

PUBLICATIONS

a) Refereed Journal publications

1. T. Daudé, N. Kamran and F. Nicoleau, 2017, On the hidden mechanism behind non-uniqueness for the anisotropic Calderón problem with data on disjoint sets, submitted, 25 pages.
2. N. Kahouadji, N. Kamran and K. Tenenblat, 2017, k -th-order evolution equations and local isometric immersions of pseudo-spherical surfaces, submitted, 26 pages.
3. A. Enciso and N. Kamran, 2017, Lorentzian Einstein metrics with prescribed conformal infinity, *J. Differential Geometry*, in press, 72 pages.
4. T. Daudé, N. Kamran and F. Nicoleau, 2017, Non-uniqueness results for the anisotropic Calderon problem with data measured on disjoint sets, *Annales de l'Institut Fourier*, in press, 49 pages.
5. F. Finster and N. Kamran, 2017, Spinors on singular spaces and the topology of causal fermion systems, *Memoirs of the American Mathematical Society*, in press, 70 pages.
6. N. Kahouadji, N. Kamran and K. Tenenblat, 2016, Second-order equations and local isometric immersions of pseudo-spherical surfaces, *Comm. Anal. Geom.*, 23, pp. 605-643.
7. T. Castro-Silva and N. Kamran, 2016, Third order differential equations and local isometric immersions of pseudospherical surfaces, *Commun. Contemp. Math.*, 18, 1650021, 41 pages.
8. T. Daudé, N. Kamran and F. Nicoleau, 2015, Inverse scattering at fixed energy on asymptotically hyperbolic Liouville surfaces, *Inverse Problems*, 12, 125009, 37 pages.
9. A. Enciso and N. Kamran, 2015, A singular initial-boundary value problem for nonlinear wave equations and holography in asymptotically anti-de Sitter spaces, *J. Maths. Pures et Appliquées*, 103, pp. 1053-1091.
10. A. Enciso and N. Kamran, 2015, Determining an asymptotically AdS spacetime from data on its conformal boundary, *Gen. Rel. Grav.* 47, 147, 11 pages.
11. B. Clarke, D. Jakobson, N. Kamran, L. Silberman and J. Taylor, 2015, Gaussian measures on the space of Riemannian metrics, *Ann. Math. Qué.*, 2, pp. 129-145.
12. A. Farooqui, N. Kamran and P. Panangaden, 2014, An exact expression for photon polarization in Kerr geometry, *Adv. Theor. Math. Phys.*, 18, pp. 659-686 .
13. D. Gómez-Ullate, N. Kamran and R. Milson, 2013, A conjecture on exceptional orthogonal polynomials, *Found. Comput. Math.* 13, pp. 615-666.

14. A. Enciso and N. Kamran, 2012, Causality and the conformal boundary of AdS in real-time holography, *Physical Review D*, 85, 106016, 6 pages.
15. F. Cheng, K. Dasgupta, A. Enciso, N. Kamran, J. Seo, 2012, On the scalar spectrum of the $Y^{p,q}$ manifolds, *J. High Energy Physics*, 05, 009, 42 pages.
16. N. Kamran and T. Daudé, 2012, Local energy decay of massive Dirac fields in the 5D Myers-Perry metric, *Class. Quantum Grav.*, 29, 145007, 38 pages.
17. D. Gómez-Ullate, N. Kamran and R. Milson, 2012, Two-step Darboux transformations and exceptional Laguerre polynomials, *J. Math. Anal. Appl.*, 387, pp. 410-418.
18. A. Enciso and N. Kamran, 2011, Spinor Green's functions via spherical means on products of space forms, *J. Geom. Phys.*, 61, pp. 180-190.
19. A. Enciso and N. Kamran, 2010, Global causal propagator for the Klein-Gordon equation on a class of supersymmetric AdS backgrounds, *Adv. Theor. Math. Phys.*, 14, pp. 1183-1208.
20. D. Gómez-Ullate, N. Kamran and R. Milson, 2010, An extension of Bochner's problem: exceptional invariant subspaces, *J. Approx. Theory*, 162, pp. 987-1006.
21. F. Finster, N. Kamran, J. Smoller and S.-T. Yau, 2009, Linear Waves in the Kerr Geometry: A Mathematical Voyage to Black Hole Physics, *Bull. Amer. Math. Soc. (N.S.)*, 46, pp. 635-659.
22. A. Enciso and N. Kamran, 2009, Green's function for the Hodge Laplacian on some classes of Riemannian and Lorentzian symmetric spaces, *Commun. Math. Phys.*, 290, pp. 105-127.
23. F. Finster, N. Kamran, J. Smoller and S.-T. Yau, 2009, A rigorous treatment of energy extraction from a rotating black hole, *Commun. Math. Phys.*, 287, pp. 829-847.
24. N. Kamran, P.J. Olver and K. Tenenblat, 2009, Local symplectic invariants for curves, *Commun. Contemp. Math.*, 11, pp. 165-183.
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26. N. Barnaby and N. Kamran, 2008, Dynamics with infinitely many derivatives: variable coefficient equations, *J. High Energy Physics*, 12, pp. 1-26.
27. N. Barnaby and N. Kamran, 2008, Dynamics with infinitely many derivatives: the initial value problem, *J. High Energy Physics*, 02, pp. 1-39.
28. D. Gómez-Ullate, N. Kamran and R. Milson, 2007, Quasi-exact solvability in a general polynomial setting, *Inverse Problems*, 23, pp. 1915-1942.

29. D. Gómez-Ullate, N. Kamran and R. Milson, 2007, Structure theorems for linear and non-linear differential operators admitting invariant polynomial subspaces, *Discrete and Continuous Dynamical Systems, Series A*, 18, pp. 85-106.
30. F. Finster, N. Kamran, J. Smoller and S.-T. Yau, 2006, Decay of scalar waves in Kerr geometry, *Commun. Math. Phys.*, 264, pp. 465-503.
31. F. Finster, N. Kamran, J. Smoller and S.-T. Yau, 2005, An integral spectral representation of the propagator for the wave equation in Kerr geometry, *Commun. Math. Phys.*, 260, pp. 257-298
32. S. Frittelli, N. Kamran and E.T. Newman, 2005, Null surfaces and contact geometry, *J. Hyperbolic Diff. Eq.*, 2, pp. 481-496.
33. D. Gómez-Ullate, N. Kamran and R. Milson, 2005, Quasi-exact solvability and the direct approach to invariant subspaces, *J. Phys. A: Math. Gen.*, 38, pp. 2005-2019.
34. N. Kamran and T. Robart, 2004, An infinite-dimensional manifold structure for analytic Lie pseudogroups of infinite type, *International Mathematics Research Notices*, 34, pp 1761-1783.
35. D. Gómez-Ullate, N. Kamran and R. Milson, 2004, Supersymmetry and algebraic Darboux transformations, *J. Phys. A: Math. Gen.*, 37, pp. 10065-10078.
36. D. Gómez-Ullate, N. Kamran and R. Milson, 2004, The Darboux transformation and algebraic deformations of shape invariant potentials, *J. Phys. A: Math. Gen.*, 37, pp. 1789-1804.
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38. F. Finster, N. Kamran, J. Smoller and S.-T. Yau, 2003, The long-term dynamics of Dirac particles in the Kerr-Newman black hole geometry, *Adv. Theor. Math. Phys.*, 7, pp. 25-52.
39. N. Kamran, 2003, Some recent mathematical developments in general relativity, *C. R. Math. Rep. Acad. Sci. Canada*, 25, pp. 33-46.
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45. N. Kamran and T. Robart, 2000, On the parametrization problem of Lie pseudo-groups of infinite type, *Comptes Rendus Acad. Sci. (Paris)*, t. 331, Série I, pp. 899-903.
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47. N. Kamran and R. Milson, 1999, Algebraic exact solvability of trigonometric-type Hamiltonians associated to root systems, *J. Math. Phys.* 40, pp. 5004-5013.
48. A. González-López and N. Kamran, 1998, The multi-dimensional Darboux transformation, *J. Geometry and Physics*, 26, pp. 202-226.
49. F. Finkel and N. Kamran, 1998, The Lie-algebraic structure of differential operators admitting invariant polynomial subspaces, *Advances in Applied Mathematics*, 20, pp. 300-322.
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53. T. Robart et N. Kamran, 1997, Sur la théorie locale des pseudo-groupes infinis, *Mathematische Annalen*, 308, pp. 593-613,
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56. A. González-López, N. Kamran and P.J. Olver, 1996, Real Lie algebras of differential operators and quasi-exactly solvable potentials, *Phil. Trans. Roy. Soc. London A*, 354, pp. 1165-1193.
57. R.B. Gardner and N. Kamran, 1995, Normal forms and focal systems for determined systems of two first-order partial differential equations in the plane, *Indiana University Math. J.*, 44, pp. 1127-1162.
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64. A. González-López, J. Hurtubise, N. Kamran and P.J. Olver, 1993, Quantification de la cohomologie des algèbres de Lie de champs de vecteurs et fibrés endroites sur des surfaces complexes compactes, *Comptes Rendus Acad. Sci. (Paris)*, t. 316, Série I, pp. 1307-1312.
65. A. González-López, N. Kamran and P.J. Olver, 1993, Normalizability of 1-dimensional quasi-exactly solvable Schrödinger operators, *Commun. Math. Phys.*, 153, pp. 117-146.
66. A. González-López, N. Kamran and P.J. Olver, 1992, Lie algebras of differential operators in two complex variables, *American Journal of Mathematics*, 114, pp1163-1185.
67. J. Hurtubise and N. Kamran, 1992, Projective connections, double fibrations and formal neighbourhoods of lines , *Mathematische Annalen*, 292, pp383-409.
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b) Research monographs

103. N. Kamran, 2002, *Selected topics in the geometrical study of differential equations*, NSF-CBMS Regional Conference Series in Mathematics Vol. 96, American Mathematical Society, Providence, 134 pages.
104. N. Kamran, 1989, *Contributions to the study of the equivalence problem of Elie Cartan and its applications to partial and ordinary differential equations*, Mémoires de la Classe des Sciences de l'Académie Royale de Belgique, t. 45, Fasc. 7, 120 pages (winner of a prize awarded by the Royal Academy of Sciences of Belgium).

c) Articles in refereed conference proceedings

105. T. Daudé, N. Kamran and F. Nicoleau, 2017, A survey of non-uniqueness results for the anisotropic Calderon problem with disjoint data, submitted, 21 pages.
106. N. Kahouadji, N. Kamran and K. Tenenblat, 2015, Local isometric immersions of pseudo-spherical surfaces and evolution equations, in *Hamiltonian PDEs and applications*, ed. P. Guyenne, D. Nicholls and C. Sulem, Fields Institute Communications, Springer-Verlag, in press.
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108. D. Gómez-Ullate, N. Kamran and R. Milson, 2010, Exceptional orthogonal polynomials and the Darboux transformation, in *Current trends in integrability and nonlinear phenomena*, published as a special issue of *J. Phys. A*, 43, 434016, 16 pp.
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d) Chapters in books

130. N. Kamran, 2008, Exterior differential systems, in *Handbook of Global Analysis* ed. D. Krupka and D. Saunders, Elsevier, Amsterdam, pp. 107-145.
131. N. Kamran, 2006, Transitive analytic Lie pseudogroups, in *Inspired by S.S. Chern, a memorial volume in honor of a great mathematician*, ed. P.A. Griffiths, Nankai Tracts in Mathematics, Vol. 11, World Scientific, Singapore, pp. 297-313.
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