

# Curriculum Vitae

## INFORMAZIONI PERSONALI

**Nome** GIUSEPPE  
**Cognome** METERE  
**Recapiti** Dipartimento di Matematica e Informatica  
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## FORMAZIONE TITOLI

**2010 – 2012:** postdoc grant at Università degli Studi (Milan) under the supervision of prof. Sandra Mantovani.

**2008, 1<sup>st</sup>February:** PhD in Mathematics at the University of Milano, supervised by Stefano Kasangian (Univ. of Milan) and Enrico M. Vitale (UCL), with a thesis on “Exact Sequences of n-Groupoids”

**2003 3<sup>rd</sup>November:** bachelor degree in Mathematics, University of Milano, with a thesis on “Semidirect product of Categorical Groups”, supervisor prof. Stefano Kasangian.

## ATTIVITA' DIDATTICA

**2013 – now:** teaching Algebra 2 & 3, and Discrete Maths (CdL Matematica) University of Palermo, Palermo.

**2008 – 2012:** tutor and assistant – course of Mathematics for Economical Sciences, Università Bocconi, Milan.

**2009 – 2012:** assistant – course of Analysis and Geometry II, prof. A. Di Libero, Faculty of Engineering, Milan

**2007 – 2012:** assistant – course of Analysis and Geometry I & II, prof. F.Colombo, Faculty of Engineering, Milan

**2009 – 2010** course “Istituzioni di matematiche con elementi di statistica”, Faculty of Farmacia, Università degli Studi of Milan.

**2009 – 2010** course “Matematica”, Faculty of Agraria, Università degli Studi of Milan.

**2008 – 2010** course “Complementi di Matematica I” (Finite fields)– Laurea magistrale in Informatica, Università dell’Insubria, Varese

**2009:** assistant – course of Algebra II, prof. V. Zambelli, Università degli Studi of Milan

**2003 – 2008:** assistant – course of Theoretical Computer Science – prof S.Kasangian, Università degli Studi of Milan.

**2005 – 2006:** tutor – course of Algebra I and II - prof. V.Zambelli, Università degli Studi of Milan.

**2006:** courses of “Aritmetica I” and “Aritmetica II” – SILSIS Milano - 59/A.

**2005 – 2006:** assistant – course of Mathematics for Economical Sciences - prof. M.Mauri, University of Milan Bicocca.

## ASSOCIAZIONI SCIENTIFICHE

Member of the INDAM group: GNSAGA 4. Strutture algebriche e geometria combinatoria.

## PUBBLICAZIONI

1. A. Cigoli, S. Mantovani and G. Metere, **Peiffer product and Peiffer commutator for internal pre-crossed modules**, Homotopy Homology and applications, (2017).
2. G. Metere, **A note on strong protomodularity, actions and quotients**, *Journal of Pure and Applied Algebra* 221 (2017) 75-88.
3. A. Cigoli, and G. Metere, **Extension theory and the algebra of butterflies**, *Journal of Algebra* 458 (2016), 87–119.
4. A. Cigoli, S. Mantovani and G. Metere, **A push forward construction and the comprehensive factorization for internal crossed modules**, *Applied Categorical Structures*, 2014, Volume 22, Issue 5-6, 931-960.
5. A. Cigoli, G. Metere and A. Montoli, **Obstruction theory in action accessible categories**, *Journal of Algebra*, 385 (2013) 27-46.
6. S. Mantovani, G. Metere and E.M. Vitale, **Profunctors in Mal'cev categories and fractions of functors**, *Journal of Pure and Applied Algebra*, 217 (2013) 1173-1186.
7. S. Mantovani, G. Metere and E.M. Vitale, **Butterflies in a semi-abelian context**, *Advances in Mathematics*, 238 (2013), 140-183.
8. S. Kasangian, G. Metere and E.M. Vitale, **The ziqqurath of exact sequences of n-groupoids**, *Cahiers de Topologie et Géométrie Différentielle Catégoriques*, Volume LII-1 (2011).
9. S. Mantovani, Metere, **Normalities and commutators**. *J. Algebra* 324 (2010), no. 9, 2568–2588, 08A30 (18A20).
10. S. Mantovani, G. Metere, **Internal crossed modules and Peiffer condition**, *Theory and Applications of Categories*, Vol. 23, No. 6, 2010, pp. 113-135.
11. G. Metere and A. Montoli, **Semidirect product of internal groupoids**, *Journal of Pure and Applied Algebra*, Vol. 214, Issue 10, October 2010, 1854-1861.
12. S. Kasangian, S. Mantovani, G. Metere, E.M. Vitale, **External Derivations of internal groupoids**, *Journal of Pure and Applied Algebra*, Volume 212, Issue 1, January 2008, 175-192.
13. S. Kasangian, G. Metere and E.M. Vitale, **Split extensions, semidirect product and the holomorph of categorical groups**, *Homology, Homotopy Appl.* 8 (2006) no. 1, 145-167.

## ATTIVITA' SCIENTIFICHE

**2012 – 2015: PRIN.** Member of the PRIN “Metodi logici per il trattamento dell'informazione”.

**2007 – now: GNSAGA.** Member of the National Research Group *Strutture algebriche e geometria combinatoria*, INDAM.

**2010 – 2012:** postdoc grant at Università degli Studi (Milan) under the supervision of prof. Sandra Mantovani.

**2007 – 2009:** member of Progetto Finvali – INVALSI – research project for the evaluation of core-skills in primary and secondary schools.

**2008:** postdoc grant for a research stage at Department of Mathematics – Polytechnic of Milan, supervised by prof. Renato Betti.

#### Organization of international meetings:

- 26 – 30 April 2015:** organizing committee for the international meeting “**CatAlg2011: Workshop in Categorical Algebra**” – Gargnano del Garda, Italy
- 11 – 12 October 2014** – organizing and scientific committee for the **96<sup>th</sup> Peripatetic Seminar on Sheaves and Logic**, Palermo.
- 24 – 26 June 2013**– organizing and scientific committee for the conference “**In memory of Aurelio Carboni**”, Milan.
- 27 September - 1 October:** organizing committee for the international meeting “**CatAlg2011: Workshop in Categorical Algebra**” – Gargnano del Garda, Italy
- 26 – 28 October 2006**– organizing and scientific committee for the international meeting “**CatAlg2006: Workshop in Categorical Algebra**”, Milan.

**Referee for the following academic journals:** Journal of Algebra and its Applications, Theory and application of Categories, Cahiers de topologie et géométrie différentielle catégoriques, Applied categorical structures.

#### Seminars and talks:

- 13 marzo 2016** – talk: **Comprehensive factorization and "internal" crossed profunctor composition**, al 99th Peripatetic Seminar on Sheaves and Logic, Braunschweig, Germany,
- 1 marzo 2016** – talk: **Composizione di distributori e fattorizzazione comprensiva**, Seminario di Teoria delle Categorie, Università degli Studi di Milano, 12 - 13 February 2016.
- 17 febbraio 2016** – talk: **Comprehensive factorization and composition of distributors**, UCL-VUB Category seminar, UCL.- Louvain-la-Neuve, Belgio.
- 9-10 gennaio 2016** – partecipazione to the 98th Peripatetic Seminar on Sheaves and Logic, Doorn (Utrecht), Olanda.
- 31 October 2015** – talk: **Normal monomorphisms in Mal'tsev regular categories**, at the “Seminaire Itinerant de Categories” - UCL - Louvain-la-Neuve, Belgium.
- 10-12 September 2015** – partecipazione at “Workshop in Category Theory and Algebraic Topology”, UCL Louvain-la-Neuve, Belgium.
- 14 giugno 2015** – talk: **Aspects of strong protomodularity, actions and quotients**, at the Category Theory Conference, “CT 2015”, Aveiro, Portugal, 14 - 19 June 2015.
- 1 febbraio 2015** – talk: **Extension theory and the calculus of butterflies**, at the 96th Peripatetic Seminar on Sheaves and Logic, Louvain-la-Neuve, Belgium, 31 January – 1 February 2015.
- 11 – 12 October 2014** – organizing and scientific committee for the 96th Peripatetic Seminar on Sheaves and Logic, Palermo.
- 1 July 2014** – talk: **Peiffer Commutator and Peiffer Product of Pre-Crossed B-Modules in the Semi-Abelian Context**, at the International Category Theory Conference, “CT 2014”, Cambridge, UK, 29th June – 5th July 2014.

- 17 May 2014** – talk: **How to get a snail from a butterfly**, at the “Seminaire Itinerant de Categories” - Louvain-la-Neuve, Belgium.
- 16 November 2013** – participation at the “Seminaire Itinerant de Categories” - Paris
- 24 – 26 June 2013** – organizing and scientific committee for the conference “In memory of Aurelio Carboni”, Milan.
- 6 June 2013** - participation at the “Giornata INDAM” - Palermo.
- 24 - 31 May 2013** participation at the “Seminaire Itinerant de Categories” - Louvain-la-Neuve, Belgium. + one week visiting professor (with grant from UCL).
- 25<sup>th</sup>26<sup>th</sup> January 2013**: participation at Gruppen und Topologische Gruppen, Milano, Italy.
- 7<sup>th</sup>9<sup>th</sup> February 2013**: participation at the Workshop “Categorical Methods in non-Abelian Algebra”, Coimbra, Portugal
- 9<sup>th</sup>13<sup>rd</sup> July 2012**: talk: **A push forward construction and the comprehensive factorization for internal crossed modules**, Coimbra, Portugal
- 19<sup>th</sup> May 2012**: participation at the “Seminaire Itinerant de Categories” - Louvain-la-Neuve, Belgium. + one week visiting professor (grant).
- 9<sup>th</sup>10<sup>th</sup> December 2011**: talk: “**Braiding for internal groupoids and crossed modules**”, at Gruppen und Topologische Gruppen, Wuerzburg, Germany
- October – December 2011**: Cycle of seminars: **Diverse interpretations of low dimensional group cohomology**, University of Milan
- 27<sup>th</sup> September - 1<sup>st</sup> October**: invited talk: “**Braided and symmetric internal groupoids**”, CatAlg2011 – Workshop in categorical algebra – Gargnano del Garda, Italy
- 17<sup>th</sup>– 23<sup>rd</sup> July 2011**, participation at the International Category Theory Conference, “CT 2007”, Vancouver, Canada.
- 17<sup>th</sup> December 2010**: talk: “**Aspects of Butterflies in semiabelian contexts**” Workshop in Algebraic Geometry, Milano.
- 27<sup>th</sup>– 28<sup>th</sup> November 2010**: talk “**Butterflies in semiabelian categories**”, Peripatetic Seminar on Sheaves and Logic, Amsterdam, The Netherlands.
- 23<sup>rd</sup> February 2009**, talk “**Actions in action: Peiffer pre-crossed modules vs \*-multiplicative graphs**”, UCL-VUB Category seminar, Brussel.
- 30<sup>th</sup> June – 5<sup>th</sup> July 2008**, participation at the “HOCAT 2008”, Barcelona, Spain.
- 22<sup>nd</sup>– 28<sup>rd</sup> June 2008**, talk “**Weak inverses for strict n-categories**” at the International Category Theory Conference, “CT 2008”, Calais, France.
- 4<sup>th</sup> – 14<sup>th</sup> February 2008**, participation with grant at the “Advanced Course on Simplicial Methods in Higher Categories”, Barcelona, Spain.
- 18<sup>th</sup> January 2008**, talk “**Exact sequences of strict n-Groupoids: topological aspects**”, University of Bologna, Italy.
- 17<sup>th</sup>– 23<sup>rd</sup> June 2007**, participation at the International Category Theory Conference, “CT 2007”, Carvoeiro, Algarve, Portugal.
- 3<sup>rd</sup>– 10<sup>th</sup> June 2007**, talk “**Exact sequences of strict n-Groupoids**”, Summer School on Contemporary Categorical Methods in Algebra and Topology, Haute-Bodeux Ardennes, Belgium.
- 24<sup>th</sup>– 25<sup>th</sup> March 2007**, talk “**The Ziqqurath of exact sequences of n-Groupoids**”, 85<sup>th</sup> Peripatetic Seminar on Sheaves and Logic, Université de Nice Sophia-Antipolis, Nice, France.
- 25<sup>th</sup> June – 1 July 2006** participation at the International Category Theory Conference, “CT 2006” White Point,

Nova Scotia, Canada.

**10<sup>th</sup> February 2006**, talk “**Split extensions, semidirect product and holomorph of categorical groups, II**”, “Séminaire de théorie des catégories”, UCL, Louvain-la-Neuve, BELGIUM.

**26<sup>th</sup> – 28<sup>th</sup> October 2006**– organizing and scientific committee for the international “Workshop in Categorical Algebra”, Milan.

**7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> October 2005**– participation at *Colloque International “Charles Ehresmann: 100 ans”*

**8<sup>th</sup>, 10<sup>th</sup> September 2005**, talk “**Split extensions, semidirect product and the holomorph of categorical groups**” at *SECA3 : III Seminar on Categories and Applications*– Santiago de C.la, Spain.

**28<sup>th</sup> January 21<sup>st</sup> February 2005**– Visiting student in Louvain-la-Neuve.

**17<sup>th</sup>, 18<sup>th</sup> September 2004**– participation at *SECA2: II Seminar on Categories and Applications* – Granada, Spain.

## AMBITI DI RICERCA

Ricercatore in Algebra MAT/02

Interessi di ricerca: Algebra Categoriale, Teoria delle Categorie

ntifica Nazionale:

- settore: 01/A2 - Geometria e Algebra, dal 31 dicembre 2014.

- settore: 01/A1 - Logica matematica e matematiche complementari, dal 7 marzo 2014.