

CV – Dr. Giulio RAGAZZON

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Google Scholar shorturl.at/btDR1

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Current position

2021- Group leader of the "Laboratory of driven chemical processes"
Institut de Science et d'Ingénierie Supramoléculaires (ISIS), University of Strasbourg & CNRS
Topic: energy-demanding chemical processes

Academic Career

2024- Adjunct Professor (Professeur Associé) – University of Strasbourg, FR
2021-24 Assistant Professor (Maître de Conférences Associé) – University of Strasbourg, FR
2018-21 Assistant professor of Chemistry (RTDa), University of Trieste, IT
Topic: functional carbon nanodots. Mentor: Prof. Prato
2017-18 Postdoctoral researcher, University of Padova, IT
Topic: non-equilibrium self-assembly. Supervisor: Prof. Prins

Education

2023 Habilitation to supervise research (HDR); *awarded on Nov 24th, 2023*
2014-17 PhD in Chemistry, University of Bologna, IT; *awarded on May 3rd, 2017*
Topic: molecular devices and machines. Supervisor: Prof. A. Credi
2011-13 Master degree in Photochemistry and Molecular Materials, University of Bologna, IT. 110/110 cum Laude
2008-11 Bachelor degree in Chemistry, University of Trieste, IT. 110/110 cum Laude
2003-08 High school diploma, Liceo Scientifico "J. da Ponte", IT. 100/100

Research stays

2015-16 Prof. Aida group, The University of Tokyo/Riken Center, JP
2013 Dr. McClenaghan group, Institute des Sciences Moléculaires UMR 5255 CNRS/Université Bordeaux I, FR
2011 Prof. Sadler group, Warwick University, UK

Publications

I am author of >40 peer-reviewed articles and book chapters, also in renowned journals like Nature Nanotechnology (2), Angewandte Chemie (>10), Chem (3), and PNAS (1). The publications that I co-authored received collectively >2000 citations, H-index: 22 (Google Scholar). The most important contributions deal with the non-equilibrium self-assembly of molecular systems. For the full publication list see Google Scholar: shorturl.at/btDR1.

10 most significant publications (reverse chronological order, *=corresponding author, +=equal contribution)

1. "Catalysis-driven active transport across a liquid membrane", K. Liang, F. Nicoli,⁺ S. Al Shehimi,⁺ E. Penocchio, S. Di Noja, Y. Li, C. Bonfio, S. Borsley, G. Ragazzon,* *ChemRxiv*, **2024**, *submitted*, DOI: 10.26434/chemrxiv-2024-1kbcw.
2. "Analysis of kinetic asymmetry in a multi-cycle reaction network establishes the principles for autonomous compartmentalized molecular ratchets" E. Penocchio*, A. Bachir, A. Credi, R.D. Astumian*, G. Ragazzon,* *Chem*, **2024**, 10, 3644 - 3655.
3. "Progressive endergonic synthesis of Diels–Alder adducts driven by chemical energy", S. Al Shehimi, H.D. Le, S. Amano, S. Di Noja, L. Monari, G. Ragazzon,* *Angew. Chem. Int. Ed.*, **2024**, e202411554.
4. "Artificial Molecular Ratchets: Tools Enabling Endergonic Processes", T. Sangchai, S. Al Shehimi, E. Penocchio,* G. Ragazzon,* *Angew. Chem. Int. Ed.*, **2023**, e202309501.
5. "Kinetic barrier diagrams to visualize and engineer molecular nonequilibrium systems", E. Penocchio,* G. Ragazzon,* *Small*, **2023**, 2206188.

6. "Autonomous non-equilibrium self-assembly and molecular movements powered by electrical energy", G. Ragazzon,* M. Malferrari, A. Arduini, A. Secchi, S. Rapino,* S. Silvi,* A. Credi *Angew. Chem. Int. Ed.*, **2023**, 62, e202214265.
7. "Transfer of axial chirality to the nanoscale endows carbon nanodots with circularly polarized luminescence", S. Di Noja, F. Amato, F. Zinna, L. Di Bari,* G. Ragazzon,* M. Prato* *Angew. Chem. Int. Ed.*, **2022**, 61, e202202397.
8. "Mapping the surface groups of amine-rich carbon dots enables covalent catalysis in aqueous media", G. Filippini,* F. Amato, C. Rosso, G. Ragazzon,* A. Vega-Peñalozza, X. Companyó,* L. Dell'Amico, M. Bonchio, M. Prato* *Chem*, **2020**, 6, 3022 - 3037.
9. "Energy consumption in chemical-fuel driven self-assembly", G. Ragazzon, L. J. Prins., *Nat. Nanotechnol.*, **2018**, 13, 882 - 889.
10. "Light-powered autonomous and directional molecular motion of a dissipative self-assembling system", G. Ragazzon, M. Baroncini, S. Silvi, A. Credi, *Nat. Nanotechnol.*, **2015**, 10, 70 - 75.

Awards & Scholarships

Interdisciplinary

- 2023 Guy Ourisson Prize by "Cercle Gutenberg"
Awarded to talented researchers under 40 of any discipline who are carrying out their activities in Alsace.

International

- 2024 iCANX Young Scientist Award
Awarded "to promote and highlight the leading young scientists worldwide".
- 2022 Fellow of the Foresight Institute - class of 2022
Foresight Institute is a non-profit organization focused on advancing technologies of fundamental importance for the future of life.
- 2021 Dream Chemistry Award - top 5
The Dream Chemistry Award is a worldwide competition rewarding young chemists who dream of solving fundamental problems with bold ideas.
- 2016 European Young Chemist Award - PhD Level, gold medal
The European Young Chemist Award is the most important European recognition in chemistry at the PhD level.

National

- 2019 Junior prize "Organic chemistry for the environment, energy and nanoscience" – Italian Chemical Society
- 2017 Best PhD thesis in photochemistry - Italian Group of Photochemistry
- 2017 Best PhD thesis in inorganic chemistry - Italian Chemical Society
- 2017 Levi prize 2016 – mention
Levi Prize recognizes an outstanding contribution from a young member of the Italian Chemical Society.
- 2015 NEST prize 2014 for research in nanoscience
NEST prize is awarded to the first author of the best Italian paper of the year in experimental nanoscience.

Scholarships

- 2011-14 Collegio Superiore Student, University of Bologna, IT
Collegio Superiore is the Excellence Institution of Bologna University: only about one student every thousand belongs to this Institution (for more information, please visit www.collegio.unibo.it).
- 2008-11 "Collegio Universitario per le Scienze Luciano Fonda" Student, University of Trieste, IT
A merit-based scholarship (for more information, please visit www.collegiofonda.it)

Invited talks at conferences & workshops (>25 since 2015)

Selected 10:

- 2024 iCANX Davos Summit, 11-12 July, Davos, CH
- 2024 Corbella Summer School, 16-20 June, Gargnano, IT

2023 "Tang Au-Chin" Doctoral Academic Forum, 16-17 November, Jilin University, CN
2023 ERC grantee conference, 10-13 July, Edinburgh, UK
2022 Mach-5, 11-14 September, Plön, DE
2022 EuChemS, 29 August, 1 September, Lisbon, PT
2022 Foresight Institute "Designing Molecular Machines" workshop, 9-10 July, San Francisco, USA
2022 Physics of Life Summer School, 25 - 29 April, Edinburgh, UK
2021 Dream Chemistry Award, 6 - 7 December, Prague, CZ
2021 Systems Chemistry Virtual Symposium 2021, 7 - 9 July, online

Invited talks at Institutes (>15 since 2016)

Selected 10:

2024 Technical University of Munich (TUM), 9 October, Munich, DE
2024 East China University of Science and Technology, ECUST, 24 May, Shanghai, CN
2024 Stratingh Institute, 26 April, Groningen, NL
2024 Chonnam University, 31 January, KR, online
2023 Foresight Institute, 12 December, USA, online
2023 Peking University, 15 November, Beijing, CN
2023 Adolphe Merkle Institute, 12 June, Friburg, CH
2022 Freiburg - FIT, 14 December, Freiburg, DE
2022 University of Edinburgh, 28 April, Edinburgh, UK
2019 University of Luxembourg, 23 September, Luxembourg, LU

Research support >2M € 2020-to date. Including: ERC Starting grant 2021 "*Energy transduction in kinetically asymmetric catalytic networks*" • USIAS Fellowship • Bando Vinci – PhD Scholarship • Chinese Scholarship Council – PhD Scholarship for Kaiyuan Liang • SESRI - Region Grand-Est • FRC ITI Chemistry of Complex Systems • NWO-VENI grant, declined • ISIS-Unistra installation grant.

Supervision of collaborators

Postdocs: Federico Nicoli, 2024- • Shuntaro Amano, 2023- • Shaymaa Al-Shehimi, 2023-24 • Simone Di Noja, 2022-23.

PhD students: Elena Incerto, 2024- • Adisorn Khantong 2024- • Sani Yahaya 2024 - • Kaiyuan Liang 2023- • Ahmad Bachir, 2022- • Thitiporn Sangchai, 2022- • Fabiana Ciocchetti, 2021- • Simone Di Noja, 2018-2022, University of Trieste.

Master students: Kalliopi Fourli, 2024 • Sani Jahaya, 2024 • Malak Jaber, 2024 • Suliman Shah, 2023 • Hai-Dang Lee 2023 • Bharath Vinjamuri, 2023 • Luca Monari, 2023 • Stefan Mitrović, 2023 • Georgette Obeid, 2022 • Daniel Couto, 2022 • Victor Sabanza Gil, 2022 • Ahmad Bachir, 2022 • Shana Shirin Valapra, 2022 • Andrea Bogo, 2021 • Michele Cesco, 2021 • Simone Zuccolo, 2020.

In addition: informal supervision of 2 Postdocs, 2 PhD students, 2 Master students

Teaching activities

Appointed teacher

Nanoscience. Master degree in Chemistry – University of Strasbourg AY 22/23, 23/24, 24/25, 6h, ca. 20 students • Electrochemistry. Undergraduate degree in Chemistry – University of Strasbourg AY 22/23, 23/24, 24/25, 6h, ca. 30 students • Systems Chemistry. Complex Systems Chemistry Graduate School (master students). University of Strasbourg AY 21/22, 22/23, 23/24, 24/25, 2-8 hours, ca. 15 students (course referent since 24/25) • Entrepreneurship & Innovation. Complex Systems Chemistry Graduate School (master students), AY 22/23, 23/24, 24/25, 10h, ca. 10 students (course referent) • Introduction to research AY 23/24, 24/25, 2h, ca 5 students • Organic Chemistry II - Laboratory course. Undergraduate degree in Science and Technology for Environment and Nature (2nd year undergraduate students). University of Trieste AY 18/19, 19/20, and 20/21, 36 hours, ca. 40 students.

Tutor:

Spectroscopy - exercises. Undergraduate degree in Chemistry (2nd and 3rd year undergraduate students). University of Strasbourg AY 21/22, 22/23, 23/24, 24/25, 16 hours, ca. 120 students • Organic Chemistry I - exercises.

Undergraduate degree in Chemistry (1st year undergraduate students). University of Trieste AY 2018/2019 and 2019/2020, 12 hours, ca. 30 students. • Laboratory assistant for the 3rd organic chemistry lab. Undergraduate degree in Chemistry (3rd year undergraduate students). Padova University, AY 2016/2017 and 2017/2018, for a total of 83 hours. • Laboratory assistant for the general chemistry lab. Undergraduate degree in Chemistry (1st year undergraduate students). Bologna University, AY 2014/2015 and 2015/2016, for a total of 93 hours. • Laboratory assistant for the ecology and chemistry course (chemistry teaching). Undergraduate education science course (4th and 5th year undergraduate students). Bologna University, AY 2014/2015, 16 hours.

Reviewing & publishing-related activity

- Reviewer for >20 journals, including: *Angewandte Chemie*, *Nature*, *Nature Chemistry*, *Nature Communications*, *Nature Nanotechnology*, *Nature Reviews Chemistry*, *JACS*.
- *Chemistry – A European Journal* early career advisory board member (2024-26)
- *ChemPhysChem* early career advisory board member (2022-26)
- Participant of the 3rd Chemistry Europe Early Career Researchers Meeting, Weinheim. Follow-up article in *ChemistryViews*: DOI: 10.1002/chemv.202400041
- Invited panelist at Frankfurt book fair 2024
- External expert for the evaluation of projects for multiple organization (ERC, ANR, NWO, etc.).

Organization of scientific talks & meetings Member of the organizing committee of: Systems Chemistry Virtual Symposium 2023 • vMASC – Royal Society of Chemistry virtual Macrocyclic and Supramolecular Chemistry Seminar Series 2022- • ISIS Conferences 2022-.

Institutional responsibilities

- 2024- Member of the executive committee of the Interdisciplinary Thematic Institute ITI-SysChem
- 2024- Pedagogical Director – Graduate school in Complex Systems Chemistry – University of Strasbourg
- 2023- PhD Thesis evaluator (> 5 in France, Italy, Germany)
- 2022- Head of Selection Committee & Member of Pedagogical committee – Graduate school in Complex Systems Chemistry – University of Strasbourg
- 2021- Member of the board of directors – ISIS/University of Strasbourg
- 2021-30 Habilitation to Associate Professor conferred by the Italian Ministry of University and Research

Active memberships French Chemical Society (2022→) • Royal Society of Chemistry (AMRSC, 2017→) • Italian Chemical Society (2014→).