*Curriculum Vitae*
**Giuseppe METERE**

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**personal:**   Born in Milano, 16 February 1970, Italian citizen.

**contacts**:

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**current position:**   Since **1/7/2019,** I am Associate Professor of Algebra (MAT/02), at the Dipartimento di Matematica e Informatica of the University of Palermo.

**past positions:**

**2016 – 2019**: Ricercatore RTD(B) (Assistant Professor) in Algebra, at the Dipartimento di Matematica e Informatica of the Università degli Studi di Palermo.
**2013 – 2015**: Ricercatore RTD(A) (Assistant Professor) in Algebra, at the Dipartimento di Matematica e Informatica of the Università degli Studi di Palermo.
**2010 – 2012**: postdoc grant at the Università degli Studi di Milano under the supervision of prof. Sandra Mantovani.
**2008**: postdoc grant for a research stage at the Dipartimento di Matematica – Politecnico di Milano, supervised by prof. Renato Betti.

**abilitazione scientifica nazionale:**

I have been awarded the Italian qualification as full professor (abilitazione per professore di prima fascia):

- settore concorsuale: 01/A1 Logica matematica e mat. Complementari, from 8/11/2020 to 8/11/2030
- settore concorsuale: 01/A2 Geometria e Algebra, from 11/11/2020 to 11/11/2030

**education:**   **2008,** 1 February: PhD in Mathematics at the Università degli Studi di Milano, supervised by Stefano Kasangian (Univ. of Milan) and Enrico M. Vitale (UCLouvain), with a thesis on "Exact Sequences of *n*-Groupoids".

**2003,** 3 November: bachelor degree in Mathematics (Laurea in Matematica, vecchio ordinamento, graded 110/110), Università degli Studi di Milano, with a thesis on "Semidirect product of Categorical Groups", supervisor prof. Stefano Kasangian.

**languages:**   Italian (native), English (fluent).

**Teaching 2013-2023** (Università degli Studi di Palermo):

**2022/23**: "Algebra 2", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2022/23**: "Matematica Discreta", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Informatica.

**2021/22**: "Algebra 2", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2021/22**: "Matematica Discreta", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Informatica.

**2020/21**: "Algebra 2", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2020/21**: "Matematica Discreta", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Informatica.

**2019/20**: "Algebra 2", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2019/20**: "Matematica Discreta", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Informatica.

**2018/19**: "Algebra 2", 60 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2018/19**: "Matematica Discreta", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Informatica.

**2017/18**: "Algebra 2", 60 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2017/18**: "Matematica Discreta", 48 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Informatica.

**2016/17**: "Algebra 2", 56 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2016/17**: "Matematiche Elementqri dal Punto di Vista Superiore", 48 hours, 6 CFU, S.S.D. MAT/04, S.C. 01/A1, in Italian, Corso di Laurea in Matematica.

**2015/16**: "Algebra 2", 52 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2016/17**: "Algebra 3", 48 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2014/15**: "Algebra 2", 48 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2013/14**: "Algebra 2", 48 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.

**2013/14**: "Matematica Discreta" (Teoria delle Specie Combinatorie), 48 hours, 6 CFU, S.S.D. MAT/02, S.C. 01/A2, in Italian, Corso di Laurea in Matematica.


**Teaching 2005-2012:**

**2008 – 2012**: Teaching Assistant for Mathematics for Economical Sciences (in English), Università L. Bocconi, Milano.

**2009 – 2012**: Teaching Assistant for Analysis and Geometry II, prof. A. Di Libero, Faculty of Engineering, Politecnico di Milano.

**2007 – 2012**: Teaching Assistant for Analysis and Geometry I & II, prof. F. Colombo, Faculty of Engineering, Politecnico di Milano.

**2009 – 2010:** "Istituzioni di matematiche con elementi di statistica", Faculty of Farmacia, Università degli Studi di Milano.

**2009 – 2010**: "Matematica", Faculty of Agraria, Università degli Studi of Milan.

**2008 – 2010**: "Complementi di Matematica I" (Finite fields)– Laurea magistrale in Informatica, Università dell'insubria, Varese

**2009**: Teaching Aassistant for Algebra 2, prof. V. Zambelli, Università degli Studi of Milan

**2003 – 2008**: Teaching Assistant for Theoretical Computer Science ("Fondamenti di Informatica") – prof S. Kasangian, Università degli Studi di Milano.

**2005 – 2006**: Teaching Assistant Algebra 1 and 2 - prof. V. Zambelli, Università degli Studi di Milano.

**2006**: "Aritmetica I" and "Aritmetica II" – SILSIS Milano - 59/A.

**2005 – 2006**: Teaching Assistant for Mathematics for Economical Sciences ("Matematica") - prof. M. Mauri, Università di Milano Bicocca.

**theses supervised:** In the time-span 2012-2023 I have supervised 12 theses for bachelor degrees ("laurea") in Mathematics or Informatics, and 5 theses for master degrees ("laurea magistrale") in Mathematics or Informatics. Details can be found on my institutional webpage:

- https://www.unipa.it/persone/docenti/m/giuseppe.metere/?pagina=tesi

I am currently supervising Manuel Mancini, PhD candidate, XXXVI ciclo "Dottorato in Matematica e Scienze Computazionali" Università degli Studi di Palermo, S.S.D. MAT/02, subject: "Derivations of Leibniz Algebras and weak representability of actions for categories of non associative algebras".

I have been jury member of the PhD of Andrea Cappelletti and Francesca Guffanti (2023 – Milano), Guillermo Andrés Lopez Cafaggi (2022 – Universitè catholique de Louvain), Corentin Drugmand (2016 – Universitè catholique de Louvain), Linda Pizzamiglio (2013 – Milano Bicocca).

**institutional activities and other:**

I am member of the "Collegio Docenti" of the "Dottorato in Matematica e Scienze Computazionali" for the XXXVI ciclo, XXXVII ciclo and  XXXVIII ciclo, consorzio Università di Palermo, Messina e Catania.

I am member of the Unit "Commissione di Gestione AQ della Ricerca e Terza Missione Dipartimentale" of the Dipartimento di Matematica e Informatica dell'Università degli Studi di Palermo since 2020.

I organized the Palermo edition of World Logic Day (UNESCO), 13 January 2023.

I presented of the "CdL in Mathematics" for the Università di Palermo Welcome Week, Edition 2022.

I serve as Academic Tutor ("tutor accademico") for the CdL in Matematica (Università degli Studi di Palermo) since 2014.

**research:**

**2019 – now: ItaCa.** Co-founder and member of the steering committee of the **Italian Community of Category Theorists "ItaCa"**, which runs a series of online seminars (ItaCa Fest 2020, 2021, 2022), an annual meeting (Milano 2020, Genova 2021, Pisa 2022), online courses and other scientific activities. More details on the website:

https://progetto-itaca.github.io/

**2018**: **FFABR** grant (Fondo Finanziamento annuale individuale delle Attività di Base di Ricerca).

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

**2012 – 2015: PRIN.** Member of the PRIN (Italian national research project) research project: "Metodi logici per il trattamento dell'informazione".

**2010 – 2012**: postdoc grant at Università degli Studi di Milano under the supervision of prof. Sandra Mantovani.

**2004 – 2014**: member of the "Seminar of Category Theory", Università degli Studi di Milano.

**2007 – 2009**: member of **Progetto Finvali – INVALSI** – research project for the evaluation of core-skills in primary and secondary schools. Title of the project: "Obiettivi cognitivi, saperi minimi e linguaggi nelle Prove nazionali di fine ciclo: l'area umanistica, l'area matematica e l'area delle scienze sperimentali".

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

**organization of international meetings:**

**15 – 17 September 2023** – organizing and scientific committee for the **105th Peripatetic Seminar on Sheaves and Logic**, Terrasini (Palermo), Italy.

**26 – 30 April 2022 –** organizing committee for the international meeting **"CatAlg2022: Workshop in Categorical Algebra"** – Gargnano del Garda, Italy.

**30 August – 4 September 2021 –** organizing committee for the **CT20→21 Category Theory conference**, Genova, Italy.

**17- 19 May 2019 –** organizing and scientific committee for the **105th Peripatetic Seminar on Sheaves and Logic**, Palermo, Italy.

**28 May – 1 June 2018 –** scientific committee for the international meeting **"CatAlg2018: Workshop in Categorical Algebra"** – Gargnano del Garda, Italy.

**26 – 30 April 2015 –** organizing committee for the international meeting **"CatAlg2015: Workshop in Categorical Algebra"** – Gargnano del Garda, Italy.

**11 – 12 October 2014** – organizing and scientific committee for the **96th Peripatetic Seminar on Sheaves and Logic**, Palermo, Italy.

**24 – 26 June 2013** – organizing and scientific committee for the conference **"In memory of Aurelio Carboni"**, Milan, Italy.

**27 September – 1 October 2011:** 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, Italy.

**referee for the following academic journals (and institutions):**

- Journal of Algebra and its Applications,
- Theory and application of Categories,
- Cahiers de topologie et géométrie différentielle catégoriques,
- Applied categorical structures
- Journal of Homotopy and Related structures

- referee for F.R.S.-FNRS (Belgique)

**participation to conferences and talks:**

2–8 July 2023, participation at "Category Theory 2023", Louvain-la-Neuve, Belgium.

15–16 June 2023, talk: "*Cohomology 2-groups: an invitation to higher dimensional categorical algebra*", at the conference: "GTG: Groups and Topological groups", Milano, Italy.

29 May–1 June 2023, participation at the "Workshop on Doctrines & Fibrations", Padova, Italy.

5 May 2023, invited talk at "Incontro in memoria di Bill Lawvere", Firenze, Italy.

31 March – 1 April 2023, talk: "*Groupal pseudofunctors and cohomology 2-groups*", at the "107th Peripatetic Seminar on Sheaves and Logic", Athens, Greece.

17 March 2023, participation at "Genoese recollections on Lawvere's work and ideas", Genova, Italy.

27-28 January 2023, participation at "Categories, Rings and Modules, a conference in honor of Alberto Facchini", Padova, Italy.

21-22 December 2022, participation at the "3rd ItaCa Workshop", Pisa, Italy.

30 November 2022, invited talk: "*The wise old scientist: a commentary on ethics, old age and science*", at the conference: "Personalised services for the Elders. Discussing design options in an interdisciplinary and intercultural way". Villa Vigoni - 28th November - 2nd December 2022.

7 September 2022, talk: "*Groupal pseudofunctors*", at the conference: "New Trends in Hopf Algebras and Monoidal Categories", Università di Torino 6-9 September 2022.

14–18 June 2022, participation at TACL 2021-23 summer school, Praia de Mira, Portugal.

8 June 2022, invited talk: "*Un invito all'algebra categoriale*", Seminario di Dipartimento, Università degli Studi di Palermo.

26–30 April 2022, participation at "CatAlg2022: Workshop in Categorical Algebra" – Gargnano del Garda, Italy.

20-21 December 2021, participation at the "2nd ItaCa Workshop", Genova, Italy.

30 August – 4 September 2021, participation at the "CT20→21 Category Theory" conference, Genova, Italy.

20 February 2020, invited talk: "*Some fibrational properties of normal monomorphisms*", TAC seminar, Università di Genova.

4 November 2019, invited talk: "*Algorithms and diagrammatic reasoning*", at the international workshop: "Autonomous and Algorithmic Cultures: Responsibility in the Knowledge Production and its Applications". Villa Vigoni (Como) - 4-8 November 2019.

17- 19 May 2019, participation at the "105th Peripatetic Seminar on Sheaves and Logic", Palermo, Italy.

22 March 2019, participation at the "Seminaire Itinerant de Categories", Louvain-la-Neuve, Belgium.

25 February 2019, participation to "Categorical day in Turin", Turin.

8–14  July 2018, participation at the International "Category Theory Conference, CT 2018", University of Azores, Ponta Delgada, S. Miguel, Azores, Portugal.

24–29 July 2018, participation at the conference "Topos in Como", Como, Italy.

28 May–1 June 2018, participation at  "CatAlg2018: Workshop in Categorical Algebra" – Gargnano del Garda, Italy.

7 April 2018, talk: "Fibred and internal aspects of distributors composition", at the "103rd Peripatetic Seminar on Sheaves and Logic", 6-8 April 2018, Masaryk University, Brno, Czech Republic.

13–14 January 2018, participation at the "102nd Peripatetic Seminar on Sheaves and Logic", Universidade de Santiago de Compostela, Spain.

1–3 June 2017, talk: "Some thoughts on Yoneda's ``regular spans´´ and related notions" at the "5th Workshop on Categorical Methods in Non-Abelian Algebra", UCL, Louvain-la-Neuve, Belgium.

13–15 February 2017, participation at the "Conference for Young researchers in homotopy theory and categorical structures", Max Planck Institute for Mathematics, Bonn, Germany.

13 March 2016, talk: "*Comprehensive factorization and internal crossed profunctor composition*", at the "99th Peripatetic Seminar on Sheaves and Logic", Braunschweig, Germany.

1 March 2016, talk: "*Composizione di distributori e fattorizzazione comprensiva*", Seminario di Teoria delle Categore, Università degli Studi di Milano.

17 February 2016, talk: "*Comprehensive factorization and composition of distributors*", UCL-VUB Category seminar, UCL.- Louvain-la-Neuve, Belgium.

9–10 genaio 2016, partecipation at the "98th Peripatetic Seminar on Sheaves and Logic", Doorn (Uthrecht), The Netherlands.

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, partecipation at "Workshop in Category Theory and Algebraic Topology", UCL Louvain-la-Neuve, Belgium.

14 June 2015, talk: "*Aspects of strong protomodularity, actions and quotients*", at the Category Theory Conference, "CT 2015", Aveiro, Portugal, 14 - 19 June 2015.

26 – 30 April 2015, participation at "CatAlg2015: Workshop in Categorical Algebra" – Gargnano del Garda, Italy.

1 February 2015, talk: "*Extension theory and the calculus of butterflie*s", at the "97th Peripatetic Seminar on Sheaves and Logic", Louvain-la-Neuve, 31 January – 1 February 2015,  Belgium.

11–12 October 2014, participation at the "96th Peripateric Seminar on Sheaves and Logic", Palermo, Italy.

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", 29th June – 5th July 2014, Cambridge, UK.

17 May 2014, talk: "*How to get a snail from a butterfl*y", 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, participation at the conference "In memory of Aurelio Carboni", Milan, Italy.

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).

25–26 January 2013, participation at "Gruppen und Topologische Gruppen", Milano, Italy.

7–9 February 2013, participation at the Workshop "Categorical Methods in non-Abelian Algebra", Coimbra, Portugal.

9–13 July 2012, talk: "*A push forward construction and the comprehensive factorization for internal crossed modules*", at the "Workshop on Category Theory, in honour of George Janelidze", on the occasion of his sixtieth birthday, Coimbra, Portugal

19 May 2012: participation at the "Seminaire Itinerant de Categories" - Louvain-la-Neuve, Belgium. + one week visiting professor (grant).

9–10 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, Italy.

27 September –1 October 2011, invited talk: "*Braided and symmetric internal groupoids*", "CatAlg2011 – Workshop in categorical algebra", Gargnano del Garda, Italy

17–23 July 2011, participation at the "International Category Theory Conference, CT 2007", Vancouver, Canada.

17 December 2010, talk: "*Aspects of Butterflies in semi-abelian contexts*", "Workshop in Algebraic Geometry", Milano, Italy.

27–28 November 2010, talk "*Butterflies in semi-abelian categories*", at the "Peripatetic Seminar on Sheaves and Logic", Amsterdam, The Netherlands.

23 February 2009, talk "*Actions in action: Peiffer pre-crossed modules vs \*- multiplicative graphs*", UCL-VUB Category seminar, Brussel.

30 June–5 July 2008, participation at the "HOCAT 2008", Barcelona, Spain.

22–28 June 2008, talk: *"Weak inverses for strict n-categories"* at the "International Category Theory Conference, CT 2008", Calais, France.

4–14 February 2008, participation with grant at the "Advanced Course on Simplicial Methods in Higher Categories", Barcelona, Spain.

18 January 2008, talk "*Exact sequences of strict* n-*Groupoids: topological aspects"*, University of Bologna, Italy.

17–23 June 2007, participation at the International "Category Theory Conference, CT 2007", Carvoeiro, Algarve, Portugal.

3–10 June 2007, talk "*Exact sequences of strict* n-*Groupoids"*, at the "Summer School on Contemporary Categorical Methods in Algebra and Topology", Haute-Bodeux Ardennes, Belgium.

24–5 March 2007, talk "*The Ziqqurath of exact sequences of* n-*Groupoids"*, 85th Peripatetic Seminar on Sheaves and Logic, Université de Nice Sophia-Antipolis, Nice, France.

25 June–1 July 2006 participation at the International Category Theory Conference, "CT 2006" White Point, Nova Scotia, Canada.

10 February 2006, talk "*Split extensions, semidirect product and holomorph of categorical groups, II"*, "Séminaire de théorie des catégories", UCL, Louvain-la-Neuve, BELGIUM.

26–28 October 2006, participation at the "Workshop in Categorical Algebra", Milan, Italy.

7–9 October 2005, participation at the "Colloque International Charles Ehresmann: 100 ans"

8–10 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 January–21 February 2005, visiting student in Louvain-la-Neuve.

17–18 September 2004, participation at "SECA2: II Seminar on Categories and Applications", Granada, Spain.

**preprints:** (a selection is available on the author's webpage)

1. A. S. Cigoli, M. Mancini, G. Metere, **On the representability of actions of Leibniz algebras and Poisson algebras**, submitted (2023).
2. S. Lapenta, G. Metere, L. Spada, **Relative ideals in homological categories, with an application to MV-algebras**, submitted (2022).
3. S. Kasangian, G. Metere and E. M.Vitale**, Weak inverses for strict n-categories,** unpublished, 2010.
4. G. Metere, **Homotopy pullbacks for n-categories**, unpublished, 2009.

**publications** (all in peer reviewed international journals)**:**

1. A. S. Cigoli, S. Mantovani, G. Metere, **The third cohomology 2-group**, Milan J. Math. (2023).
2. A. S. Cigoli, S. Mantovani, G. Metere, **On pseudofunctors sending groups to 2-groups**, Mediterr. J. Math. 20, 17 (2023).
3. A. S. Cigoli, S. Mantovani, G. Metere, E. M. Vitale, **Fibred-categorical obstruction theory**, Journal of Algebra 593 (2022).
4. D. Bourn, G. Metere, **A note on the categorical notions of normal subobject and of equivalence class**, Theory and Applications of Categories Vol. 36 No. 3 (2021).
5. A. S. Cigoli, S. Mantovani, G. Metere, **Discrete and Conservative Factorizations in Fib(B)**, Applied Categorical Structures 29 (2020).
6. A. S. Cigoli, S. Mantovani, G. Metere and E. M. Vitale, **Fibered aspects of Yoneda's regular span**, Advances in Mathematics, 360 (2020).
7. P.-A. Jacqmin, S. Mantovani, G. Metere and E. M. Vitale, **Bipulbacks of fractions and the snail lemma**, Journal of Pure and Applied Algebra, 223 no. 12 (2019), 5147–5162.
8. S. Mantovani, G. Metere and E. M. Vitale **The Snail lemma for internal groupoids**, Journal of Algebra 535 (2019), 1–34.
9. G. Metere, **Distributors and the comprehensive factorization system for internal groupoids**, Theory and Applications of Categories, Vol. 34 no. 1 (2019).
10. P.-A. Jacqmin, S. Mantovani, G. Metere and E. M. Vitale, **On fibrations between internal groupoids and their normalization**, Applied Categorical Structures 26 (5), 1015–1039 (2018).
11. A. S. Cigoli, S. Mantovani and G. Metere, **Peiffer product and Peiffer commutator for internal pre-crossed modules**, Homotopy Homology and applications, 19 (2017) 181–207.
12. G. Metere, **Bourn-normal monomorphisms in regular Mal'tsev categories**, Theory and Applications of Categories, Vol. 32 no. 5 (2017).
13. G. Metere, **A note on strong protomodularity, actions and quotients,** Journal of Pure and Applied Algebra 221 (2017) 75–88.
14. A. S. Cigoli, and G. Metere, **Extension theory and the calculus of butterflies**, Journal of Algebra 458 (2016), 87–119.

15. A. S. 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.

16. A. S. Cigoli, G. Metere and A. Montoli, **Obstruction theory in action accessible categories**, Journal of Algebra, 385 (2013) 27-46.

17. 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.

18. S. Mantovani, G. Metere and E. M. Vitale, **Butterflies in a semi-abelian context**, Advances in Mathematics, 238 (2013), 140–183.

19. 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).

20. S. Mantovani, G. Metere, **Normalities and commutators**. J. Algebra 324 (2010), no. 9, 2568–2588.

21. S. Mantovani, G. Metere, **Internal crossed modules and Peiffer condition,** Theory and Applications of Categories, Vol. 23, No. 6 (2010), 113–135.

22. G. Metere and A. Montoli**, Semidirect product of internal groupoids,** Journal of Pure and Applied Algebra, Vol. 214, Issue 10, October 2010, 1854–1861.

23. 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.

24. 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.