

Name Jürgen Berndt  
Date of birth October 10th, 1959  
Place of birth Wolfenbüttel, Germany  
Nationality German

## Further/Higher Education

10/80 - 02/89 Study of mathematics and economics, University of Cologne, Germany  
07/79 - 09/80 Military service  
04/66 - 05/79 School education in Bergisch Gladbach, Germany

## Qualifications

05/95 Habilitation, University of Cologne, Germany  
02/89 Dr.rer.nat., University of Cologne, Germany  
02/87 Diploma in mathematics, University of Cologne, Germany  
05/79 Abitur (German high school degree), Nicolaus-Cusanus-Gymnasium,  
Bergisch Gladbach, Germany

## Present employment

from 04/09 Professor of Mathematics, King's College London, England

## Previous employment

06/04 - 04/09 Professor of Mathematics, University College Cork, Ireland  
08/02 - 05/04 Reader, University of Hull, England  
10/98 - 07/02 Senior Lecturer, University of Hull, England  
09/97 - 09/98 Lecturer, University of Hull, England  
09/90 - 06/97 Assistant, University of Cologne, Germany  
10/83 - 08/89 Scientific Assistant, University of Cologne, Germany

## Appointments

from 08/09 Head of Department of Mathematics, King's College London, England  
06/04 - 03/09 Head of Department of Mathematics, University College Cork, Ireland  
04/04 Visiting Researcher, IHES, Bures-sur-Yvette, France  
09/02 - 03/03 Part-time Lecturer, Sophia University, Tokyo, Japan  
07/00 Visiting Researcher, Tokyo Metropolitan University, Japan  
07/97 - 09/97 Visiting Researcher, Keio University, Tokyo, Japan  
08/96 Professor, National University of Córdoba, Argentina  
07/96 Visiting Researcher, IMPA, Rio de Janeiro, Brazil  
07/95 - 09/95 Visiting Researcher, Tokyo Institute of Technology, Japan  
09/89 - 08/90 Visiting Researcher, Michigan State University, East Lansing, USA

## Awards

1998 Nuffield Foundation, Award for Newly Appointed Lecturers, 3.500 £  
1989 NATO, postdoctoral research fellowship, 1 year

## Research

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### Books

1. *Submanifolds and holonomy* (with S. Console and C. Olmos), Chapman & Hall/CRC Research Notes in Mathematics 434, Chapman & Hall/CRC, Boca Raton, FL, 2003, x+336 pp. ISBN: 1-58488-371-5.
2. *Generalized Heisenberg groups and Damek-Ricci harmonic spaces* (with F. Tricerri and L. Vanhecke), Lecture Notes in Mathematics 1598, Springer-Verlag, Berlin, 1995, viii+125 pp. ISBN: 3-540-59001-3.

### Research articles

1. Polar actions on the complex hyperbolic plane (with J.C. Díaz-Ramos), preprint arXiv:1108.0543v1 [math.DG].
2. Homogeneous polar foliations of complex hyperbolic spaces (with J.C. Díaz-Ramos), to appear in *Comm. Anal. Geom.*, preprint arXiv:1107.0688v1 [math.DG].
3. Cohomogeneity one actions on symmetric spaces of noncompact type (with H. Tamaru), to appear in *J. Reine Angew. Math.*, preprint arXiv:1006.1980v1 [math.DG].
4. Hypersurfaces in the noncompact Grassmann manifold  $SU_{2,m}/S(U_2U_m)$  (with Young Jin Suh), preprint arXiv:0911.3081v1 [math.DG].
5. Hyperpolar homogeneous foliations on symmetric spaces of noncompact type (with J.C. Díaz-Ramos and H. Tamaru), *J. Differential Geom.* **86** (2010), 191-235.
6. Homogeneous hypersurfaces in complex hyperbolic spaces (with J.C. Díaz-Ramos), *Geom. Dedicata* **138** (2009), 129-150.
7. Real hypersurfaces with constant principal curvatures in the complex hyperbolic plane (with J.C. Díaz-Ramos), *Proc. Amer. Math. Soc.* **135** (2007), 3349-3357.
8. Cohomogeneity one actions on noncompact symmetric spaces of rank one (with H. Tamaru), *Trans. Amer. Math. Soc.* **359** (2007), 3425-3438.
9. Real hypersurfaces with constant principal curvatures in complex hyperbolic spaces (with J.C. Díaz-Ramos), *J. London Math. Soc.* **74** (2006), 778-798.
10. Symmetric submanifolds associated with the irreducible symmetric R-spaces (with J.-H. Eschenburg, H. Naitoh and K. Tsukada), *Math. Ann.* **332** (2005), 721-737.
11. Cohomogeneity one actions on noncompact symmetric spaces with a totally geodesic singular orbit (with H. Tamaru), *Tôhoku Math. J. (2)* **56** (2004), 163-177.
12. Projective planes, Severi varieties and spheres (with M. Atiyah), in: *Surveys in Differential Geometry VIII, Papers in Honor of Calabi, Lawson, Siu and Uhlenbeck* (International Press, Somerville, MA, 2003) 1-27.
13. Geodesics on the unit tangent bundle (with E. Boeckx, P. Nagy and L. Vanhecke), *Proc. Roy. Soc. Edinburgh Sect. A* **133** (2003), 1209-1229.
14. Homogeneous codimension one foliations on noncompact symmetric spaces (with H. Tamaru), *J. Differential Geom.* **63** (2003), 1-40.
15. Harmonic and minimal unit vector fields on Riemannian symmetric spaces (with L. Vanhecke and L. Verhóczyki), *Illinois J. Math.* **47** (2003), 1273-1286.
16. Rank rigidity, cones, and curvature-homogeneous Hadamard manifolds (with E. Samiou), *Osaka J. Math.* **39** (2002), 383-394.

17. Real hypersurfaces with isometric Reeb flow in complex two-plane Grassmannians (with Y.J. Suh), *Monatsh. Math.* **137** (2002), 87-98.
18. Cohomogeneity one actions on hyperbolic spaces (with M. Brück), *J. Reine Angew. Math.* **541** (2001), 209-235.
19. On index number and topology of flag manifolds (with S. Console and A. Fino), *Differential Geom. Appl.* **15** (2001), 81-90.
20. On infinitesimally  $k$ -flat homogeneous spaces (with E. Samiou), *Bull. Belg. Math. Soc. Simon Stevin* **8** (2001), 61-66.
21. Real hypersurfaces in complex two-plane Grassmannians (with Y.J. Suh), *Monatsh. Math.* **127** (1999), 1-14.
22.  $\varphi$ -symmetric spaces and weak symmetry (with L. Vanhecke), *Boll. Unione Mat. Ital. Sez. B (8)* **2** (1999), 389-392.
23. Homogeneous hypersurfaces in hyperbolic spaces, *Math. Z.* **229** (1998), 589-600.
24. Totally geodesic submanifolds of symmetric-like Riemannian manifolds (with F. Prüfer and L. Vanhecke), *Tsukuba J. Math.* **22** (1998), 463-475.
25. Weakly symmetric groups of Heisenberg type (with F. Ricci and L. Vanhecke), *Differential Geom. Appl.* **8** (1998), 275-284.
26. Riemannian geometry of complex two-plane Grassmannians, *Rend. Sem. Mat. Univ. Politec. Torino* **55** (1997), 19-83.
27. Geodesics in weakly symmetric spaces (with O. Kowalski and L. Vanhecke), *Ann. Global Anal. Geom.* **15** (1997), 153-156.
28. Examples of weakly symmetric spaces in contact geometry (with P. Tondeur and L. Vanhecke), *Boll. Unione Mat. Ital. Sez. B (7)* **11** (1997), Suppl. fasc. 2, 1-10.
29. Geodesic spheres and two-point homogeneous spaces (with F. Prüfer and L. Vanhecke), *Israel J. Math.* **93** (1996), 373-385.
30. Geometry of weakly symmetric spaces (with L. Vanhecke), *J. Math. Soc. Japan* **48** (1996), 745-760.
31. Almost complex curves and hypersurfaces in the nearly Kähler 6-sphere (with J. Bolton and L.M. Woodward), *Geom. Dedicata* **56** (1995), 237-247.
32. Symmetric-like Riemannian manifolds and geodesic symmetries (with F. Prüfer and L. Vanhecke), *Proc. Roy. Soc. Edinburgh Sect. A* **125** (1995), 265-282.
33. Geometry of generalized Heisenberg groups and their Damek-Ricci harmonic extensions (with F. Tricerri and L. Vanhecke), *C. R. Acad. Sci. Paris Sér. I Math.* **318** (1994), 471-476.
34. Minimal Liouville surfaces in Euclidean spaces (with J. Bolton and L.M. Woodward), in: *Proceedings of the Conferences on Differential Geometry and Vision*, Leuven, July 10-11, 14, 1992, and *Theory of Submanifolds*, Brussels, July 12-13, 1992 (World Scientific, River Edge, 1993) 26-40.
35. Geodesic spheres and generalizations of locally symmetric spaces (with L. Vanhecke), *Boll. Unione Mat. Ital. Sez. A (7)* **7** (1993), 125-134.
36. Naturally reductive Riemannian homogeneous spaces and real hypersurfaces in complex and quaternionic space forms (with L. Vanhecke), in: *Proceedings of the Fifth International Conference on Differential Geometry and its Applications*, Opava, August 24-28, 1992 (Silesian University at Opava, Opava, 1993) 353-364.
37. Three-dimensional Einstein-like manifolds, *Differential Geom. Appl.* **2** (1992), 385-397.
38. Two natural generalizations of locally symmetric spaces (with L. Vanhecke), *Differ-*

- ential Geom. Appl.* **2** (1992), 57-80.
39. Curvature-adapted submanifolds (with L. Vanhecke), *Nihonkai Math. J.* **3** (1992), 177-185.
  40. Geodesic sprays and C- and P-spaces (with L. Vanhecke), in: Proceedings of the Meeting on Differential Geometry, Turin, May 29-30, 1992, *Rend. Sem. Mat. Univ. Politec. Torino* **50** (1992), 343-358.
  41. Real hypersurfaces in quaternionic space forms, *J. Reine Angew. Math.* **419** (1991), 9-26.
  42. Real hypersurfaces with constant principal curvatures in complex hyperbolic space, *J. Reine Angew. Math.* **395** (1989), 132-141.

## Survey articles

1. Polar actions on symmetric spaces, in: *Proceedings of the Fifteenth International Workshop on Differential Geometry*, Taegu, November 2–5, 2011 (Kyungpook National University, Taegu, 2011) 1-10.
2. Hypersurfaces in symmetric spaces, in: *Proceedings of the Fourteenth International Workshop on Differential Geometry*, Taegu, November 4–6, 2010 (Kyungpook National University, Taegu, 2010) 31–41.
3. Hyperpolar homogeneous foliations on symmetric spaces of noncompact type, in: *Proceedings of the Thirteenth International Workshop on Differential Geometry*, Taegu, November 5-7, 2009 (Kyungpook National University, Taegu, 2009) 37-57.
4. Real hypersurfaces with constant principal curvatures in complex space forms, in: *Proceedings of the Tenth International Workshop on Differential Geometry*, Taegu, November 10-11, 2005 (Real and Complex Submanifolds Lab., Kyungpook National University, Taegu, 2006) 1-12.
5. Symmetric submanifolds of symmetric spaces, in: *Proceedings of the 7th International Workshop on Differential Geometry*, Taegu, November 15-16, 2002 (Real and Complex Submanifolds Lab., Kyungpook National University, Taegu, 2003) 1-15.
6. Geometry of weakly symmetric spaces, in: *Proceedings of the Fourth International Workshop on Differential Geometry and Its Applications*, Brasov, September 16-22, 1999 (Transilvania University Press, Brasov, 2000) 66-73.
7. On curvature and submanifolds of complex two-plane Grassmannians, in: *Proceedings of the Second International Workshop on Differential Geometry*, Taegu, December 19-20, 1997 (Basic Science Research Institute, Taegu, 1998) 1-15.
8. On homogeneous hypersurfaces in Riemannian symmetric spaces, in: *Proceedings of the Second International Workshop on Differential Geometry*, Taegu, December 19-20, 1997 (Basic Science Research Institute, Taegu, 1998) 17-34.
9. Aspects of the geometry of the Jacobi operator (with L. Vanhecke), in: *Proceedings of the International Conference on Differential Geometry and Complex Analysis in honor of the 70th birthday of G.B. Rizza*, Parma, May 19-20, 1994, *Riv. Mat. Univ. Parma (5)* **3** (1994) 91-108.
10. Real hypersurfaces with constant principal curvatures in complex space forms, in: *Proceedings of the International Meeting on Geometry and Topology of Submanifolds*, Avignon, May 30 - June 3, 1988 (World Scientific, Teaneck, 1990) 10-19.

## Monographs

1. *A new approach to the complex Grassmann manifolds  $CG_{2,m}$* , Habilitation Thesis, University of Cologne, 1994, 79 pp.
2. *Über Untermannigfaltigkeiten von komplexen Raumformen* (On submanifolds of complex space forms), PhD Thesis, University of Cologne, 1989, 107 pp.