

Allegato B

VALERIANO AIELLO

Curriculum Vitae

Place: Ginevra
Date: 29/06/2023

Part I – General Information

Full Name	Valeriano Aiello
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Part II – Education

- **Dottorato in Matematica**, 01/01/2014 - 31/12/2016 (discussione tesi: 26/04/2017) Titolo: Some results in Noncommutative Geometry and (Noncommutative) Topology: Semifinite spectral triples associated with some self-coverings, the 2-adic ring C^* -algebra of the integers, and the oriented Thompson group.

Relatore: Prof. Daniele Guido

Commissione: Alessandro Giuliani (Università degli Studi Roma Tre), Sebastiano Carpi (Università di Chieti-Pescara), Martin Grensing (Département de Mathématiques, Université d'Orleans)
Università degli Studi Roma Tre

Largo S. Leonardo Murialdo 1, 00146 Rome (Italy)

- **Laurea magistrale in Matematica** (voto 110 e lode/110), 01/10/2010 - 24/07/2013 Titolo: C^* -algebras, higher index theory and obstructions against positive scalar curvature.

Relatore: Professor Paolo Piazza

Università degli studi di Roma, "La Sapienza",
Piazzale Aldo Moro, 5, 00185 Rome (Italy)

- **Laurea triennale in Matematica** (01/10/2006 - 25/05/2010),

Università degli studi di Roma, "La Sapienza"

Piazzale Aldo Moro, 5, 00185, Rome (Italy)

Part III – Appointments

IIIA – Academic Appointments

- Vanderbilt University, USA (16 agosto 2017 - 15 agosto 2018)

Assistant Professor (Non-tenure track).

Supervisore: Prof. Vaughan F. R. Jones

- University of Geneva, Svizzera

assistente post-doc (1 Settembre 2018 - 31 Agosto 2020).

Supervisore: Prof.ssa Tatiana Smirnova-Nagnibeda

- University of Bern, Svizzera

assistente post-doc (1 Ottobre 2020 - 28 Febbraio 2022).

Supervisore: Prof. Sebastian Baader.

IIIB – Other Appointments

Part IV – Teaching experience

- **Universität Bern, Svizzera.**

Autunno 2021: assistente per il corso di laurea magistrale “Associative algebras” e per il corso Matematica per scienze naturali.

Primavera 2021: docente del corso di laurea magistrale Knotentheorie (teoria dei nodi).

Autunno 2020: assistente per il corso Mathematik für Biologie.

- **Université de Genève, Svizzera.**

Primavera 2020: assistente per il corso Laboratoire de Programmation Mathématique (laboratorio di programmazione in Matematica).

Autunno 2019: assistente per i corsi Analyse I (Analisi 1) e Topologie générale (Topologia generale).

Primavera 2019: assistente per il corso Mathématiques Discrètes (Matematica discreta).

Autunno 2018: co-organizer (con Tatiana Smirnova-Nagnibeda) del reading course sul gruppo di Thompson F.

assistente per il corso Analyse I (Analisi 1).

- **Vanderbilt University, USA.**

Autunno 2017: assistente per il corso Math1300 (Calculus).

Primavera 2018: docente del corso Math2300 (Multivariable Calculus), 2 Sezioni.

Part V - Society memberships, Awards and Honors

Abilitazione Scientifica Nazionale alle funzioni di professore universitario di Seconda Fascia nel Settore Concorsuale 01/A3 - ANALISI MATEMATICA, PROBABILITÀ E STATISTICA MATEMATICA valida dal 31/01/2022 e avrà scadenza il 31/01/2033.

Part VII – Research Activities

Soggiorno di ricerca durante il Programma: Operator algebras - subfactors and their applications.

Luogo: Isaac Newton Institute - Cambridge (England)

Date: Aprile 2 - 8, 2017

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	21 (23 accepted papers, 2 to be printed)	Scopus	2017	Now

h-index	7
Total Citations	101 (on Scopus)
Average Citations per Product	4,8 (over the 21 papers on Scopus)
Hirsch (H) index	7

Part IX– Selected Publications

- 1) V. Aiello, V.F.R. Jones, “On spectral measures for certain unitary representations of R. Thompson’s group F”, “Journal of functional analysis, Volume 280, Issue 1, 1 January 2021, 108777, doi: [10.1016/j.jfa.2020.108777](https://doi.org/10.1016/j.jfa.2020.108777)”
- 2) V. Aiello, R. Conti, V.F.R. Jones, “The Homflypt polynomial and the oriented Thompson group”, Quantum Topol. 9 (2018), 461-472. doi: [10.4171/QT/112](https://doi.org/10.4171/QT/112) preprint arXiv:[1609.02484](https://arxiv.org/abs/1609.02484)
- 3) V. Aiello, A. Brothier, R. Conti, “Jones representations of Thompson’s group F arising from Temperley-Lieb-Jones algebras” Int. Math. Res. Not. 15 (2021), 11209–11245, doi: [10.1093/imrn/rnz240](https://doi.org/10.1093/imrn/rnz240) preprint

- arXiv:[1901.10597](https://arxiv.org/abs/1901.10597)
- 4) V. Aiello, S. Rossi, On the entropy and index of the winding endomorphisms of p-adic ring C*-algebras, *Studia Mathematica* 262 (3) (2022), 305–326, preprint arXiv:[2102.04410](https://arxiv.org/abs/2102.04410)
 - 5) V. Aiello, S. Rossi, On the cyclic automorphism of the Cuntz algebra and its fixed-point algebra, *J. Math. Anal. Appl.*, Volume 505, Issue 1, 2022, 125476, preprint arXiv:[2107.02154](https://arxiv.org/abs/2107.02154)
 - 6) V. Aiello, R. Conti, S. Rossi, Normalizers and permutative endomorphisms of the 2-adic ring C*-algebra, *J. Math. Anal. Appl.*, Volume 481, Issue 1, 2020, doi: [10.1016/j.jmaa.2019.123395](https://doi.org/10.1016/j.jmaa.2019.123395) preprint arXiv:[1902.05773](https://arxiv.org/abs/1902.05773)
 - 7) V. Aiello, R. Conti, S. Rossi, N. Stammeier, “The inner structure of boundary quotients of right LCM semigroups”, *Indiana Univ. Math. J.* 69 No. 5 (2020), 1627-1661. doi: [10.1512/iumj.2020.69.8006](https://doi.org/10.1512/iumj.2020.69.8006) preprint arXiv:[1709.08839](https://arxiv.org/abs/1709.08839)
 - 8) V. Aiello, R. Conti, S. Rossi, “A Fejér theorem for boundary quotients arising from algebraic dynamical systems”, *Annali della Scuola Normale Superiore di Pisa, Classe di Scienze*, Volume 22, Issue 1, pp. 305-313, preprint arXiv:[1911.03414](https://arxiv.org/abs/1911.03414)
 - 9) V. Aiello, R. Conti, S. Rossi, “Permutative representations of the 2-adic ring C*-algebra.”, *J. Operator Theory*, Volume 82, Issue 1, Summer 2019 pp. 197-236, doi: [10.7900/jot.20181apr19.2188](https://doi.org/10.7900/jot.20181apr19.2188) preprint arXiv:[1804.01833](https://arxiv.org/abs/1804.01833)
 - 10) V. Aiello, D. Guido, T. Isola, “Spectral triples for noncommutative solenoidal spaces from self-coverings”, *J. Math. Anal. Appl.* 448.2 (2017): 1378-1412. doi: [10.1016/j.jmaa.2016.11.066](https://doi.org/10.1016/j.jmaa.2016.11.066)
 - 11) V. Aiello, D. Guido, T. Isola, Spectral triples on irreversible C*-dynamical systems, *International Journal of Mathematics* 33 (2022), 2250005, preprint arXiv:[2102.05392](https://arxiv.org/abs/2102.05392)
 - 12) V. Aiello, D. Guido, T. Isola, A spectral triple for a solenoid based on the Sierpinski Gasket, *SIGMA*, 17 (2021), 020, 21 pages, preprint [2005.14225](https://arxiv.org/abs/2005.14225)

Part X– Complete list of publications (23 articles)

- V. Aiello, R. Conti, “Graph polynomials and link invariants as positive type functions on Thompson’s group F”, *J. of Knot Theory and its Ramifications* 28 (2019). doi: [10.1142/S0218216519500068](https://doi.org/10.1142/S0218216519500068) preprint arXiv:[1510.04428](https://arxiv.org/abs/1510.04428)
- V. Aiello, R. Conti, “The Jones polynomial and functions of positive type on the oriented Jones-Thompson groups \vec{F} and \vec{T} ”, *Complex Anal. Oper. Theory* (2019) 13: 3127. doi: [10.1007/s11785-018-0866-6](https://doi.org/10.1007/s11785-018-0866-6) preprint arXiv:[1603.03946](https://arxiv.org/abs/1603.03946)
- V. Aiello, R. Conti, S. Rossi, “A look at the inner structure of the 2-adic ring C*-algebra and its automorphism groups”, *Publ. Res. Inst. Math. Sci.* 54 (2018), 45-87. doi: [10.4171/PRIMS/54-1-2](https://doi.org/10.4171/PRIMS/54-1-2) preprint arXiv:[1604.06290](https://arxiv.org/abs/1604.06290)
- V. Aiello, D. Guido, T. Isola, “Spectral triples for noncommutative solenoidal spaces from self-coverings”, *J. Math. Anal. Appl.* 448.2 (2017): 1378-1412. doi: [10.1016/j.jmaa.2016.11.066](https://doi.org/10.1016/j.jmaa.2016.11.066)
- V. Aiello, R. Conti, V.F.R. Jones, “The Homflypt polynomial and the oriented Thompson group”, *Quantum Topol.* 9 (2018), 461-472. doi: [10.4171/QT/112](https://doi.org/10.4171/QT/112) preprint arXiv:[1609.02484](https://arxiv.org/abs/1609.02484)
- V. Aiello, R. Conti, S. Rossi, “Diagonal automorphisms of the 2-adic ring C*-algebra”, *Q. J. Math.* 69 (3) (2018), 815-833, doi: [10.1093/qmath/hax064](https://doi.org/10.1093/qmath/hax064) preprint arXiv:[1701.04033](https://arxiv.org/abs/1701.04033)
- V. Aiello, R. Conti, S. Rossi, N. Stammeier, “The inner structure of boundary quotients of right LCM semigroups”, *Indiana Univ. Math. J.* 69 No. 5 (2020), 1627-1661. doi: [10.1512/iumj.2020.69.8006](https://doi.org/10.1512/iumj.2020.69.8006) preprint arXiv:[1709.08839](https://arxiv.org/abs/1709.08839)
- V. Aiello, R. Conti, S. Rossi, “Permutative representations of the 2-adic ring C*-algebra.”, *J. Operator Theory*, Volume 82, Issue 1, Summer 2019 pp. 197-236, doi: [10.7900/jot.20181apr19.2188](https://doi.org/10.7900/jot.20181apr19.2188) preprint arXiv:[1804.01833](https://arxiv.org/abs/1804.01833)
- V. Aiello, On the Alexander Theorem for the oriented Thompson group, *Algebraic & Geometric Topology* 20 (2020) 429–438, doi: [10.2140/agt.2020.20.429](https://doi.org/10.2140/agt.2020.20.429) preprint arXiv:[1811.08323](https://arxiv.org/abs/1811.08323)
- V. Aiello, A. Brothier, R. Conti, “Jones representations of Thompson’s group F arising from Temperley-Lieb-Jones algebras” *Int. Math. Res. Not.* 15 (2021), 11209–11245, doi: [10.1093/imrn/rnz240](https://doi.org/10.1093/imrn/rnz240) preprint arXiv:[1901.10597](https://arxiv.org/abs/1901.10597)
- V. Aiello, R. Conti, S. Rossi, Normalizers and permutative endomorphisms of the 2-adic ring C*-algebra, *J. Math. Anal. Appl.*, Volume 481, Issue 1, 2020, doi: [10.1016/j.jmaa.2019.123395](https://doi.org/10.1016/j.jmaa.2019.123395) preprint arXiv:[1902.05773](https://arxiv.org/abs/1902.05773)
- V. Aiello, V.F.R. Jones, “On spectral measures for certain unitary representations of R. Thompson’s group F”,

“Journal of functional analysis, Volume 280, Issue 1, 1 January 2021, 108777, doi: [10.1016/j.jfa.2020.108777](https://doi.org/10.1016/j.jfa.2020.108777)”

- V. Aiello, R. Conti, S. Rossi, “A Fejér theorem for boundary quotients arising from algebraic dynamical systems”, *Annali della Scuola Normale Superiore di Pisa, Classe di Scienze*, Volume 22, Issue 1, pp. 305-313, preprint arXiv:[1911.03414](https://arxiv.org/abs/1911.03414)
- V. Aiello, T. Nagnibeda, On the oriented Thompson subgroup \vec{F}_3 and its relatives in higher Brown-Thompson groups, *Journal of Algebra and its Applications*, Volume 21, Issue 07, 2250139, (2022), preprint arXiv:[1912.04730](https://arxiv.org/abs/1912.04730)
- V. Aiello, D. Guido, T. Isola, A spectral triple for a solenoid based on the Sierpinski Gasket, *SIGMA*, **17** (2021), 020, 21 pages, preprint 2005.14225
- V. Aiello, S. Baader, Positive oriented Thompson links, accepted for publication in *Communications in Analysis and Geometry*, preprint arXiv:[2101.04534](https://arxiv.org/abs/2101.04534)
- V. Aiello, S. Rossi, On the entropy and index of the winding endomorphisms of p-adic ring C*-algebras, *Studia Mathematica* 262 (3) (2022), 305–326, preprint arXiv:[2102.04410](https://arxiv.org/abs/2102.04410)
- V. Aiello, R. Conti, S. Rossi, A Hitchhiker’s Guide to Endomorphisms and Automorphisms of Cuntz Algebras, *Rend. Mat. Appl.* 42 (2021), 61–162.
- V. Aiello, D. Guido, T. Isola, Spectral triples on irreversible C*-dynamical systems, *International Journal of Mathematics* 33 (2022), 2250005, preprint arXiv:[2102.05392](https://arxiv.org/abs/2102.05392)
- V. Aiello, T. Nagnibeda, On the 3-colorable subgroup and maximal subgroups of Thompson’s group F, *Annales l’Institut Fourier*, Volume 73 (2) (2023), 783-828, preprint arXiv:[2103.07885](https://arxiv.org/abs/2103.07885)
- V. Aiello, S. Baader, Arborescence of positive Thompson links, *Pacific Journal of Mathematics* 316 (2) (2022), 237-248. preprint arXiv:[2106.13648](https://arxiv.org/abs/2106.13648)
- V. Aiello, S. Rossi, On the cyclic automorphism of the Cuntz algebra and its fixed-point algebra, *J. Math. Anal. Appl.*, Volume 505, Issue 1, 2022, 125476, preprint arXiv:[2107.02154](https://arxiv.org/abs/2107.02154)
- V. Aiello, An introduction to Thompson knot theory and to Jones subgroups. accepted for publication in *J. of Knot Theory and its Ramifications* (2022), doi: 10.1142/S0218216523400023 preprint arXiv:[2211.15461](https://arxiv.org/abs/2211.15461)

PREPRINTS

- V. Aiello, S. Baader, L. Ferretti, On the Jones polynomial modulo primes, preprint ArXiv:[2204.12259](https://arxiv.org/abs/2204.12259)
- V. Aiello, T. Nagnibeda, The planar 3-colorable subgroup of Thompson’s group F and its even part. preprint ArXiv:[2212.12269](https://arxiv.org/abs/2212.12269)
- V. Aiello, S. Iovieno, A computational study of the number of connected components of positive Thompson links, preprint ArXiv:[2212.12556](https://arxiv.org/abs/2212.12556). code available on [GitHub](https://github.com), data available on Zenodo doi: [10.5281/zenodo.7424881](https://doi.org/10.5281/zenodo.7424881)

TESI DI DOTTORATO

V. Aiello, Some results in Noncommutative Geometry and (Noncommutative) Topology: Semifinite spectral triples associated with some self-coverings, the 2-adic ring C*-algebra of the integers, and the oriented Thompson group. 2016.

Part XI– Seminars

- GoTh Workshop: Groups of Thompson and their relatives
Luogo: Otto-von-Guericke-Universität Magdeburg (Germany)
Data: 18-22.9.2023
- Geometric Topology Seminar (online)
Luogo: Columbia University, New York (USA)
Data: 12 Novembre, 2021
- Conference “Swiss Knots 2021”
Luogo: Fribourg (Switzerland)

Data: 6-9 Luglio, 2021

Titolo seminario: *Jones' representations of the Thompson group F and their spectral measures.*

- Seminario de Groupes et Géométrie

Luogo: University of Geneva, Switzerland

Data: Maggio 27, 2021

Titolo seminario: *Colourings and subgroups of the Thompson groups.*

- Luogo: Université de Neuchâtel (Svizzera)

Data: 18 Maggio, 2021

Titolo seminario: *The p -adic ring C^* -algebras, their automorphism groups, and representations.*

- Ergodic and Geometric Group Theory seminar

Luogo: École Polytechnique Fédérale de Lausanne, Switzerland

Data: Gennaio 16, 2020

Titolo seminario: *Knots, subgroups, and representations of the Thompson groups.*

- Seminario de Groupes et Géométrie

Luogo: University of Geneva, Switzerland

Data: Ottobre 2, 2018

Titolo seminario: *Jones' representations of R . Thompson group F and their spectral measures.*

- Subfactor Seminar

Luogo: Vanderbilt University, Nashville, USA

Data: Febbraio 16, 2018

Titolo seminario: *The oriented Thompson group and the Homfly polynomial.*

- Conference: Joint Mathematics Meetings, AMS Special Session on Advances in Operator Algebras,

Luogo: San Diego

Data: Gennaio 13, 2018

Titolo seminario: *The inner structure of the 2-adic ring C^* -algebra and its acquaintances.*

- Programma: Operator algebras - subfactors and their applications

Luogo: Isaac Newton Institute - Cambridge (England)

Data: Aprile 6, 2017

Titolo seminario: *The oriented Thompson group, oriented links, and polynomial link invariants.*

ALTRI SEMINARI

- Conference: Numeration 2017

Luogo: Argiletum in Madonna dei Monti - Rome (Italy)

Data: Giugno 5-9, 2017

Titolo seminario: *The Thompson groups, graph polynomials, and knot theory.*

Part XII– Research projects

1. partecipazione al progetto di ricerca "Fibred links, L-space covers and algorithmic knot theory" diretto da Sebastian Baader (Università di Berna), finanziato dalla Swiss National Science Foundation durante la durata del mio contratto presso l'Università di Berna, ovvero dal 1/10/2020 al 30/09/2021.
2. partecipazione al progetto di ricerca "Growth, amenability and spectra of groups and group actions" diretto da Tatiana Nagnibeda (Université de Genève), finanziato dalla Swiss National Science Foundation durante la durata del mio contratto presso l'Università di Ginevra, ovvero dal 1/09/2018 al 31/08/2020.
2. partecipazione al progetto di ricerca (come membro esterno) "Algebre di operatori, analisi armonica, geometria noncommutativa ed applicazioni alla fisica quantistica, la combinatoria e la teoria dei numeri" diretto da Roberto Conti (Università la Sapienza di Roma), nell'ambito del BANDO PER LA RICERCA DI ATENEIO 2019.
3. partecipazione al progetto di ricerca (come membro esterno) "Analisi e geometria non commutative con applicazioni quantistiche, probabilistiche e alla teoria dei numeri." diretto da Fabio Scarabotti (Università la

Sapienza di Roma), nell'ambito del BANDO PER LA RICERCA DI ATENEIO 2018.

4. partecipazione al progetto di ricerca (come membro esterno) “Algebre di operatori e analisi armonica noncommutativa” diretto da Roberto Conti (Università la Sapienza di Roma), nell'ambito del BANDO PER LA RICERCA DI ATENEIO 2017.

Altri titoli

- Docente per un “*Selbststudium*” sulle Algebre di Motzkin presso l’università di Berna (il *Selbststudium* è un mini progetto assegnato da un docente agli studenti della laurea magistrale in matematica che ne fanno richiesta e *per il quale alla fine è previsto un esame orale*).
- Reviewer per ZBMath (dal 10/09/2020, 18 review) e Mathscinet (dal 20/11/2020, 12 review)

Firma