

Surname and first name: TODJIHOUNDE L'éonard.

Date and place of birth: 03.22.1967 Allada (Benin).

Gender: Male.

Marital Status: Married.

Address: Institut de Mathématiques et de Sciences Physiques
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Porto-Novo
Rep. of Benin.

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Education (postsecondary):

1986-1991: Master of Sciences Mathematics at the faculty of sciences and technics of the National University of Benin.

1993-1994: Advanced Diploma course in Mathematical Physics (Riemannian geometry, functional analysis and partial differential equations, general relativity theory and quantum mechanics) at the Institute of Mathematics and Physical Sciences in Porto-Novo (Benin).

1995-1998: Ph.D. thesis in Mathematics (Differential Geometry) on the theme "harmonic manifolds, equilibrium maps and harmonic objects on a Riemannian manifold" at the Max-Planck-Institute for Mathematics in Leipzig (Germany) under the supervision of Prof. Jürgen JOST. This thesis was done in a joint-program between the National University of Benin and German universities and has been defended on 16.12.1998. My local advisor is Prof. Jean-Pierre Ezin of National University of Benin.

Spoken and written languages: french, german and english.

Research Interests

- Geometrical structures on manifolds (harmonic, homogeneous and ballhomogeneous manifolds, hamonic tensors, etc...).
- Global and harmonic analysis.
- Variational calculus and nonlinear problems on Riemannian manifolds resulting of deformation's methods like Ricci deformation, mean-curvature flow, etc...
- Geometrical methods in Physics
- Convexity and dynamical systems.

Distinctions and other academic responsibilities

- Third World Academic Sciences (TWAS) Prize - Edition 2003.
- Associate Member of Abdus Salam International Center for Theoretical Physic, Trieste (Italy), for the period 2000-2006.
- Reviewer and Member of the American Mathematical Society (AMS).

List of Publications (Leonard TODJIHOUNDE)

Books:

"Calcul Di_érentiel": cours et exercices corrigés, CEPADUES-EDITIONS, Toulouse, 2004, ISBN: 2.85428.652.9.

Papers:

- On the biharmonicity of product maps, International Journal of Mathematics and Mathematical Sciences, Volume 2006, Article ID 73094, 1-11.
DOI 101155/IJMMS/2006/73094.
- Dualistic structures on warped product manifolds, Di_er. Geom. Dyn. Syst., Vol. 8, 2006, 278-284.
- "Some geometric consequences from the Ricci-flow evolution of the geodesic distance function", Bul. Inst. Polyteh. Iasi, Sect.I, vol. 3-4 (2005).
- "Ricci deformation and conformal change of metrics", Bul. Cal. Math. Soc., Vol. 95, No.5 (2003), 377-382.
- "Jost maps, ball-homogeneous and harmonic manifolds, Advances in Mathematics, Vol.172, No.2 (2002), 206-224.
- "Riemannian manifolds for which the identity is an "-equilibrium map", Di_érential Geometry and its Applications, Vol.13 (2000), 119-128.

- "Mass center and Jost maps between Riemannian manifolds", Contemporary Problems in Mathematical Physics, World Sci. Publishing, River Edge, NJ, (2000), 118-137 (with J.-P. Ezin).

- "Remark on harmonic (0,2)-tensors",

Bul. Inst. Polyteh. Iasi, Sect.I, vol. 3-4 (1999), 25-32.

- Harmonic nets in metric spaces, preprint. (with J. Jost)

- Mean-value property on manifolds with minimal horospheres, preprint.

In ICTP-Publications:

- (Bi)-Harmonicity of (warped) product maps, International Centre for Theoretical Physics, IC/2006/002, Trieste, (2006).

- Manifolds with minimal horospheres and bounded derivative stability vector fields, International Centre for Theoretical Physics, IC/2006/003, Trieste, (2006).

- "Some geometric consequences from the Ricci-flow evolution of the geodesic distance function", International Centre for Theoretical Physics, IC/2002/1, Trieste, (2002).

- "Ricci deformation and conformal change of metrics", International Centre for Theoretical Physics, IC/99/89, Trieste, (1999).

- Center of mass, equilibrium maps and special Riemannian structures, International Centre for Theoretical Physics, IC/99/88, Trieste, (1999) (with J.-P. Ezin).

Scientific and Professional Activities:

Since 02.10.2000: Lecturer at the Department of Mathematics and at the Institute of mathematics and Physics of the University of Abomey-Calavi (Benin).

15.05.2006-15.06.2006: Visiting Professor at the Department of Mathematics of the University of Bretagne Occidentale, Brest (France).

01.11.2005-31.01.2006: Visiting Scientist at the International Centre for Theoretical Physics (ICTP) in Trieste (Italy).

01.09.2004-31.08.2005: Associate Professor at the Department of the University of Antilles-Guyane (Guadeloupe).

01.11.04-31.11.04: Visiting Scientist at the Institut des Hautes Etudes Scientifiques (IHES) in Paris (France).

01.08.04-31.10.04: Visiting Scientist at the Max-Planck-Institut for Mathematics in the Sciences in Leipzig (Germany).

13.07.2003-10.10.2003: Visiting Scientist at the International Centre for Theoretical Physics (ICTP) in Trieste (Italy).

01.10.2002-31.12.2002: Visiting Scientist at the Max-Planck-Institute for Mathematics in the Sciences (MPI) in Leipzig (Germany).

02.01.2001-31.08.2002: Associate Professor at the Department of Mathematics of the University of Reunion.

09.01.2001-11.30.2001: Visiting Scientist at the International Centre for Theoretical Physics (ICTP) in Trieste (Italy).

08.01.2000-10.31.2000: Visiting Scientist at the Max-Planck-Institute for Mathematics in the Sciences (MPI) in Leipzig (Germany).

10.01.99-10.31.99: Visiting Scientist at the Institut des Hautes Etudes Scientifiques (IHES) in Paris (France).

01.01.99-09.31.99: Postdoctoral Position at the International Centre of Theoretical Physics (ICTP) in Trieste (Italy).

1995-1998: Doctorant at the University of Bochum and at the Max-Planck- Institute for Mathematics in Leipzig (Germany)

Teaching Activities:

Departement of Mathematics and Computer Science – University of Reunion.

Academic years 2001-2002 and 2002-2003:

1- Di_ifferential Calculus - 3. year of Mathematics.

2- Topology - 2. year of Mathematics.

3- Applied Mathematics - 2. year of Mathematics.

4- Analysis - 1. Year of Mathematics.

5- Analysis - 1. year of Physics.

Departement of Mathematics and Computer Science - University of Ab-Calavi (Benin).

Since 2000:

1- Analysis - 1. year of Mathematics and Physics.

2- Probability and Statistic - 2. year of Physics.

3- Topology and Di_ifferential Calculus - 3. year of Mathematics

Departement of Mathematics and Computer Science – University of Antilles-Guyane (Guadeloupe).

Academic year 2004-2005:

- 1- Geometry - 3. year of Mathematics.
- 2- Geometry - 2. year of Mathematics.
- 3- Analysis - 2. year of Mathematics.

Participation in the following international conferences:

- GIRAGA-Workshop on Geometry, Analysis and Applications, Yaounde (Cameroun), 4-16.09.2006.
- International Congress of Mathematics 2006, ICM2006, Madrid (Spain), 22-30.08.2006.
- GEONET-Workshop on Géométries and its Applications, Dschang (Caméroun), 01.07 - 15.07.2004.
- Prospects in Geometry 2004, Leipzig (Germany), 25 - 30.11.2004.
- Lorentzian Geometry and General Relativity, Porto-Novo (Benin), 01.12 - 12.12.2003.
- Contemporary Problems in Mathematical Physics, Cotonou (Benin), 01.11 - 07.11.2003.
- Conference on Hierarchy Problems in Four and More Dimensions, Trieste (Italy), 13.10 - 07.11.2003.
- Advanced School in Basic Algebraic Geometry, Trieste (Italy), 18 - 25.07.2003.
- GEONET workshop on differential and algebraic geometry and its applications, Porto-Novo (Benin), 30.06 - 06.07.2003.
- Prospects in Geometry 2002, Leipzig (Germany), 28-30 Novembre 2002.
- Séminaire GIRAGA IX, Yaoundé (Cameroun), 9-13 Septembre 2002.
- Prospects in Geometry 2000, Leipzig (Germany), 2-4 November 2000.
- School on differential geometry, Trieste (Italy), 12-27 April 1999.
- E_ectivity in algebra and geometry, Niamey (Niger), 25-29 January 1999.
- School on mathematics of economics, Trieste (Italy), 31.08-25.09.1998.
- Harmonic morphisms, Brest (France), 7-13 July 1997.
- Dirichlet forms and their applications in geometry and stochastics, Anogia (Grèce), 22-28 June 1997.
- Geometrical methods in physics, Marseille (France), 2-6 June 1997.
- Topological and geometrical problems related to quantum field theory, Trieste (Italy), 13-24 March 1995.
- Yang-Mills-Higgs equations, bifurcation of differential equations in the plane and waves propagation, Yaoundé (Cameroun), 13-24 September 1994.