Habilitation à Diriger les Recherches

Research activities

Elisabeth Remm

UHA-LMIA

- Doctoral thesis supervision

- Doctoral thesis supervision

- Publications

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- Publications

- Research themes

DOCTORAL THESIS SUPERVISION

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1. Maimouna Bent-Bah.

DOCTORAL THESIS SUPERVISION

1. Maimouna Bent-Bah.

   Co-supervision with Professor A. Awane, University of Hassan II, Casablanca.

   Defended in June, 2007, Casablanca.

   Theme: k-structures complexes.

   Currently, Miss Bent-Bah is assistant at the University of Nouakchott, Mauritania.

DOCTORAL THESIS SUPERVISION

1. Maimouna Bent-Bah.

2. Lucia Garcia Vergnolle.

DOCTORAL THESIS SUPERVISION

1. Maimouna Bent-Bah.

2. Lucia Garcia Vergnolle.

   PH.D.- Co-tutorship (Thèse en co-tutelle). Co-supervision with Professor J.M Ancochea Bermudez (Universidad Complutense, Madrid).

   Defended in September, 2009, in Madrid.

   Theme: On existence of complex structures on nilpotent Lie algebras.

   Currently Miss Garcia-Vergnolle is (fixed term) lecturer-researcher at the University of Complutense.

DOCTORAL THESIS SUPERVISION

- 1. Maimouna Bent-Bah.
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- 3. Nicolas Goze (Allocataire-Moniteur UHA).

DOCTORAL THESIS SUPERVISION

- 1. Maimouna Bent-Bah.
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Theme: On an algebraic model of the arithmetic of intervals. n-ary Algebras.

PUBLICATIONS

Currently 16 publications listed in MathSciNet.

Principal reviews:

Journal of Algebra (3)

Linear and Multilinear Algebra (1)

Communications in Algebra (1)

Journal of Algebra and its Applications (1)

Journal of Lie theory (1)

Algebra Colloquim (1)

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- Applications?

2. Geometrical structures on Lie algebras

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Example:

$$\begin{cases} e^a x + e^a - 1, \\ e^a\left(e^b - 1\right)x + e^{a+b}y + e^a(e^b - 1), \\ e^a\left(e^c - 1\right)x + e^{a+c}z + e^a\left(e^c - 1\right) \end{cases}$$

(Linear Algebra Appl., 360 (2003).)

◦ Obstructions to the extension of affine structures on contact Lie algebras (any symplectic Lie algebra can be provided with an affine structure). (Lect. Notes Pure Appl. Math., 246, Chapman & Hall/CRC, Boca Raton, FL, 2006.)

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  (1) $J^2 = -Id$,

  (2) $[JX, JY] = [X, Y] + J[JX, Y] + J[X, J(Y)], \forall X, Y \in \mathfrak{g}$.

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$$\begin{cases} [X_0, X_i] = X_{i+1}, \quad i = 1, 2, 3, \\ [X_1, X_2] = X_5, \\ [X_1, X_5] = X_4. \end{cases}$$

(J. Lie Theory, 19 (2009).)

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  - Classification of compact riemannian $\mathbb{Z}_2^2$-symmetric spaces. (Differential geometry, 195–206, World Sci. Publ., Hackensack, NJ, 2009.)

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- (Non)Koszulity of Lie-Admissible operad and G_i-Associative operads. (J. Algebra, 273 (2004).)

- (Non)Koszulity of 3-power associative operads, including the alternative operad. (arXiv:0910.0700)

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- On the algebras obtained by tensor product. The current operad. (Journal of Algebra. To appear.)

SUBMITTED PAPERS

Markl M., Remm E. (Non-)Koszulity of operads for n-ary algebras, cohomology and deformations. arXiv:0909.1419

Goze N., Remm E. n-ary associative algebras, cohomology, free algebras and coalgebras. arXiv:0803.0553

Remm E. On the NonKoszulity of 3-ary partially associative Operads.

PUBLICATIONS

Goze M., Remm E. On the algebras obtained by tensor product. To appear in Journal Of Algebra.

Goze N., Remm E. The n-ary algebra of tensors and of cubic and hypercubic matrices To appear in Linear and Multilinear Algebra

Garcна Vergnolle L., Remm E. Complex structures on quasi-filiform Lie algebras. J. Lie Theory 19 (2009), no. 2, 251–265.

Goze M., Remm E. Riemannian Γ-symmetric spaces. Differential geometry, 195–206, World Sci. Publ., Hackensack, NJ, 2009.

Goze M., Remm E. Poisson algebras in terms of non-associative algebras. J. Algebra 320 (2008), no. 1, 294–317.

Goze M., Remm E. A class of nonassociative algebras. Algebra Colloq. 14 (2007), no. 2, 313–326.

Goze M., Remm E. Lie-admissible coalgebras. J. Gen. Lie Theory Appl. 1 (2007), no. 1, 19–28 (electronic).

Markl M., Remm E. Algebras with one operation including Poisson and other Lie-admissible algebras. J. Algebra 299 (2006), no. 1, 171–189.

Remm E. Vinberg algebras associated to some nilpotent Lie algebras. Non-associative algebra and its applications, 347–364, Lect. Notes Pure Appl. Math., 246, Chapman & Hall/CRC, Boca Raton, FL, 2006.

Goze M., Remm E. Valued deformations of algebras. J. Algebra Appl. 3 (2004), no. 4, 345–365.

Goze M., Remm E. Lie-admissible algebras and operads. J. Algebra 273 (2004), no. 1, 129–152.

Goze M., Remm E. Affine structures on abelian Lie groups. Linear Algebra Appl. 360 (2003), 215–230.

Goze M., Remm E. Non existence of complex structures on filiform Lie algebras. Comm. Algebra 30 (2002), no. 8, 3777–3788.

Goze M., Remm E. Nilpotent control systems. Rev. Mat. Complut. 15 (2002), no. 1, 199–211.

Remm E. Opérades Lie-admissibles. (French) [Lie-admissible operads] C. R. Math. Acad. Sci. Paris 334 (2002), no. 12, 1047–1050.

Goze M., Remm E. Noncomplete affine structures on Lie algebras of maximal class. Int. J. Math. Math. Sci. 29 (2002), no. 2, 71–77.

Remm E. Non-existence of complex structures on filiform Lie algebras. An. Univ. Timis,oara Ser. Mat.-Inform. 39 (2001), Special Issue: Mathematics, 391–399.

Goze M., Remm E. Affine structures on Lie algebras. An. Univ. Timis,oara Ser. Mat.-Inform. 39 (2001), Special Issue: Mathematics, 251–272.

The most beautiful result is the birth of the new brother of my little child Paul.