Andersson, L., László, A., Ruba, B. "Nilpotent symmetries as a mechanism for Grand Unification", J. High Energy Phys. (2021), 240*
79. *Aksteiner, S., Andersson, L., Bäckdahl, T., Khavkine, I., Whiting, B. "Compatibility complex for black hole spacetimes", Comm. Math. Phys. 384 (2021), 1585-1614*
80. *Aksteiner, S., Andersson, L., Araneda, B., Whiting, B. "On the geometry of Petrov type II spacetimes", Classical and Quantum Gravity 38 (2021), 135023*

Papers accepted for publication:

Submitted papers:

1. *Andersson, L., Bäckdahl, T., Blue, P., Ma, S. "Stability for linearized gravity on the Kerr spacetime", submitted to Annals of Mathematics, arXiv:1903.03859*
2. *Andersson, L., Blue, P., Wyatt, Z., Yau, S.-T. "Global stability of spacetimes with supersymmetric compactifications",* submitted to *Analysis and PDE, arXiv:2006.00824*
3. *Zhang, H., Andersson, L. "On the rough solutions of 3D compressible Euler equations: an alternative proof",* submitted to *Archive for Rational Mechanics and Analysis, arXiv:2104.12299*
4. *Andersson, L., Bäckdahl, T., Blue, P., Ma, S. "Nonlinear radiation gauge for near Kerr spacetimes",* submitted to *Comm. Math. Phys., arXiv:2108.03148*
5. *Andersson, L., Kapitanski, L. "Cauchy Problem for Incompressible Neo-Hookean materials",* submitted to *Archive for Rational Mechanics and AnalysisarXiv:2111.03955*
6. *Aksteiner, S., Andersson, L. "Gravitational Instantons and special geometry",* submitted to *Journal of Differential Geometry, arXiv:2112.11863*

Preprints:

1. *Shah, A., Whiting, B., Aksteiner, S., Andersson, L., Bäckdahl, T. "Gauge-invariant perturbations of Schwarzschild spacetime", arXiv:1611.08291*
2. *Oancea, M., Paganini, C., Joudioux, J., Andersson, L. "An overview of the gravitational spin Hall effect" arXiv:1904.09963*

Invited Contributions to Proceedings Volumes (refereed):

1. *Andersson, L., "Momenta and Reduction for General Relativity II: The Level Sets", in Proceedings of the Miniconference on Mathematical Relativity, Canberra, 1988, ed. R. Bartnik.*
2. *Andersson, L., "Functional Integration and Geometric Quantization", in "Stochastic Analysis, Dynamics and Path Integration", eds J.-C. Zambrini and K.D. Elworthy, Pitman Res. Notes in Math., vol. 200., 1988*
3. *Andersson, L. and Peters, G. "Geometric Quantization on Wiener Manifolds", in "Stochastic Analysis and Applications", Progress in Probability, vol. 26, eds. A.-B. Cruzeiro and J.-C. Zambrini, Birkhauser, 1991.*
4. *Andersson, L. "Quiescent cosmological singularities", in Proceedings of XIII International Congress on Mathematical Physics. (London, 2000), Int. Press, Boston, MA, 2001, pp. 251--256.*

5. *Andersson, L. "Construction of hyperboloidal initial data", in proceedings of the conference on The Conformal Structure of Space--Times, Tubingen, 2001, edited by Jörg Frauendiener and Helmut Friedrich. Lect.Notes Phys. 604 (2002), pp. 183—194.*
6. *Andersson, L., Moncrief, V. "Future complete vacuum spacetimes", in "50 years of the Cauchy problem in General Relativity", eds. Chrusciel and Friedrich, Birkhauser, Basel, 2004, pp. 299-330.*
7. *Andersson, L. "On the global existence problem in General Relativity", in "50 years of the Cauchy problem in General Relativity", eds. Chrusciel and Friedrich, Birkhauser, Basel, 2004, pp. 71-120.*
8. *Andersson, L., Eichmair, M., Metzger, J. "Jang's equation and its applications to marginally trapped surfaces", Proceedings of CADS IV, pp. 13-46, edited by M. Agranowsky et al., Contemporary Mathematics vol. 554, AMS, Providence, R.I. 2011.*
9. *Lim, W. C., Andersson, L., Garfinkle, D., Pretorius, F. "Spiky mixmaster dynamics", Proceedings of the Twelfth Marcel Grossmann Meeting on General Relativity, edited by Thibault Damour, Robert T. Jantzen and Remo Ruffini., Singapore: World Scientific, 2012, p.1362*
10. *Andersson, L. "Cosmological models and stability". J. Bičák, T. Ledvinka (eds.), General relativity, cosmology and astrophysics. Perspectives 100 years after Einstein's stay in Prague. Fundamental Theories of Physics, vol. 177, Springer 2014, pp. 277-303.*
11. *Andersson, L. "Self-gravitating elastic bodies", D. Puetzfeld et al. (eds.), Equations of Motion in Relativistic Gravity, Fundamental Theories of Physics 179, Springer, 2015, pp. 543-559*
12. *Andersson, L., Bäckdahl, T., Blue, P. "Spin geometry and conservation laws in the Kerr spacetime", L. Bieri, S.-T. Yau (eds) One hundred years of general relativity, Surveys in Differential Geometry, vol. 20, 2015, pp. 183-226*
13. *Andersson, L., Bäckdahl, T., Blue, P. "Geometry of black hole spacetimes", in "Asymptotic Analysis in General Relativity", edited by T. Daudé, D. H´afner, J.-P. Nicolas, LMS Lecture Note Series, vol. 443 (2017) 9-85.*
14. *Andersson, L., Bär, C. "Wave and Dirac equations on manifolds", Space-time-matter. Analytic and geometric structures. Brüning, J., Staudacher, M. (eds.) De Gruyter, Berlin (2018) 324-348.*

Encyclopedia articles:

1. *Andersson, L. "Mathematical Physics", invited article for the Swedish National Encyclopedia*
2. *Andersson, L., "Geometric analysis and general relativity", invited article for the Encyclopedia of Mathematical Physics, Elsevier, 2006, pp. 502-509.*

Invited Contributions to Proceedings Volumes and Edited Collections:

1. *Andersson, L., Jawerth, B., Mitrea, M. "The Cauchy Singular Integral Operator and Clifford Wavelets", in Wavelets--Mathematics and applications in Wavelets–Mathematics and applications, J. J. Benedetto, M. W. Frazier (eds.) CRC Press, 1994, pp. 525-546.*
2. *Andersson, L., Hall, N., Jawerth, B., Peters, G. "Wavelets on Closed Subsets of the Real Line", in Recent Advances in Wavelet Analysis, L. L. Schumaker, G. Webb (eds.), Academic Press, 1994, pp. 1–61.*
3. *Andersson, L. "Report on GR16, Session A3: Mathematical Studies of the Field Equations", in Proceedings of the 16^{th} international conference of the society of general relativity and gravitation, Durban, 2001. (Eds.) N. T. Bishop and S. D. Maharaj, World Scientific, 2002, pp. 363-373.*
4. *Andersson, L. "The trapped region", in Proceedings of the Spanish Relativity Meeting, Salamanca, 2008. AIP Conf. Proc. 1122, 3 (2009)*
5. *Andersson, L. "Stability of doubly warped product spacetimes", in proceedings of ICMP XV 2006, New trends in Mathematical Physics, eg. V. Sidoravicius, Springer 2009, pp. 23-32*

Contributions to Proceedings Volumes

1. *Andersson, L., Holmström, K., and Ruhe, A., "Complex Formation Constants, a Challenging Data Fitting Problem from Solution Chemistry", in "Algorithms for Approximation", ed. Cox, M.G., Clarendon Press, Oxford, 1987*

2. *Andersson, L., "On the Space of Asymptotically Flat Solutions of Einstein's Equations," in Proceedings of the Fifth Marcel Grossmann Meeting, D.G. Blair and M.J. Buckingham, eds, World Scientific 1989*

Preprints:

1. *Andersson, L. and Holmström, K., "Algorithms for the computation of Formation Constants in Solution Chemistry", Report UMINF-140.88, 1988*
2. *Ingri, N., Andersson, I., Petterson, L., Yagasaki, A., Andersson, L., Holmström, K., "The LAKE program - General Feature, Multimethod Data Treatment, and a Case Study with Combined Potentiometric and NMR Data", Technical Report UMINORG--LAKE1--97, Department of Inorganic Chemistry, Umeå University, 1997.*
3. *Andersson, L. "On the global existence problem in 3+1 Gravity", Preprint IHES/M/00/18, gr-qc/0001047*

CONFERENCE ORGANIZATION

- *I organized special session A.3 on Mathematical Relativity at GR 16, Durban 2001*
- *I co-organized the Miami Waves conference, Jan. 4-10, 2004 and coedited the proceedings for that conference with Greg Galloway and Sergiu Klainerman, this appeared as a special issue of Journal of Hyperbolic Differential Equations, vol 2, no. 2, 2005.*
- *I organized session A3 on mathematical general relativity at GRG18, the 18^{th} international conference on General Relativity and Gravitation, Sydney, July 2007.*
- *I co-organized, with Mihalis Dafermos, Alan Rendall and Igor Rodnianski, a workshop on black holes, stability and singularities at the Albert Einstein Institute, Sept. 2007.*
- *I co-organized a term programme at the Mittag-Leffler Institute, Stockholm, Sweden, with Piotr Chrusciel, Oxford, Hans Ringström, R.I.T., and Richard Schoen, Stanford. The programme on Geometry, Analysis and General Relativity took place during the fall term, Sept. 1-Dec. 15, 2008.*
- *I co-organized an international conference "Geometry and analysis" at the Royal Institute of Technology, with Piotr Chrusciel, Oxford, Hans Ringström, R.I.T., Aug. 25-29, 2008.*
- *I co-organized an international conference "Space, Time and Beyond", at the AEI, with Piotr Chrusciel, Oxford, Gerhard Huisken, AEI, and Alan Rendall, AEI. Oct. 8-9, 2009.*
- *I co-organized with Mihalis Dafermos (Cambridge), Greg Galloway (UM) and Dan Pollack (UofW) a conference on Geometric Analysis and General Relativity at the BIRS, Canada, Jun. 20-25, 2010.*
- *I co-organized with Bobby Beig (Vienna), Mark Heinzle (Vienna), Sascha Husa (University of the Balearic Islands) a workshop on Dynamics of General Relativity at ESI, Vienna, July 4-Sept 2, 2011.*
- *I co-organized with Bobby Beig (Vienna), Mark Heinzle (Vienna), Sascha Husa (University of the Balearic Islands) a workshop on Dynamics of General Relativity at ESI, Vienna, Dec. 10-21, 2012.*
- *I co-organize with Helmut Friedrich, Piotr Bizon, and Piotr Chrusciel, the workshop series Central European Relativity seminar. While I have been co-organizer this has taken place 2012 (AEI, Potsdam), 2013 (Jagellonian University, Krakow), 2014 (ESI, Vienna), 2015 (Academy of Sciences, Budapest), 2016 (Charles University, Prague), 2017 (Bremen University)*
- *I have organized the "Jürgen Ehlers Spring School on Gravitational Physics" at the Albert Einstein Institute, Potsdam, 2010-2016. I have taught in the Spring School 2007 (Cosmology), 2013 (Cosmology), 2016 (Black holes).*
- *I co-organized with Philippe LeFloch and Sergiu Klainerman a trimestre on Mathematical General Relativity at the Insitute Henri Poincare, Paris, fall 2015.*
- *I was a member of the international scientific committee for the General Relativity and Gravitation conference, New York 2016*
- *I will co-organize with Mattias Dahl, Philippe LeFloch, and Rick Schoen a programme on geometry, analysis and general relativity at Institut Mittag-Leffler, fall 2019.*

EDITORIAL RESPONSIBILITIES

- *Member of the editorial board of General Relativity and Gravitation*
- *Member of the editorial board of Journal of Hyperbolic Differential Equations*
- *Member of the editorial board of Classical and Quantum Gravity 2009-2016*
- *Refereeing for many journals including Annals of Mathematics, Inventiones Mathematicae, Acta Mathematica, American Journal of Mathematics, Advances in Mathematics, International Mathematics Research Letters, Advances in Theoretical and Mathematical Physics, Annales Henri Poincaré, Classical and Quantum Gravity, Communications in Analysis and Geometry, Communications in Mathematical Physics, Communications on Pure and Applied Mathematics, Duke Mathematical Journal, Geometry and Functional Analysis, Journal of Differential Geometry, Journal of High Energy Physics, Journal of Mathematical Physics, Nuclear Physics B., Physics Letters A., Transactions of the American Mathematical Society.*
- *Reviewing for AMS Mathematical Reviews.*
- *Referee for funding proposals for governmental funding agencies, including National Science Foundation, USA; Swedish Research Council; German Research Foundation; French National Research Agency; Royal Academy of Sciences, Sweden; Austrian Science Fund; European Research Council; National Science Center, Poland*

LECTURES

Invited conference talks (partial list, last 5 years):

Mathematical General Relativity, IHP Paris	*2018*
Black Hole Initiative, first annual conference, Harvard University	*2017*
Geometric Flows and the Geometry of Spacetime, Hamburg	*2016*
Mathematical General Relativity, Sanya	*2016*
Modern Theory of Wave Equations, ESI, Vienna	*2015*
Asymptotic Analysis in General Relativity, Grenoble	*2014*
Asymptotic Analysis in General Relativity, summer school mini course, Grenoble	*2014*
Nonlinear Wave Equations and General Relativity, Oxford	*2014*
Taiwan International Conference on Geometry, Taipei	*2013*
Geometry and Physics, IHP, Paris	*2013*
Mathematical General Relativity, MSRI, Berkeley	*2013*
Geometric Analysis, PCMI, Park City	*2013*
Nonlinear wave equations, IHP, Paris	*2013*
Equations of motion in relativistic gravity, Bad Honnef	*2013*
Relativity and Gravitation, 100 years after Einstein in Prague	*2012*
Einstein spacetimes with symmetry, Paris VI	*2012*

Seminar talks (partial list, last 5 years)

Oxford University	*2021*
Harvard University	*2020*
Institut Fourier	*2019*
Hamburg University	*2019*
ITP, Leipzig, October	*2016*
CPT, Marseilles, May	*2016*
KTH, Stockholm, April	*2016*
Tsinghua University, January	*2016*
IHP, Paris, October	*2015*
KTH, Stockholm, March	*2015*
UCSC, Santa Cruz, September	*2013*
University of Miami	*2013*
Paris VII	*2013*
Oxford University, geometry	*2013*
Oxford University, PDE seminar	*2013*
Oxford University	*2012*
Chinese Academy of Sciences	*2012*

TEACHING

I have taught at elementary and graduate level at many institutions including Royal Institute of Technology, University of South Carolina, Columbia, Yale University, University of California, San Diego, University of Miami, Harvard University and Tsinghua University.
These courses include

- *at elementary level:*
  Single variable calculus, Multivariate calculus, Vector Calculus, ODE theory, Transform theory, Linear algebra,
- *at intermediate and graduate level:*
  Classical Mechanics, Analysis, Complex Analysis, Advanced Calculus, Differential Geometry, Elementary differential geometry, Topology, General Relativity, Topics in General Relativity,

PHD, DIPLOMA AND MASTER STUDENTS/POST-DOCTORAL STUDENTS

Current students:

PhD: Gustav Nilsson

Former students:

Diploma and master: Steffen Aksteiner, Claudio Paganini, Johannes Mosig

PhD students:

Student Name	*Topic*	*Year of Ph. D.*	*Current Affiliation*
Gunnar Peters	*Stochastic Analysis*	*1993*	*Huawei*
Mirta Iriondo	*Relativity*	*1994*	*Conicet*
Mattias Dahl	*Differential Geometry*	*1999*	*KTH, Math.*
Hans Ringström	*Relativity*	*2000*	*KTH, Math.*
Nishanth Abu	*Relativity*	*2014*	*Yale U., Math.*
Steffen Aksteiner	*Relativity*	*2014*	*AEI*
Siyuan Ma	*PDE*	*2018*	*Sorbonne*
Claudio Paganini	*Relativity*	*2018*	*Regensburg*
Marius Oancea	*Relativity*	*2021*	*Vienna*

Post docs:

KTH: Erwann Delay

Albert Einstein Institute: Mark Heinzle, Jan Metzger, Nikodem Szpak, Paul Allen, Woei Chet Lim, Pieter Blue, Todd Oliynyk, Mikolaj Korzynski, Qian Wang, Jeremie Joudieux, Thomas Bäckdahl, Alexander Wiegand, Sari Ghanem, Jinhua Wang, Maciej Maliborsky, Steffen Aksteiner, Huali Zhang, Bernardo Araneda, Marius Oancea, Claudio Paganini