CURRICULUM VITAE

NAME: Cornelia Vizman
BORN: 18.02.1968, Moldova–Nouă, Romania
FAMILY: Married to Daniel Vizman, children: Iulia 22.02.1996 and Andrei 19.11.1997

A. EDUCATION
June, 1994 - Ph.D. degree in Mathematics. Topic: "Coadjoint orbits in infinite dimensions"
1992-1994 - Ph.D. study, University of Vienna, Austria
1991 - Licentiate in Mathematics, West University of Timişoara; Degree: MSc (equivalent). Topic: "Higher homotopy groups"
1986-1991 - Student of the Faculty of Mathematics, West University of Timişoara, Romania

B. EMPLOYMENT
2012-to date - Associate Professor at the Faculty of Mathematics, West University of Timişoara.
1999-2012 - Lecturer at the Faculty of Mathematics, West University of Timişoara.
1994-1999 - Assistant Professor at the Faculty of Mathematics, West University of Timişoara.

C. SCOLARSHIPS WON BY COMPETITION
OAD doctoral scholarship at University of Vienna, 1992-1993
EDGE postdoctoral fellowship at University La Sapienza of Rome, 2002
DAAD research grant at Technical University Darmstadt, 2001

D. SCIENTIFIC GRANTS
Member in several national grants
Member in two international grants:
FWF P 17108-N04, 2004-2007, director Peter Michor, University of Vienna
SCOPES, 2007-2008, director Tudor Ratiu, EPFL, Lausanne
Director of two research grants:

CNCSIS 95GR The geometric study of some evolution equations: stability, first integrals, periodic orbits, 2007-2008
PN-II-ID-PCE-2011-3-0921 "Diffeomorphism groups, fluid dynamics and related geometric structures", 2011-2014

E. REASEARCH STAGES

August–Sept. 2004 - Program "Geometric Mechanics and its Applications", Bernoulli Center EPFL, Lausanne

August–Sept. 2003 - Program "Poisson Geometry and Moment Maps", Erwin Schroedinger Institute, Vienna

Nov.–Dec. 2000 - Program "Geometry and Topology of Fluid Flows", Isaac Newton Institute for Mathematical Sciences, Cambridge

F. PAPERS

Gay-Balmaz, F., Tronci, C., Vizman, C., *Geometric dynamics on the automorphism group of principal bundles: geodesic flows, dual pairs and chromomorphism groups*, Journal of Geometric Mechanics, 5 (2013)

Vizman, C., *The group structure for jet bundles over Lie groups*, Journal of Lie Theory, 23 (2013) 885–897.

Gay-Balmaz, F., Vizman, C., *Dual pairs in fluid dynamics*, Ann. of Global Analysis and Geometry, 41 (2012) 1–24.

Holm, D., Vizman, C., *Dual pairs in resonances*, Journal of Geometric Mechanics, 3 (2012) 297–311.

Tiglay, F., Vizman, C., *Generalized Euler-Poincaré equations on Lie groups and homogeneous spaces, orbit invariants and applications*, Letters in Mathematical Physics 97 (2011) 45–60.

Vizman, C., *Induced differential forms on manifolds of functions*, Arch. Math. (Brno), 47 (2011) 201–215.

Vizman, C., *Abelian extensions via prequantization, Ann. of Global Analysis and Geometry*, 39 (2011) 361–386.

Vizman, C., *Lichnerowicz cocycles and central Lie group extensions*, Analele Univ. din Timisoara, 48(2010) 285–297.

Neeb, K.-H., Vizman, C., *An abstract setting for Hamiltonian actions.* Monatshefte für Mathematik 159 (2010) 261-288.

Vizman, C., *Central extensions of coverings of symplectomorphism groups*, J. Lie Theory 19 (2009) 237–249.

Vizman, C., *The path group construction of Lie group extensions*, J. Geom. and Phys. 58 (2008) 860–873.

Vizman, C., *Abstract Kelvin-Noether theorems for Lie group extensions*, Lett. in Math. Phys. 84 (2008) 245–256.

Vizman, C., *Cocycles and stream functions in quasigeostrophic motion*, J. Nonlinear Math. Phys. 15 (2008) 140–146.

Vizman, C., *Invariant forms on Lie algebra extensions*, Comm. Algebra 35 (2007) 1761–1776.

Vizman, C., *Central extensions of the Lie algebra of symplectic vector fields*, J. Lie Theory 16 (2006) 297–309.

Vizman, C., *Central extensions of semidirect products and geodesic equations*, Phys. Lett. A 330 (2004) 460–469.

Haller, S., Vizman, C., *Non-linear Grassmannians as coadjoint orbits*, Math. Ann. 329 (2004) 771–785.

Neeb, K.-H., and Vizman, C., *Flux homomorphisms and principal bundles over infinite dimensional manifolds*, Monatshefte fuer Mathematik 139 (2003) 309–333.

Haller, S., Teichmann, J., and Vizman, C., *Totally geodesic subgroups of diffeomorphisms*, J. Geom. and Phys. 42 (2002) 342–354.

Vizman, C., *Geodesics on extensions of the Lie algebra of vector fields on the circle*, Geometry and Analysis on Lie Groups, Banach Center Publications, vol. 55 (2002) 165–172.

Vizman, C., *Geodesics on extensions of Lie groups and stability: the superconductivity equation*, Phys. Lett. A 284 (2001) 23–30.

Vizman, C., *Geodesics and curvature of semidirect product groups*, Suppl. Rendiconti Circolo Matematico di Palermo, 66 (2001) 199–206.

Vizman, C., *Curvature and geodesics of diffeomorphism groups*, Proc. of the Forth International Workshop on Diff. Geom., Braşov, Romania, 1999, 298–305.

Vizman, C., *A generalized complex Laplace operator*, Analele Univ. din Timişoara 39 (1998), 139–148.

Vizman, C., *Some remarks on the quantomorphism group*, Proc. of the Third International Workshop on Diff. Geom., Sibiu, Romania, 1997, 393–399.

Michor, P. W., and Vizman, C., *n-Transitivity of certain diffeomorphisms groups*, Acta Math. Univ. Comenianae, vol. LXIII (1994), 221–225.

G. BOOKS

Blaga, A.M., Papuc, D.I., şi Vizman, C., Transformări Geometrice în Geometria Euclidiană şi Neeuclidiană (Geometric Transformations in Euclidean and Non-Euclidean Geometry), in Romanian, Ed. Universităţii de Vest, Timişoara, 2006

Vizman, C., Geodesic Equations on Diffeomorphism Groups, Ed. Orizonturi Universitare, Timişoara, 2008

H. TALKS

Three dual pairs in fluid dynamics, CRM Workshop on Geometry and Dynamics of Fluid, Montreal, May 2012

Coadjoint orbits in infinite dimensions and dual pairs, University of Vienna, March 2012

Transitive actions on infinite dimensional manifolds, University of Lisbon, June 2011

Current algebra functors, Technical Institute Lisbon, June 2011

Euler-Poincaré equations on automorphism groups and dual pairs, Loughborough, Equadiff Conference, August 2011

Dual pairs in mechanics (poster), TudorFest, CIRM, Marseille, July 2010

Dual pairs of momentum maps in fluid dynamics, Imperial College London, March 2010

Dual pairs in infinite dimensions with applications to fluid dynamics, Technical University Darmstadt, International Research Training Group 1529, January 2010

Transitive actions of diffeomorphism groups, University Santiago de Compostella, Seminar Vidal Abascal, March 2010

Dual pairs of Poisson maps in infinite dimensions, GAP7 (Geometry and Physics), Chengdu, China, June 2009

Induced differential forms on manifolds of functions, Central European Seminar, Mikulov, Czech Republic, 29.05-30.05, 2009

Dual pairs in fluid dynamics, EPFL, October 2009

Dual pairs of Poisson maps in infinite dimensions, IMAR, May 2009

Different incarnations of the Hamiltonian group, Sophus Lie Seminar, Cluj, August 2008

Incarnations of the flux homomorphism and the Hamiltonian group, Rome, May 2008

Path group construction of Lie group extensions, Sophus Lie Seminar, Budapest, March 2008

Geodesic equations on diffeomorphism groups, Symmetry in Nonlinear Mathematical Physics, Kiev, June 2007

Crossed homomorphisms, abstract logarithmic derivative and Lee homomorphism, Darmstadt, February 2007

Momentum maps for Lie algebra 2-cocycles, Sophus Lie Seminar, Vienna, November 2006

The twisted flux homomorphism, Vienna, April 2006

The space of codimension two submanifolds and the smoke ring equation in higher dimensions, Augsburg, November 2005

Coadjoint orbits in Lie group extensions, 7th International Workshop on Differential Geometry and its Applications, Deva, September 2005

Central extensions of diffeomorphism groups and coadjoint orbits, XXIV Workshop on Geometric Methods in Physics, Bialowieza, June 2005

A geometric construction for abelian Lie group extensions, 7th Conference on Geometry and Topoogy of Manifolds, The Mathematical Legacy of Charles Ehresmann, Bedlewo, May 2005

Coadjoint orbits of (central extensions of) groups of symplectomorphisms, University of Vienna, March 2005

Extending Lie algebra 2-cocycles, Technical University Darmstadt, November 2004

Non-linear Grassmannians as coadjoint orbits, Bernoulli Center EPFL, Lausanne, August 2004

Series of 3 talks on: The non-linear Grassmannian of submanifolds of codimension 2 and a Hamiltonian equation, Metz University, June 2004

Equations of hydrodynamical type as geodesic equations, Girard Desargues Institute, Claude Bernard University Lyon, June 2004

Prequantizable coadjoint orbits of central extensions of groups of volume preserving diffeomorphisms, Conference "Geometry, Integrability and Quantization" Varna, June 2003

Coadjoint orbits of the Hamiltonian group and prequantization, ESI Vienna, March 2003

Second cohomology group of the Lie algebra of symplectic vector fields, "Geometry and Physics" Winter School, Srni, January 2003

The twisted flux homomorphism, Seminar Sophus Lie, Darmstadt, January 2003

Central extensions of Lie algebras of symplectic vector fields, Workshop "Geometry, Symmetry and Mechanics", Warwick, July 2002

Cohomology of Lie algebras of vector fields, La Sapienza University, Rome, March 2002

Quantization of non-linear Grassmannians, "Geometry and Physics" Winter School, Srni, January 2002

Flux homomorphism and principal bundles over infinite dimensional manifolds, Technical University Darmstadt, December 2001

The superconductivity equation as geodesic equation on a group of bundle automorphisms, "Mechanics and Symmetry" Euro Summer School, Peyresq, September 2001

Geodesics on a group of volume preserving bundle automorphisms: superconductivity and beta-plane equation, "Geometry and Physics" Winter School, January 2001

Superconductivity equation as geodesic equation; stability, Newton Institute, BRIMS Days, Cambridge, November 2000

Diffeomorphism groups with right invariant metrics: geodesics and curvature, Workshop "Lie Groups and Lie Algebras", Bedlewo, September 2000

Totally geodesic subgroups of groups of diffeomorphisms, Darmstadt, March 2000

Geodesics on groups of diffeomorphisms and curvature, Seminar Sophus Lie, Stuttgart, January 2000

Curvature and geodesics of diffeomorphism groups, Forth International Workshop on Differential Geometry, Brasov, September 1999

The quantomorphism group, ESI, Vienna, May 1999

Curvature and geodesics on diffeomorphism groups, Workshop "Representation Theory and Convexity", Darmstadt, October 1998

Some remarks on the quantomorphism group, Third International Workshop on Differential Geometry, Sibiu, 1997

I. TEACHING

Differential Geometry, Affine and Euclidean Geometry, Curves and Surfaces, Riemannian Geometry, Transformation Groups, Lie Groups, Projective Algebraic Curves, Algebraic Topology, Spectral Geometry, Poisson Geometry, Non-Euclidean Geometry, Computational Geometry, Dynamical Systems

J. FOREIGN LANGUAGES. German, English, French