Alfonso Garmendia

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Summary

My research interests lie in symplectic geometry and mathematical physics: Poisson geometry, singular foliation theory, Lie theory (groups, algebras, groupoids and algebroids), deformation quantization and applications in physics

Education

2015–2019 PhD. Mathematics, KU LEUVEN, Belgium.
Thesis: Groupoids and singular foliations.
Advisor: Marco Zambon
2010–2015 M.Sc. Mathematics, Universidad Central de Venezuela, Venezuela.
(the 3 year program became 5 because of the unrest situation in Venezuela)
Thesis: Functorial quantization.
Adviser: Mauricio Angel.
2005–2010 B.Sc. Mathematics, Universidad Central de Venezuela, Venezuela.
Thesis: Study of differential equations using geometric methods.
Adviser: Mauricio Angel.

Positions

2019–now Postdoc, Analysis group, Prof. Sylvie Paycha, Universität Potsdam, Germany (ongoing).
2015–2019 Researcher as PhD. Student, KU LEUVEN, Belgium.
2010–2015 Professor, Universidad Central de Venezuela, Venezuela.
2007–2010 Exercise session assistant, Universidad Central de Venezuela, Venezuela.

Languages

Spanish (native), English (fluent), French (intermediate), Dutch and German (basic).

RESEARCH

Publications

1. G, A. and Zambon, M.: "**Hausdorff morita equivalence of singular foliations**". Annals of Global Analysis and Geometry, 55(1):99–132, Feb 2019.

2. G, A and Yudilevich, O. "**On the inner automorphisms of a singular foliation**". Mathematische Zeitschrift, 293(1):725–729, Oct 2019.

3. G, A. and Zambon, M.: "**Quotients of singular foliations and Lie 2-group actions**" arXiv:1904.08890. (To appear in Journal of Non Commutative Geometry).

Preprints

1. G, A. and Villatoro, J.: "**Integration of singular foliations via paths**" arXiv:1912.02148.

Work in progress

1. Azzali, S; G,A. and Paycha, S: "**Higher gauge transformations and direct connections**".

Selected list of talks

2020-Oct   **Hybrid Workshop: Koszul duality and Operads**
Centre International de Rencontres Mathématiques. Marseille, FRANCE.

2019-Sep   **Academic Visit: Quotients and Groupoids Fibrations**
Università degli Studi di Salerno. Salerno, ITALY.

2019-Jul   **Academic Visit: Morita equivalence for singular foliations**
Universitatea de Vest din Timisoara. Timisoara, RUMANIA.

2019-May   **Workshop on Singular Foliations**
KU Leuven. Leuven, BELGIUM.

2018-Oct   **Groupe de travail: "Feuilletages singuliers"**
Université Paris Diderot. Paris, FRANCE.

2018-Sep   **Training School: "QSPACE 2018"**
Centro de ciencias de Benasque Pedro Pascual. Benasque, SPAIN.

2017-Aug   **Conference: "Pure and Applied Differential Geometry - PADGE 2017"**
KU Leuven. Leuven, BELGIUM.

2017-Jul   **Summer School: "Topologic, Algebraic and Geometric Methods in QFT"**
Universidad de los Andes, Villa de Leyva, COLOMBIA.

2012-Mar   **Workshop: "XXV Jornadas Venezolanas de Matemáticas"**
Universidad de Oriente. Cumaná, VENEZUELA.

TEACHING

Lectures

2015-Spring	"Algebra II" undergraduate course, UCV.
2014-Fall	"Matemáticas I" undergraduate course, UCV.
2014-Spring	"Algebra I" undergraduate course, UCV.
2013-Fall	"Elementos de la matemática" undergraduate course, UCV.
2013-Spring	"Matemáticas II" undergraduate course, UCV.
2012-Fall	"Elementos de la matemática" undergraduate course, UCV.
2012-Spring	"Matemáticas II" undergraduate course, UCV.
2011-Fall	"Elementos de la matemática" undergraduate course , UCV.
2011-Spring	"Matemáticas I" undergraduate course , UCV.
2010-Fall	"Matemáticas I" undergraduate course, UCV.

Exercise sessions

2020-Fall	"Mathematics for physicist I" undergraduate course, Universität Potsdam.
2020-Spring	"Heat Kernel" master course, Universität Potsdam.
2020-Spring	"Mathematics for physicist IV" undergraduate course, Universität Potsdam.
2019-Fall	"Mathematics for physicist III" undergraduate course, Universität Potsdam.
2018-Fall	"Differential Geometry" master course , KU Leuven.
2018-Fall	"Calculus en Analyse" undergraduate course, KU Leuven.
2018-Spring	"G-Structures" master course, KU Leuven.
2017-Fall	"Calculus en Analyse" undergraduate course, KU Leuven.
2016-Fall	"Calculus en Analyse" undergraduate course, KU Leuven.
2015-Fall	"Calculus en Analyse" undergraduate course, KU Leuven.
2010-Spring	"Matemáticas I" & "Matemáticas III" undergraduate courses, UCV.
2009-Fall	"Matemáticas I" & "Matemáticas III" undergraduate courses, UCV.
2009-Spring	"Matemáticas II" undergraduate course, UCV.
2008-Fall	"Matemáticas I" undergraduate course, UCV.
2008-Spring	"Matemáticas II" undergraduate course, UCV.
2007-Fall	"Matemáticas I" undergraduate course, UCV.

Part of the organization in the events

2020-Oct	**Virtual Workshop for Young Researchers: Singular Foliations and Related Structures**, *together with Leonid Ryvkin.* Universität Potsdam and Universität Duisburg Essen, GERMANY.
2020-Feb	**International Conference: Microlocal and Global Analysis, Interactions with Geometry**, *together with Prof. Sylvie Paycha.* Universität Potsdam. Potsdam, GERMANY.
2019-May	**Workshop on Singular Foliations**, *together with Ori Yudilevich and Prof. Marco Zambon.* KU Leuven. Leuven, BELGIUM.
2018-Jul	**Exposition of portraits: "Woman of Mathematics"** Science Library of KU Leuven. Leuven, BELGIUM.
2017-Jun	**"Forth Young Mathematicians Colloquium"** Vrije Universiteit Brussels. Brussels, BELGIUM.

Learning Seminars organized

2020-Fall "On integrability of Lie brackets", together with Sylvie Paycha. Universität Potsdam.
2020-Spring "On Index theory and Deformation quantization", together with Mehran Seyedhosseini. Universität Potsdam.

Advising

Malte Leimbach I am advising him together with Prof. Sylvie Paycha since October 2020 for a Master thesis on Freie Universität Berlin on differential operators for foliations since October 2020.

Nicola de Feo I was his informal host of an Erasmus exchange program at KU Leuven. We worked together with Prof. Marco Zambon on representations and integrability of Lie algebras from March till June 2018.

Teaching Training

2017-Feb **Faculty educational program for PhD students**
KU Leuven. Leuven, BELGIUM.
2011-Feb **Workshop: "1er Taller de experiencia docente"**
Universidad central de Venezuela. Caracas, VENEZUELA.

REFERENCES

Iakovos Androulidakis: National and Kapodistrian University of Athens, Greece.
email: iandroul@math.uoa.gr
Sylvie Paycha: Universität Potsdam, Germany.
email: paycha@math.uni-potsdam.de
Marco Zambon: KU Leuven, Belgium.
email: marco.zambon@kuleuven.be