

## CV – Prof. Giulio RAGAZZON

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### Academic Career

2025- Full Professor of chemistry, group leader of the "Laboratory of driven chemical processes", Institut de Science et d'Ingénierie Supramoléculaires (ISIS), University of Strasbourg, FR  
2021-25 Assistant Professor (Maître de Conférences Associé), ISIS, 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 24<sup>th</sup>, 2023*  
2014-17 PhD in Chemistry, University of Bologna, IT; *awarded on May 3<sup>rd</sup>, 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

### 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 >2500 citations, H-index: 25 (Google Scholar). The most important contributions deal with the non-equilibrium self-assembly of molecular systems.

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

1. "A Versatile Strategy for Light-Driven Active Transport of Ions"

S. Yahaya, S. Amano,\* F. Nicoli, G. Ragazzon,\*  
*Angew. Chem. Int. Ed.*, **2025**, e20638.

2. "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\*  
*Angew. Chem. Int. Ed.*, **2025**, 64, e202421234.

3. "Analysis of kinetic asymmetry in a multi-cycle chemical reaction network establishes the principles for autonomous compartmentalized molecular ratchets"

E. Penocchio,\* A. Bachir, A. Credi, R. Dean Astumian,\* G. Ragazzon\*  
*Chem.* **2024**, 10, 3644-3655.

4. "Endergonic synthesis of Diels-Alder adducts enables non-equilibrium adaptive behaviors in chemical reaction networks"

S. Al Shehimi, H.D. Lee, S. Di Noja, S. Amano, L. Monari, G. Ragazzon\*  
*Angew. Chem. Int. Ed.*, **2024**, 63, e202411554.

5. "Artificial Molecular Ratchets: Tools Enabling Endergonic Processes"

T. Sangchai, S. Al Shehimi, E. Penocchio,\* G. Ragazzon,\*

*Angew. Chem. Int. Ed.*, **2023**, e202309501.

6. "Kinetic Barrier Diagrams to Visualize and Engineer Molecular Nonequilibrium Systems"

E. Penocchio,\* G. Ragazzon,\*

*Small*, **2023**, 2206188.

7. "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.

8. "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.

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

2025 Junior Scientist Participation Fellow, 58<sup>th</sup> Bürgenstock conference

Awarded to selected young promising European scientists in academia and industry.

2024 iCANX Young Scientist Award

Awarded "to promote and highlight the leading young scientists worldwide".

2023 Guy Ourisson Prize 2023 – Cercle Gutenberg

This is a recognition to promising researchers working in Alsace, in any discipline

2022 Fellow of the Foresight Institute - class of 2022

Foresight Institute is a US-based 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.

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.

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.

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](http://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](http://www.collegiofonda.it))

### Invited talks at conferences & workshops

2025 European Symposium on Organic reactivity, 9-12 September, Padova, IT

2025 PSL Chemical Biology Symposium, 27-28 February, Paris, FR

2024 PhD Students Workshop Strasbourg-Hokkaido, 21-22 October 2024, Strasbourg, FR  
 2024 iCANX Davos Summit, 11-12 July, Davos, CH  
 2024 Corbella Summer school, 16-20 June, Gargnano, IT  
 2024 Supramolecular chemistry workshop, 31 May, Cagliari, IT  
 2024 IV Winter School (Doctoral School), 8-9 February, Venice, IT  
 2023 "Tang Au-Chin" Doctoral Academic Forum, 16-17 November, Jilin University, CN  
 2023 Symposium in honor of Prof. Prato – 70th birthday, 27 October, Trieste, IT  
 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 IUMRS-ICYRAM2022, 3-6 August Fukuoka (hybrid), JP  
 2022 Foresight Institute "Designing Molecular Machines" workshop, 9-10 July, San Francisco, USA  
 2022 StraSoft22, 2 – 3 June, Strasbourg, FR  
 2022 1<sup>st</sup> International Supramol. Chemistry Summer School, 29 May – 2 June, Santa Margherita di Pula, IT  
 2022 Topical School in Photochemistry, Light-driven molecular machines, 23 – 25 May, Strasbourg, FR  
 2022 Topical School in Photochemistry, Photochromic compounds, 23 – 25 May, Strasbourg, FR  
 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  
 2019 National Congress of the Organic Chemistry Division of the Italian Chemical Society, 8 - 12 September, Torino, IT  
 2019 "Self-assembly away from equilibrium", Modena Award, 3 May, Padova, IT  
 2018 National Congress of Inorganic Chemistry, 10 - 13 September, Bologna, IT  
 2017 Italian Photochemistry Meeting, 14 - 16 December, Perugia, IT  
 2017 CV clinic Day, 10 April, Bologna, IT  
 2016 EuCheMS Chemistry Congress, 14 September, Sevilla, ES  
 2015 NanotechItaly, November 25 – 28, Bologna, IT

Besides invited talks, I participated to 16 conferences, presenting 9 contributed talks and 6 posters (3 poster prizes awarded, on 3 different topics).

#### **Invited talks at Institutes**

2026 ETH Zurich, Zurich, CH, 26 January  
 2025 Korea Advanced Institute of Science and Technology (KAIST), Daejeon, KR, 25 April  
 2024 Technical University of Munich (TUM), Munich, DE, 9 October  
 2024 East China University of Science and Technology, ECUST, Shanghai, CN, 24 May  
 2024 East China Normal University, ECNU, Shanghai, CN, 23 May  
 2024 Jilin University, 21 May, Changchun, CN  
 2024 University of Groningen, NL, 26 April  
 2024 University of Delft, NL, 25 April  
 2024 University of Parma, IT, 7 February  
 2024 Chonnam University, KR, 31 January - online  
 2023 Foresight Institute, US, 12 December - online  
 2023 Peking University, Beijing, CN, 15 November  
 2023 iCANX (科学平台), 24 October - online  
 2023 Adolphe Merkle Institute, Friburg, CH, 12 June  
 2022 Huazhong University of Science and Technology, Wuhan, CN, 22 December - online  
 2022 Freiburg Center for Interactive Materials and Bioinspired Technologies (FIT), Freiburg, DE, 14 December  
 2022 University of Edinburgh, Edinburgh, UK, 28 April  
 2021 Institut Le Bel, Strasbourg, FR, 22 October  
 2020 Institut de Science et d'Ingénierie Supramoléculaires, Strasbourg, FR, 12 October  
 2019 University of Luxembourg, Luxembourg, LU, 23 September  
 2019 Institut de Science et d'Ingénierie Supramoléculaires, Strasbourg, FR, 20 September  
 2017 University of Trieste, Trieste, IT, 18 December

2016 Université de Lorraine - CNRS, Nancy, FR, 3 November

2016 ISOF-CNR, Bologna, IT, 16 June

### Research support

The grants awarded include: ANR PRCI • ERC Starting grant "*Energy transduction in kinetically asymmetric catalytic networks*" • Marie Curie PF (Supervisor) • USIAS Fellowship • Bando Vinci – PhD Scholarship • Chinese Scholarship Council – PhD Scholarship (Supervisor) • SESRI - Region Grand-Est • FRC ITI Chemistry of Complex Systems • NWO-VENI grant, declined.

### Supervision of students & postdocs

*Postdocs*: Huanjun Kong 2025- • Laura Bickerton 2025- • Pradyut Roy 2025- • Federico Nicoli, 2024- • Shuntaro Amano, 2023-25 • Shaymaa Al-Shehimi, 2023-24 • Simone Di Noja, 2022-23.

*PhD students*: Bo Zou, 2025- • Elena Incerto, 2024- • Adisorn Khantong, 2024- • Sani Yahaya, 2024- • Debora Iapadre, 2023-24 (visiting) • Kaiyuan Liang, 2023- • Caterina Baccini, 2023-24 (visiting) • Ahmad Bachir, 2022- • Thitiporn Sangchai, 2022- • Fabiana Ciocchetti, 2021-25 • Simone Di Noja, 2018-22, University of Trieste.

*Master students*: > 20

### Teaching activities

#### *Appointed teacher*

Spectroscopy 1. Bachelor degree in Chemistry – University of Strasbourg AY 25/26, 18h, ca. 90 students • Advanced Kinetics. Master degree in Chemistry – University of Strasbourg AY 24/25, 25/26, 14h, ca. 50 students • Electrochemistry. Undergraduate degree in Chemistry – University of Strasbourg AY 22/23, 23/24, 24/25, 25/26 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, 25/26 2-6 h, 10-20 students • Entrepreneurship & Innovation. Complex Systems Chemistry Graduate School (master students), AY 22/23, 23/24, 24/25, 25/26 10h, 10-20 students (course referent) • Introduction to research, Undergraduate degree in Chemistry – University of Strasbourg AY 23/24, 24/25, 25/26 2h, ca. 10 students • Nanoscience. Master degree in Chemistry – University of Strasbourg AY 22/23, 23/24, 24/25, 6h, ca. 20 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. 40 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 & editorial activity

- I served as a reviewer for >20 journals, including: *Angewandte Chemie*, *Nature*, *Nature Chemistry*, *Nature Communications*, *Nature Nanotechnology*, *Nature Reviews Chemistry*, *Nature Synthesis*, *JACS*.
- *Chem. Eur. J.* early career advisory board member (2024-26)
- *ChemPhysChem* early career advisory board member (2022-26)
- Participant of the 3<sup>rd</sup> Chemistry Europe Early Career Researchers Meeting, Weinheim, April 2024: one member of each European Chemical society is selected to participate to this event.
- I served as external expert for the evaluation of European, National, and NGO projects (e.g. ANR, NWO, ISR, ERC, Sloan Foundation).

**Organization of scientific talks & meetings** Co-organizer of the "Journées de Chimie Supramoléculaire", 22-23 May, Strasbourg • Member of the organizing committee of: Systems Chemistry Virtual Symposium 2023 • vMASC – Royal Society of Chemistry virtual Macrocyclic and Supramolecular Chemistry Seminar Series 2022-25 • ISIS Conferences 2022-.

**Institutional responsibilities**

- 2024- Pedagogical director – Graduate school in Complex Systems Chemistry – University of Strasbourg
- 2024- ITI SysChem member (& member of its executive committee)
- 2023- PhD Thesis evaluator (University of Strasbourg, Rome, L'Aquila, Turin, Bari, TU Munich)
- 2022- Co-organizers of the soft-skills workshop at the University of Strasbourg
- 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

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

**Outreach activities** Besides research articles, I have contributed to several outreach activities in the last 15 years. Recent highlights: Panelist at Frankfurt Bookfair discussing "The next generation of Open Access and its users – early career researchers" (invited by Wiley), October 17 2024 • Outreach talk "La chimie du sommeil" (The chemistry of sleep, in French), Schirmeck, December 12<sup>th</sup> 2024 & Haguenau, April 17<sup>th</sup> 2025 • Outreach talk & visit of high-school students within the event "I più piccoli oggetti con una forma: le molecole" (The smallest objects with a shape: the molecules, in Italian), Strasbourg, April 29<sup>th</sup> 2025.