

Curriculum Vitae - Jacopo Bassi

Born on 01/07/1987 in Roma, Italy
Address: Via A. Leonori 110, 00147, Roma, Italy

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Research Interests Operator Algebras and their connection with Group Theory, Dynamical Systems, Non-Commutative Geometry

Employment and Fellowships (upcoming) **Postdoc** 01/10/2024 - 01/10/2026
IMPAN, Warsaw, PL

Postdoc* 15/11/2023 - 01/01/2024
at Ben-Gurion University of the Negev, Be'er Sheva, IL

Postdoc 01/09/2020 - 01/09/2023
at Università degli Studi di Roma "Tor Vergata", Roma, IT

Postdoc 01/03/2019 - 01/03/2020
at Università degli Studi di Roma "Tor Vergata", Roma, IT

INdAM Fellowship 01/10/2018 - 01/01/2019
"Concorso a n. 21 mensilità di borse di studio per l'estero per l'a.a. 2018-2019", Host University: WWU, Münster, Germany, Host: Prof. Dr. Wilhelm Winter

Research Collaborator 04/05/2018 - 03/06/2018
at Università degli Studi di Roma "Tor Vergata", Roma, IT

* Interrupted due to the war that is taking place in Israel.

Awards "Seal of Excellence" for MSCA European Fellowship 2023

Grants **Tor Vergata Research Grant** 15/03/2022 – 15/03/2024
(€ 16000 total, € 1000 personal)
"Operator algebras and quantum mathematics (OAQM)", Università degli Studi di Roma "Tor Vergata", Principal Investigator: Prof. Yoh Tanimoto.
CUP: E83C22001800005

Beyond Borders 04/01/2021 – 31/12/2022
(€ 4500 total, € 1000 personal)
"A geometric approach to Harmonic Analysis and Spectral Theory on trees and graphs", Università degli Studi di Roma "Tor Vergata", Principal Investigator: Prof. Florin Rădulescu.
CUP: E89C20000690005

Beyond Borders 01/12/2019 – 01/12/2021
(€ 20000 total, € 1000 personal)
"Interactions of Operator Algebras with Quantum Physics and Noncommutative Structure", Università degli Studi di Roma "Tor Vergata", Principal Investigator: Prof. Yoh Tanimoto.
CUP: E84I19002200005

Teaching Experience **Lecturer (3 CFUs)** Winter 2020
of the course "*Mathematical Analysis I*" for the students of the "Ingegneria Informatica" bachelor program at Università degli Studi di Roma "Sapienza"

Tutor Winter 2019
of the course "*Mathematical Analysis I*" for the students of the "Engineering Sciences" Department at Università degli Studi di Roma "Tor Vergata"

Reviews since 2023
I am a reviewer for AMS "Mathematical Reviews", Bollettino dell'Unione Matematica Italiana (BUMI) and Annals of Functional Analysis.

Supervision 15/11/2022 - 01/05/2023
I supervised Filip Runjic, a master student from the Centre for the Mathematics of Quantum Theory at the University of Copenhagen, within the Erasmus+ traineeship program. The topic of this traineeship is K -nuclearity for C^* -algebras.

Education **PhD in Mathematics** 23/04/2018
Cum Laude, SISSA, Trieste, Italy / *Magna cum Laude*, WWU, Münster, Germany
- Degree Thesis: "*On C^* -Algebras associated to Horocycle Flows*"
- Supervisors: Prof. L. Dąbrowski, Prof. Dr. W. Winter

Master in Mathematics 16/05/2013
110/110 cum Laude, **Università degli Studi Roma Tre**, Roma, Italy
- Degree Thesis: "*On the index for II_1 -subfactors*"
- Supervisors: Prof. C. Pinzari, Prof. P. Caputo

Bachelor in Physics 19/10/2010
106/110, **Università degli Studi Roma Tre**, Roma, Italy
- Degree Thesis: "*Dynamical symmetries and accidental degenerations: Kepler's problem in Classical Mechanics and hydrogen atom in Quantum Physics*"
- Supervisor: Prof. O. Ragnisco

Publications

J. Bassi, R. Conti, C. Farsi and F. Latrémolière, *Isometry groups of inductive limits of metric spectral triples and Gromov-Hausdorff convergence*, J. Lond. Math. Soc. **108**:4 (2023), 1488–1530, DOI: 10.1112/jlms.12787

J. Bassi and F. Rădulescu, *A mixing property for the action of $SL(3, \mathbb{Z}) \times SL(3, \mathbb{Z})$ on the Stone-Čech boundary of $SL(3, \mathbb{Z})$* , Int. Math. Res. Not. IMRN, **2024**:1 (2024), 234–283, DOI: 10.1093/imrn/rnad014

J. Bassi and R. Conti, *On isometries of spectral triples associated to AF-algebras and crossed products*, J. Noncommut. Geom. **18**:2 (2024), 547–566, DOI: 10.4171/JNCG/535

J. Bassi, *Local trivializations of suspended minimal Cantor systems and the stable orbit-breaking subalgebra*, Results Math. **78**:43 (2023), DOI: 10.1007/s00025-022-01820-3

J. Bassi and F. Rădulescu, *An example of a non-amenable dynamical system which is boundary amenable*, Proc. Amer. Math. Soc. **151**:6 (2023), 2459–2462, DOI: 10.1090/proc/16239

J. Bassi and F. Rădulescu, *Separable boundaries for nonhyperbolic groups*, J. Operator Theory **87**:2 (2022), 461–470, DOI: 10.7900/jot

J. Bassi, *On C^* -algebras associated to actions of discrete subgroups of $SL(2, \mathbb{R})$ on the punctured plane*, Math. Scand. **126**:3 (2020), 540–558, DOI: 10.7146/math.scand.a-120288

J. Bassi, *Remarks on some simple C^* -algebras admitting a unique lower semicontinuous 2-quasitrace*, Colloq. Math. **165**:1 (2021), 53–62, DOI: 10.4064/cm8171-3-2020

J. Bassi and L. Dąbrowski, *Spectral triples on the Jiang-Su algebra*, J. Math. Phys. **59**:5 (2018), DOI: 10.1063/1.5026311

J. Bassi, *On C^* -algebras associated to horocycle flows*, PhD thesis, <https://hdl.handle.net/20.500.11767/74010>

Preprints

J. Bassi and T. Amrutam, *On relative commutants of subalgebras in group and tracial crossed product von Neumann algebras*, (2024), <https://arxiv.org/abs/2403.05948>

J. Bassi, *An approach to the study of boundary actions*, (2023), <https://arxiv.org/abs/2305.16277>

Research Visits

FAU, Erlangen (DE)	12/07/2023 – 17/07/2023
Università di Siena, Siena (IT)	15/05/2023 – 18/05/2023
University of Glasgow, Glasgow, Scotland (UK)	04/12/2017 – 06/12/2017
University of Glasgow, Glasgow, Scotland (UK)	15/10/2018 – 17/10/2018

Talks

Invited speaker “**Operator Theory 29**”, Title: *How far is $SL(3, \mathbb{Z})$ from being hyperbolic?*, Timisoara, Romania (RO) (02/07/2024)

Invited speaker “**Israeli Noncommutative Analysis Seminar**”, Title: *How far is $SL(3, \mathbb{Z})$ from being hyperbolic?*, online (23/05/2024)

Invited speaker “**Seminari di Algebra di Operatori**”, Title: *How far is $SL(3, \mathbb{Z})$ from being hyperbolic?*, Università degli Studi di Roma “Tor vergata”, Roma (IT) (20/03/2024)

Speaker at the Conference “**YMC*A** (lightning talk), Title: *On non-standard extensions of Stone-Čech boundaries*, KU Leuven, Leuven (BE) (07/08/2023)

Invited speaker “**Weekly seminar of the Lie-Groups and Representation Theory Group**”, Title: *Topics on the boundary theory of discrete groups*, Friedrich-Alexander-Universität Erlangen-Nürnberg FAU, Erlangen (DE) (17/07/2023)

Invited speaker “**Seminario di Analisi Matematica dell’Università di Siena**”, Title: *Some topics on group C^* -algebras*, Università di Siena, Siena (IT) (16/05/2023)

Invited speaker “**East China Normal University seminar**”, Title: *On a possible notion of orbit-breaking subalgebra for flows*, East China Normal University, Shanghai (CHN), online (22/04/2022)

Invited speaker “**Seminari di Algebra di Operatori**”, Title: *Amenability proper-*

ties for $SL(3, \mathbb{Z})$, Università degli Studi di Roma “Tor vergata”, Roma (IT), online (12/05/2021)

Invited speaker “**NCGT seminars**”, Title: *Separable boundaries for non-hyperbolic groups*, Charles University in Prague (CZ), online (30/03/2021)

Invited speaker “**Operator Theory Seminars**”, Title: *Separable boundaries for non-hyperbolic groups*, Institute of Mathematics of the Romanian Academy, IMAR, Bucharest, Romania (RO), online (17/03/2021)

Invited speaker at the Workshop “**Operator Algebras in Quantum Field Theory and Quantum Probability**”, Title: *Counter-examples to a conjecture by Kalantar and Kennedy*, Università degli Studi di Roma “Tor vergata”, Roma (IT) (07/12/2019)

Invited speaker “**Weekly seminar of the Mathematical Physics Group**”, Title: *On stability of C^* -algebras associated to actions of discrete subgroups of $SL(2, \mathbb{R})$ on $\mathbb{R}^2 \setminus \{0\}$* , University of Glasgow, Glasgow, Scotland (UK) (16/10/2018)

Invited speaker “**Seminario di Algebra di Operatori**”, Title: *On C^* -algebras associated to the action of discrete subgroups of $SL(2, \mathbb{R})$ on $\mathbb{R}^2 \setminus \{0\}$* , Università degli Studi di Roma “La Sapienza”, Roma (IT) (12/07/2018)

Invited speaker “**Operator Algebras seminar**”, Title: *C^* -algebras associated to horocycle flows*, Università degli Studi di Roma “Tor Vergata”, Roma (IT) (16/05/2018)

Invited speaker “**Weekly seminar of the Analysis Group**”, Title: *The C^* -Algebra of the Horocycle Flow*, University of Glasgow, Glasgow, Scotland (UK) (05/12/2017)

Invited speaker “**Kleines seminar**”, Title: *On C^* -algebras associated to horocycle flows*, WWU, Münster (DE) (27/11/2017)

Invited speaker “**Kleines seminar**”, Title: *Spectral triples on the Jiang-Su algebra*, WWU, Münster (DE) (30/10/2017)

Invited speaker “**NCG seminars**”, Title: *The C^* -algebra of the horocycle flow*, SISSA, Trieste (IT) (24/09/2017)

Invited speaker “**NCG seminars**”, Title: *Spectral triples on the Jiang-Su algebra*, SISSA, Trieste (IT) (14/09/2017)

Invited speaker “**NCG seminars**”, Title: *Spectral triples on inductive limit C^* -algebras*, SISSA, Trieste (IT) (29/03/2017)

Invited speaker “**NCG seminars**”, Title: *Spectral triples on inductive limit C^* -algebras*, SISSA, Trieste (IT) (24/06/2016)

Speaker at the Conference “**French-Italian Meeting on Spectral Triples in Non-commutative Geometry**”, Title: *“Spectral Triples on the Jiang-Su Algebra”*, Villa Toeplitz, Varese (IT) (02/05/2016 – 05/05/2016)

**Attended
Conferences,
Workshops and
Schools**

“**Operator Theory 29**”, Timisoara, Romania (RO) (01/07/2024 – 05/07/2024)

Conference (invited) “**Noncommutative Geometry and Applications**”, Palazzone di Cortona, Cortona (IT) (24/06/2024 – 28/06/2024)

Conference (invited) "**Noncommutative Geometry and Applications**", Palazzo di Cortona, Cortona (IT) (24/06/2024 – 28/06/2024)

Conference "**YMC*A**", KU Leuven, Leuven (BE) (07/08/2023 – 11/08/2023)

Conference "**Group Actions: Dynamics, Measure, Topology**", University of Münster, Münster, Germany (28/11/2022 – 02/12/2022)

Conference "**YMC*A**", Copenhagen University, Copenhagen, Denmark (05/08/2019 – 10/08/2019)

Workshop "**C*-Algebras and Dynamical Systems**", Centre de Recerca Matemàtica, Barcelona, Spain (20/03/2017 – 24/03/2017)

School "**Advanced Course on Operator Algebras: Groupoids, Crossed Products, and Rokhlin Dimension**", Centre de Recerca Matemàtica, Barcelona, Spain (13/03/2017 – 17/03/2017)

Conference "**Noncommutative Geometry and Applications**", ICTP, Trieste, Italy (27/02/2017 – 03/03/2017)

Workshop "**Noncommutative Geometry the next Generation**", Będlewo Conference Center, Będlewo and IMPAN, Warsaw, Poland (September – October 2016)

Conference "**YMC*A**", WWU Münster, Münster, Germany (July 2016)

School "**Spring School on Algebraic K-Theory of Topological Algebras**", Universität Regensburg, Regensburg, Germany (16/03/2015 – 20/03/2015)

Conference "**4th Conference of Settat on Operator Algebras and Applications**", Hotel El Andalous, Marrakesh, Morocco (27/01/2015 – 30/01/2015)

Conference "**Noncommutative Geometry and Applications**", Villa Mondragone, Frascati, Italy (16/06/2014 – 21/06/2014)