

V I T A E

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EDUCATION

Docteur ès Sciences Mathématiques (PhD), University of Geneva, Switzerland, 1976.

Diplôme de Mathématicien (MS), University of Geneva, Switzerland, 1972

Licence ès Sciences Mathématiques (B.S), University of Geneva, Switzerland, 1971.

PROFESSIONAL EXPERIENCE

Regular positions

- 1992 - present : Professor of Mathematics

- 2000 - 2003 : Director of Graduate Studies

The Pennsylvania State University, University Park, PA 16802

- 1984 - 1992 : Associate Professor of Mathematics,

The Pennsylvania State University, University Park, PA 16802

- 1982 - 1984 : Assistant Professor of Mathematics,

Boston University, Boston MA

- 1978 - 1982 : Benjamin Pierce Assistant Professor of Mathematics ,

Harvard University, Cambridge, MA

- 1977 - 1978 : Research Fellow , Member of the

The Institute for Advanced Study, Princeton, N. J. 08540

- 1975 - 1977: Swiss National Science Foundation Research Fellow

University of Geneva, Switzerland

Visiting appointments

22. University of Benin, IMSP, Professeur invit'e (1month June 15 - July 14, 2003)
21. University of Benin, IMSP, Professeur invité (1 month) July 2002
20. University of Provence, Marseille, Professeur invité (1 month) June 2002
19. University of Benin, IMSP, Porto Novo, Professeur invité (1 month) June 14 to July 19), 2001
18. University of Provence, Marseille, Professeur invité (1 month) May 30, 99
17. University of Benin, IMSP, Porto Novo, Professeur invité (10 months) Oct 98 - July 99)
16. University of Benin, IMSP. Porto Novo, Professeur invité (1 month) June 1997
15. University of Benin, IMSP, Porto-Novo, Professeur invité, (1 month), July 11- Aug. 11, 1996
14. University of Provence, Marseille, Professeur invité (1 month), June 10- July 10, 1996
13. University of Montpellier, Professeur invité (1 month) June 1995
12. University of Provence, Marseille, Professeur invité (1/2 month) July 1994
11. University of Strasbourg , Professur invité, (2 months),May- July 1994
10. Howard University , Visiting Professor, (10 months) Aug. 92 - May 93
9. University of Provence, Marseille, Professeur invite (1 month) June 92
8. University of Montpellier, Professeur invité (1 month) May 92
7. University of Maryland (4 weeks) Feb. /March 92
6. University of Paris XI (Orsay), Professeur invité (6 months) Feb. -Aug. 91
5. Swiss Institute of Technology (ETH-Zurich) (5 months) Nov. 90 - Feb. 91
4. Institut Fourier, University of Grenoble (3 months: May - July 84) ,Professeur invité
3. National University of Rwanda, Butare (6 months) Feb. -July 80
2. University of Warwick, UK (1 month), 1976
1. University of Louvain, Belgium, Chargé de cours invité, (3 months), 1976

Other Professional Experience

a. Master's and PhD thesis supervised

1. Christophe Poteet, M.Ed, 1987 (Linear algebra and Geometry in High School).
2. Andrew McInerney, M.S. 1988 (The Hopf invariant).
3. Philippe Rukimbira, PhD 1991 (Some properties of almost contact flows).
4. Peter A.Chaiyasema , PhD 1993 (Radar and Sonar ambiguity functions and group theory).
5. Carlos Torre, PhD 1993 (On a theorem of Kirillov).
6. Andrew McInerney, PhD 1994 (On the group of contact diffeomorphisms).
7. Gilbert Honnouvo, DEA (Diplome d'Etudes Approfondies), University of Benin, 1999
8. Basil Nanayakkara, MS, 2000 (The geometry of contact connected sum)
9. Hassan Ait Haddou, DEA, University of Benin, 2002
10. Alain Musea, DEA, University of Benin, 2002
11. Hee Jung Kim , PhD 2002 (Almost complex structures arising in contact geometry).

b. Referral of Mathematical papers submitted to:

Communications in Mathematical Physics (2003)
 Ergodic Theory and Dynamical systems (2003)
 Advances in Geometry (2002)
 Journal of the Australian mathematical society (2001)
 Illinois Journal of Mathematics (2001)
 Transactions of the American Mathematical Society (2001)
 Geometriae Dedicata (2001)
 Geometric and Functional Analysis (GAFA)(2001)
 Topology (2 papers)(2000)
 Commentarii Mathematicae Helveticae
 Annales de l'Institut Fourier, Grenoble
 Journal of Differential Geometry
 Communications on Mathematical Physics
 Indian Journal of Mathematics
 Journal of Indian Institute of Science
 Journal of the American Mathematical Society
 Results in Mathematics
 Collectanae Mathematica (University of Barcelona)
 Annales Polonici Mathematici
 The Houston Journal of Mathematics

c. Consulting

1981, 1982, 1983 (one month each year) : UNESCO consultant

Started, and run a graduate program in Mathematics

The National University of Rwanda

d. Service to the Mathematics Department and the University Community

Member of the Marker Lectures Series Committee (1988)

Chair of the Marker Lecture Series Committee (1989)

Member of the A. Dixon Johnson Memorial Lecture Series (1988)

Adviser of the African Student Association (1993 - 1995)

Member of the Personnel Committee (1993 - 97)

Member of the CES Screening Committee (1996 - present)

Member of the Library Committee (1997- 2000)

Member of the Search Committee for the Dean of the College of Sciences (1997- 98)

Member of the Promotion and Tenure Committee (1999 - 2000)

Member of the Undergraduate Studies Committee (1999 - 2002)

July 1, 2000 - June 30 , 2003 : Associate Chair of the Mathematics Department for Graduate Studies (Director of Graduate Studies)

Member of the Personnel Committee (2000 - 2003)

Member and Chair of the Graduate Studies Committee (2000- 2003)

f. Organisation of Conferences

Workshop on Symplectic Geometry and Mathematical Physics, Penn State December 13 - 14, 2002

Workshop on "Differential Geometry and Its Applications", July, 2002, IMSP, Porto Novo, Benin.

Conference on "Infinite dimensional Lie Groups in Geometry and Representation Theory", Howard University, August 17- 21, 2000, co-organizer

International Workshop on Contemporary Problems in Mathematical Physics, Scientific Advisory Committee member. Porto-Novo, Benin, November 1999

Geometry Week at Howard University, Washington DC, May 1993, Co-organizer

Symplectic Geometry Workshop at Penn State U., February 1996, co-organizer

Penn State Conference on low dimensional Topology, May 1996, chief organizer

Penn State workshop on Quantization, April 1997, co-organizer

Penn State workshop on symplectic geometry and microlocal analysis, April 1998, co-organizer

Professional Awards and Honors

Prize Vacheron - Constantin , Univ.Geneva, 1976

Suiss National Science Foundation Post doctoral Fellowship, 1976-77

NSF Grant # DMS 9403196 , 1994 - 1996

Fulbright Scholar's award, 1998 - 99

Mathematical Association of America (MAA) Visiting Lecturer ,1992- 96

Former Member **American Mathematical Society CD-ROM Task force**

Member : International Scientific Advisory Board of IMSP (Institut de Mathematiques et Sciences Physiques, Porto-Novo, Benin)

Editor of **Afrika Matematika**, the Journal of the

African Mathematical Union.

Member : United States National Committee for Mathematics,

A committee of **The US National Academy of Sciences, and National Research Council** , 2001 - 2004

Editor of **African Journal of Mathematics**, 2002-

Member : Scientific Advisory Committee of the **African Mathematics Millenium Science Initiative**, an organization sponsored by the **Science Institutes Group**

Recent invited addresses and Lecture Series

57 Geonet Workshop on Differential Geometry and its applications, University of Benin, " On the structure of locally conformal symplectic structures", June 30, 2003

56. University of Benin, Institut de Mathematiques et Sciences Physiques, Series of 12 Lectures on Symplectic and Contact Geometry, and Morse Theory: June/July 2003

55. Howard University " Geometry and Group theory", March 27, 2003

54. University of Massachussetts, Amhrest, " Symplectic Geometry and Related structures", Nov. 14, 2002, 2002

53. Spelman College, Altanta, GA, "A panorama of Euclidean and Non-Euclidean Geometries", Oct 21, 2002

52. Morgan State University, Baltimore, MD "A panorama of Euclidean and Non-Euclidean Geometries", Sept. 27, 2002

51. MSRI/Howard Workshop on Geometry, An introduction to 2003-04 Program at the Mathematical Science Research Institute. " Some landmarks in Symplectic Geometry and Topology of the last two decades", Sept. 21, 2002

50. Workshop on symplectic, contact, riemannian geometry" at the Institut de Mathematiques et Sciences Physiques, Porto Novo, Series of 4 lectures " Les varietes localement conformement symplectiques" July , 2002

49. University of Marseille, "The geometrie of locally conformal symplectic manifolds", June 2, 2002
48. Princeton University, The Eighth Conference for African American Researchers in the Mathematical Sciences, June, 20, 2002 "The geometry of locally conformal symplectic manifolds"
47. Howard University, November 16, 2001, " The geometry of locally conformal symplectic manifolds"
46. Institut de Mathematiques et Sciences Physiques, Porto Novo, Benin. "Series of lectures on Contact Geometry (15 hours), June 14 - to July 18, 2001.
45. The 7th Edward A. Bouchet-Salam College on Functionnal Analysis and its applications to Differential equations, The National Mathematical Centre, Accra, Ghana "Series of 3 lectures on " Locally conformal symplectic Geometry" July 8 - July 11, 2001.
44. University of Dakar , Senegal, "Series of lectures on Locally conformal symplectic Geometry", June 7 to June 14, 2001
43. University of Saint Louis (Senegal), "Foundations of Geometry", June 12, 2001.
42. NSF-CBMS Regional Conference in Mathematical Science, University of Missouri " Equivalence of locally conformal symplectic structures", June 5, 2001
41. Florida International University, March, 9, 2001 "An invitation to locally conformal symplectic geometry"
40. Emory University, Atlanta, November 16, 2000 " A glance on locally conformal symplectic geometry"
39. International Conference on Infinite dimensional Lie groups in Geometry and Representation Theory, Howard University August, 19, 2000 "On a geometric integration of the Lee homomorphism"
38. Bronks Community College, N.Y. May 10, 2000 "Symmetry vs skew-symmetry"
37. Bronks Community College, N.Y. May 11, 2000 "Projective geometry as an umbrella for all plane geometries"
36. Howard University "Locally conformal symplectic structures", Nov. 19, 1999
35. International Workshop on Contemporary problems of Mathematical Physics, Cotonou (Benin) . Some geometrical structures underlying Mechanics, Nov. 3,1999
34. Virginia Tech. The geometry of transformation groups or the Erlanger Program Revisited., Oct. 8, 1999
33. Université Nationale du Benin, IMSP. Series of lectures on Gauge Theory, Topological Quantum field theory, Floer Homology, Chaotic Dynamics, Symplectic and Poisson Geometry . From Dec 1998 to July 1999.

32. Brown University, Providence, R.I. April 17, 1998. " The geometry surrounding the Arnold-Liouville theorem"
31. Bronks Community College, Bronks, N.Y. April 1, 1998. " The geometry of transformation groups , or the Erlanger Program revisited"
30. Emory University, Atlanta, GA, March 26,1998 " The geometry surrounding the Arnold-Liouville theorem"
29. International Colloquium on Infinite dimensional Lie groups and algebras , Marseille, Sept 15-19, 1997 " On Poisson diffeomorphisms"
28. Stefan Banach International Mathematical Center, Warsaw, Poland Workshop on Lie group and Lie algebras in infinite dimension.8-18 Sept. 1997 " The gemetry of the classical diffeomorphism groups"
27. University of Benin. IMSP " Un nouvel invariant conforme des variétés riemanniennes" , June 1997
26. University of Benin, IMSP " Series of lectures on " The Dirac operators" June 3- July 3, 1997.
25. University of Benin, " Leafwise constructions in Poisson Geometry", Dec. 1996
24. Howard University, " Complete integrability in Contact Geometry , Nov. 1996
23. University of Benin, IMSP : " Sur le programme d'Erlanger ", July 17,1996
- 22 .University of Benin, IMSP " Complete integrabilite en geometrie de contact" , July 12,9996
21. University of Benin, IMSP, Series of lectures on "introduction to Seiberg-Witten equations" and a series of lectures on the introduction to symplectic geometry, July,Agust 1996
20. University of Aix-en-Provence : La complete integrabilite en geometrie de contact ,I,II , june 1996
19. Stanford University "Complete integrability in Contact Geometry, Feb.8 1996
18. Stanford University : "Hypercontact Geometry and Gauge Theory, Feb.5,1996
17. Howard University, : " Hypercontact Geometry and Gauge Theory" ,Nov.17, 1995
16. SUNY Geneseo (MAA Lectures Series), : " Euclidean and Non-Euclidean Geometry, Nov. 1 , 1995
15. Fourth African Mathematical Union Pan-African Congress of Mathematics, Ifrane, Morocco, Plennary invited address : "Invariants of contact structures,symplectic structures and transversally oriented foliations", Sept. 1995
14. Workshop on Geometry, Topology and Dynamics,CRM, Montreal ,Canada. " Instantons and hypercontact structures.June 1995.
- 13.University of Marseille, Les structures d'hypercontact et les instantons, June 1995

12. University of Montpellier, Instantons et les structures d'hypercontact, June 1995

11. University of Cambridge, UK, Instantons and Hypercontact structures, May 1995

10. Howard University : Instantons and Hypercontact structures, Nov 94

9. Forstburg State University (MAA Lecture Series): A Panorama of Euclidean and Non-Euclidean Geometries , Oct.94
8. University of Marseille : Quelques nouveaux invariants en Geometrie de Contact, July 94
7. Institut Henri Poincare (Paris) : Some contact geometry invariants. June 94
6. University of Strasbourg: Invariants de Geometrie de Contact, May 94
5. University of Strasbourg: Le Programme d'Erlanger. June 94
4. University of Florida Gainesville: New Contact Geometry invariants, April 94
3. Howard University : Series of Lectures on :”The topology of Torus Actions on Symplectic Manifolds” ,Jan.-May 93
2. International Center for Pure and Applied Mathematics (CIMPA), Lectures Series at the Summer School on Symplectic Geometry, pseudo-holomorphic curves and applications. Nice (France) :” Introduction to symplectic geometry” . July, 92
1. University of Geneva (Switzerland) : Formes normales de diffeomorphismes de contact au voisinage de points fixes hyperboliques. June 92

RESEARCH

Research areas

Symplectic, Contact Geometry and Topology

Research Summary

My longtime interest has been in the study of the algebra, the geometry, the topology and the dynamics of symplectic, contact, volume preserving, and measure preserving diffeomorphisms of smooth manifolds. My work has been qualified by Sternberg in his review of Abraham-Marsden ” Foundation of Mechanics” as ”one of the best achievement of the last decade” on the subject.

Over the last ten years, I have made contributions to the century old Klein’s Program by proving that the symplectic, unimodular, and contact categories are determined by their automorphism groups.

The main results obtained in the above areas have been gathered in my book ” **The structure of classical diffeomorphism groups**” published by Kluwer Academic Publishers (1997). This monograph is a unique treatise presenting the state-of-the art in the domain.

I have been interested in the Weinstein conjecture on the existence of periodic orbits of the contact flow on a compact contact manifold. I have developed new contact-riemmanian geometry machinery which allowed me to prove the existence of periodic orbits in some particular (important) cases.

I am coming back to the subject armed with new machineries including Gromov's pseudoholomorphic curves, and gauge theory.

I have done research on normal forms of contact diffeomorphisms near hyperbolic fixed points and extended Sternberg geometric linearization theorems using cohomology equations. My approach works when Sternberg's does not, i.e. when we have non-resonance conditions. The work was carried out in collaboration with R. de La Llave and E.C.Wayne.

In collaboration with Pierre Molino, I have worked out a theory of "Complete Integrability" in Contact Geometry. This is an integrated and uniform formulation of the generalization to contact geometry of the classical Arnold-Liouville theorem, Duistermaat theory of Lagrangian fibrations, the famous Atiyah-Guillen-Sternberg convexity theorem for the moment map, and Delzant realization theorem.

I have worked on the connection between Gauge Theory and Contact Geometry. I proved that the components of any self or anti self dual connection (along the Pauli matrices) of any $SU(2)$ -connection on the $SU(2)$ tautological bundle over S^4 , form a hypercontact structure on S^7 .

Right now, I am working on the Floer homotopy type, a concept invented by Cohen, Segal and Jones. I work on the so-called Cohen-Segal-Jones conjecture which claims that a function defining the Floer homology can be used to define some homotopical theoretical object (an inverse system of spectrum) from which the Floer groups can be recovered. This leads me to study the Gromov-Witten invariants and Quantum cohomology.

This loops back to my traditional interests ; diffeomorphism groups.

On one hand, recent work of Seidel, and Lalonde-Polterovich-Mac-Duff show a link between quantum cohomology and hamiltonian loops. I am trying to find a geometric meaning to the extensions of hamiltonian diffeomorphisms arising from Seidel and Mac-Duff's works.

On the other hands, this leads to an interest in the geometry of gauge fields, especially the study of the structure of symplectic diffeomorphisms of the moduli space of flat connections on $SO(3)$ bundles over surfaces. I am trying to understand how much contribute the mapping class group of the surface to the group of symplectic diffeomorphism of the moduli space.

Finally, I have been working on conformal geometry: I found a conformal invariant characterising the standard sphere and have studied the group of automorphisms of locally conformal symplectic structure. I also keep working on the theory of complete integrability in Contact Geometry. Using my work with Molino, I try to construct a combinatorial approach to Contact geometry, like Guillemin, using my generalization to Contact Geometry of Delzant realisation theorem.

PUBLICATIONS

1. Sur le groupe des difféomorphismes symplectiques.
C.R.Acad.Sc.Paris t.278(1974) serie A,1343-1344.
2. Sur le groupe des difféomorphismes qui préservent une forme de contact régulière.
C.R.Acad.Sc.Paris t.281(1975) serie A 707-709.
3. Sur la structure du groupe de difféomorphismes.
Publ.Dept.Math.Lyon,13(1976)no3 ,57-61.
4. Sur le groupe des automorphismes d'un T^n -fibre principal.
C.R.Acad.Sc.Paris t.284(1977) serie A 619-622.
5. On the structure of equivariant diffeomorphisms.
Topology,vol 16 no 3 (1977)279-283.
6. Sur le groupe des difféomorphismes symplectiques.
Springer Lecture Note in Math.Vol 484 (1974),pp 50-56.
7. Formes-volume sur les variétés à bord.
Enseig.Math. 20 (1974)127-131
8. On the automorphism groups of a toral action.
Hadronic Journal,2(1979)296-320
9. Sur la structure du groupe des difféomorphismes qui préservent une forme symplectique.
Comment.Math.Helv.53(1978)174-227.
10. The group of diffeomorphisms preserving a regular contact form.
In Topology and Algebra, Enseig.Math. (1979) 47-53.
- 11.(with J.Pulido) On the group of contact diffeomorphisms of \mathbf{R}^{2n+1} .
Bol.Soc.Mat.Mexicana,vol 23 no2(1978)43-47 .
12. On fixed points of symplectic maps.
Inventiones Math.56(1980) 215-229.
13. On the group of diffeomorphisms preserving an exact symplectic form.
In Differential Topology. V.Villani ed.CIME(1976),Varenna,Italy,pp 7-9.
14. (with R.W.Urwin) Sur la cohomologie du groupe des difféomorphismes .
C.R.Acad.Sc.Paris t.294(1982) 625-627 .
- 15.(with R.W.Urwin) On the cohomology of the diffeomorphism group.
Atti della Acad.Sc.di Torino,Suppl.Vol 117(1983) 7-34.
16. The mass-flow homomorphisms and extension of certain groups of homeomorphisms.
Atti della Acad.Sc.di Torino,Suppl.Vol 117(1983) 35-38
17. Sur la géométrie de l'homomorphisme flux.
C.R.Acad.Sc.Paris t.296(1983) 725-727.

18. The Calabi Invariant and the Gauge Group.
In *Geometrie Symplectique et Mecanique*. J.P.Dufour,Ed.
Travaux en Cours,Hermann,Paris (1985) 3-11.
19. On isomorphic classical diffeomorphism groups I.
Proceed.Amer.Math.Soc. vol98 no1 (1986) 113-118.
20. On isomorphic classical diffeomorphism groups II.
J.Differ.Geom. 28(1988) 93-114.
21. (with De la Llave R. and Wayne E.) Cohomology equations and commutators of germs of contact diffeomorphisms.
Trans.Amer.Math.Soc. vol 312 no 2 (1989) 755-778.
22. A note on Weinstein conjecture.
Proceed.Amer.Math.Soc. vol 109 no3 (1990) 855-858.
23. (with Chaiyasena P. Sibul .Flower M.) Wavelet transforms and signal ambiguity functions.
The 24th annual Asilomar Conf. Signal and Computers, Ray R.Chen, Ed. Pacific Grove,CA. (1990) 1084- 1089
24. (with Chaiyasena P. Sibul L.) The relationship between narrow band and wide band ambiguity function,volume preserving properties ,a group contraction approach,
Proceed Conf. On Information Science and Systems. John Hopkins University.MD (1991).
25. (with Chaiyasena P. Sibul L.) , Wavelet transforms, wideband ambiguity functions and group theory. The 26th Conference on Signals, Systems and Computers. Pacific Grove, CA (1992).
26. (with Chaiyasena P and Sibul L.) Radar and sonar ambiguity functions and group theory.
Applied Research Lab.Technical Report.Penn State University.
27. (with Molino P.) Geometrie des formes de contact completement integrables de type torique.
In *Sém.G.Darboux Geom.Top.Diff.Univ.Montpellier 1991-92* ,1-25
28. On characteristics of hypersurfaces in symplectic manifolds.
Symposia in Pure Math.Amer.Math.Soc. Vol 54 Part 2 (1993) 9-17.
29. (with Gole C.) A Remark on a conjecture of Arnold:linking of spheres and fixed points.
In *Hamiltonian Systems and Celestial Mechanics*,Lacomba E.A. and Llibre J.Ed.World Scientific(1993) 23-30.
30. An introduction to symplectic geometry.
In *Holomorphic curves in symplectic geometry*. Audin M.
and Lafontaine J. Ed. *Progress in Math*.Birkhauser,(1994) 17-40.

31. Quelques invariants de la geometrie de contact.
C.R.Acad.Sc.Paris,t.318 serie I (1994) 671-674.
32. (with Rukimbira P.) Weak stability of almost contact foliations.
Journal of Geometry, Vol.50 (1994) 16-27.
33. The cohomology class of the action functional.
Expo.Math.12(1994) 371-379.
34. (with McInerney A.) On isomorphic classical diffeomorphism groups III.
Annals of Global Analysis and Geometry 13 (1995) pp 117-127
35. (with Rukimbira P.) On characteristics of circle invariant presymplectic forms.
Proceed.Amer.Math.Soc.Vol 123 no 12(1995) pp 3901-3906
36. Instantons and hypercontact structures.
J.of Geometry and Physics, 19(1996) 267-276
37. (with Donato P) Some remarks on the integration of the Poisson algebra.
J.Geometry and Physics , 19(1996) 368-378.
38. Invariants of contact structures and transversally oriented foliations.
Annals of Global Analysis and Geometry 14 (1996) 427-441
39. Instantons and hypercontact structures ,Part II
J.Geometry and Physics 21 (1997) 136-148
40. (with C.Torre) A symplectic structure on coadjoint orbits of diffeomorphism groups.
Cienc.Tecn 17(1993) no 2 ,1-14(1995)
41. (with C.Torre) A characterisation of some coadjoint orbits of diffeomorphism groups.
Cienc.Tecn 17(1993) no 2, 15-38(1995)
42. (with de la Llave R. and Wayne E.) Cohomology equations near hyperbolic points and geometric versions of Sternberg's linearization theorems.
The Journal of Geometric Analysis 6 no 4 (1997) , 613-649
43. K-contact flows,
Encyclopedia of Mathematics, Supplement Volume 1 (1997) , 325-326
Kluwer Academic Publishers.
44. Isomorphism between classical diffeomorphism groups .
In " Geometry, Topology, and Dynamics", Francois Lalonde, Ed.
CRM Proceed.and Lecture Notes, Vol. 15(1998) 1-15 .
45. The Geometry surrounding the Arnold-Liouville theorem
Advances in Geometry, Progress in Math no 172. Birkhauser(1999) pp 53-69.
46. On Poisson Diffeomorphisms.
Analysis on infinite dimensional Lie groups and algebras, H. Heyer and J.Marion, Ed,
World Scientific Publishers (1999) pp 1-8.

- 47.(with J.P.Ezin) A conformal invariant characterizing the standard sphere
Topics in Low-Dimensional Topology, A. Banyaga, H.Movahedi-Lankarani, R.Wells Ed.,
World Scientific Publishers (1999) pp 93-97
48. Some geometrical structures underlying mechanics
Contemporary Problems in Mathematical Physics.
J.Govaerts, M.N.Houkonnou, W.A.Lester,Jr. Ed., World Scientific (2000) pp 109- 117
49. On essential conformal groups and a conformal invariant
Journal of Geometry 68 (2000) pp 10-15
50. Quelques invariants des structures localement conformement symplectiques.
Comptes Rendus Acad. Sc. Paris, t. 332, Serie I,(2001) pp 29-32.
51. A geometric integration of the extended Lee homomorphism.
Journal of Geometry and Physics, 39(2001) no 1 30-44
52. Some properties of locally conformal symplectic structures.
Commentarii Math. Helv. 77(2002) 383-398
53. (With P.Donato) A note on isotopies of symplectic and Poisson structures. Infinite
dimensional Lie groups in Geometry and Representation Theory. A. Banyaga, J.A. Leslie
and T. Robart, Editors, World Scientific, (2002), pp 138-144
54. On the geometry of locally conformal symplectic manifolds. Infinite dimensional Lie
groups in Geometry and Representation Theory. A. Banyaga, J.A. Leslie and T. Robart,
Editors, World Scientific, (2002), 79-91
- 55 . Symplectic Geometry and Related Structures.
Cubo Journal (Brazil), to appear
- 56.(with P.Molino) Complete integrability in Contact Geometry.
Preprint 1996
57. (with D.Hurtubise) On quantum cohomology and Floer homotopy type
Preprint
58. On the Lichnerowicz class of a locally conformal symplectic structure.
preprint
59. (with Hee-Jung Kim) Contact metric and almost complex structures. submitted.
60. Extension of hamiltonian diffeomorphisms and quantum (co)homology In preparation
61. On the d_ω -cohomology, in preparation
- 62 On the automorphism of a conformal Jacobi structure, in preparation

Books

63. The structure of Classical Diffeomorphism Groups.
Mathematics and Its Applications,(208 pages), Vol 400

Kluwer Academic Publishers (1997)

64. Topics in Low-Dimensional Topology,

A. Banyaga, H.Movahedi-Lankarani, R.Wells Editors,

World Scientific Publishers (1999)

65. Infinite dimensional Lie groups in geometry and representation theory,

Augustin Banyaga, Joshua A. Leslie and Thierry Robart, Editors,

World Scientific Publishers (2002)

66. Lectures on Differential Topology.

Preprint.

67. (with Rukimbira P) Introduction to Contact Geometry.

Preprint.

68. Introduction to Locally Conformal Symplectic Geometry In preparation, to be published by World Scientific Publishers.

69. (with Hurtubise D) Lectures on Morse Homology

Preprint 2003