

## Curriculum Vitae

Dr. Eloi Camprubi

[eloicamprubi.com](http://eloicamprubi.com)



**ASTROBIOCHEMISTRY LAB**  
LIFE'S ORIGINS AND DISTRIBUTION

### **Professional experience**

**09/01/2022 - present day:** University of Texas Rio Grande Valley (Texas, United States), Assistant Professor, School of Integrative Biological and Chemical Sciences.

**10/01/2021 - 07/31/2022:** Earth-Life Science Institute – Tokyo Institute of Technology (Tokyo, Japan), Postdoctoral Fellow of the Human Frontiers Science Program (HFSP), Project: Geo-electrochemical synthesis of organosulfur compounds as the hub of proto-metabolism.

**05/01/2018 - 09/15/2021:** Utrecht University – Origins Center (Utrecht, Netherlands), Postdoctoral Research Fellow of the Origins Center, Project: A high-pressure origins of life simulator.

**01/02/2013 - 09/12/2013:** University of Roehampton (London, UK), Research Excellence Framework (2014) Manager.

### **Languages**

English – Full proficiency

Spanish – Native

Catalan – Native

German – Beginner

### **Formal training**

PhD in Chemistry, **12/28/2018**, University College London (UK), Dissertation: The beginnings of proto-metabolism at the origin of life in alkaline hydrothermal vents (Supervisors: Profs Nick Lane and John Ward)

Masters of Research (MRes) in Molecular Biophysics and Structural Biology, **09/21/2014**, University College London (UK), 1<sup>st</sup> class honors grade

Bachelor in Biochemistry, **09/19/2012**, Autonomous University of Barcelona (Spain), 87% grade. Awarded the extraordinary prize to the highest-achieving student.

Bachelor in Biology, **09/20/2011**, Autonomous University of Barcelona (Spain), 76% grade

### **Publications** (h-index: 10, i10-index: 10, citations: 1084)

(under review) Preiner, M., **Camprubi, E.**, Pearce, K. D. B. The terrestrial abiotic synthesis of simple precursor molecules at the origin of life (submitted)

(under review) **Camprubi, E.**, Nan, J., Versluis, F., King, H., Plümper, O., Wolthers, M., ten Kate, I.L. A high-pressure microfluidics setup to study CO<sub>2</sub> reduction under Hadean Earth submarine hydrothermal conditions (submitted)

(under review) Origin of Life Early-career Network (OoLEN), **Camprubi, E.** et al. What it takes to solve the Origins(s) of Life: An integrated review of techniques. (submitted; under review at Cell Reports Physical Science – Quartile 1 in Chemistry). Publicly accessible since August 2023 as an arXiv preprint (<https://arxiv.org/abs/2308.11665>) (citations 1)

**2024** Johansen, A., **Camprubi, E.**, van Kooten, E., Hoeijmakers, H. J. Self-oxidation of the atmospheres of rocky planets with implications for the origin of life. Astrobiology, 24(9):856-880 Quartile 1 in Space and Planetary Sciences (citations: 2)

**2023** Kopacz, N., Corazzi, M. A., Poggiali, G., von Essen, A., Kofman, V., Fornaro, T., van Ingen, H., **Camprubi, E.**, King H. E., Brucato, J. R., ten Kate, I. L. The photochemical evolution of polycyclic aromatic hydrocarbons and nontronite clay on early Earth and Mars. Icarus, 394(115437) Quartile 1-2 in Space and Planetary Science (citations: 9)

**2022 Camprubi, E.**, Muchowska, K. B., ten Kate, I. L., Markovitch, O., Otto, S. Prebiotic Chemistry: From dust to molecules and beyond. Chapter 2 in *New Frontiers in Astrobiology*, Elsevier Cambridge, 19-47 (peer-reviewed book chapter)

**2022 Camprubi, E.**, Harrison, S. A., Jordan, S. F., Bonnel, J., Pinna, S., Lane, N. Do soluble phosphates direct the formose reaction towards pentose sugars? *Astrobiology*, 22(3):981-991 (citations: 14)

**2022 Giese, C.C.**, ten Kate, I.L., van den Ende, M.P.A., Wolthers, M., Aponte, J., **Camprubi, E.**, Dworkin, J., Elsila, J.E., Hangx, S., King, H.E., Mclain, H.L., Plümper, P., Tielens, A.G.G.M. Experimental and theoretical constraints on amino acid formation from PAHs in asteroidal settings. *ACS Earth and Space Chemistry*, 6(3):468-481 (citations: 6)

**2021 Živković, A.**, Somers, M., **Camprubi, E.**, King, H. E., Wolthers, M., de Leeuw, N. H. Changes in CO<sub>2</sub> adsorption affinity related to Ni doping in FeS surfaces: A DFT-D3 study. *Catalysts*, 11(486) (citations: 10)

**2020 Preiner, M.**, Asche, S., Becker, S., Betts, H., Boniface, A., **Camprubi, E.**, Chandru, K., Erastova, V., Garg, S., Khawaja, N., Kostyrka, G., Machne, R., Moggioli, G., Muchowska, K. B., Neukirchen, S., Peter, B., Pichlhofer, E., Radványi, A., Ring, C., Rossetto, D., Salditt, A., Schmelling, N. M., Sousa, F., Tria, F., Vörös, D., Xavier, J. C. The future of origin of life research: bridging decades-old divisions. *Life*, 10:3 (citations: 142)

**2020 Taubner, R. S.**, Olsson-Francis, K., Vance, S., Antunes, A., Barge, L., Bollengier, O., Brown, M. J., **Camprubi, E.**, de Vera, J. P., Goodman, J., Hand, K., Jebbar, M., Journaux, B., Karatekin, Ö., Klenner, F., Noack, L., Postberg, F., Rabbow, E., Ramkinsson, N., Rettberg, P., Rückriemen-Bez, T., Sekine, Y., Shibuya, T., Soderlund, K. Experimental and simulation efforts in the astrobiological exploration of exooceans. *Space Science Reviews*, 216:9 (citations: 40)

**2019 Camprubi, E.**, de Leeuw, J. W., House, C. H., Raulin, F., Russell, M. J., Spang, A., Tirumalai, M. R., Westall, F. The emergence of life. *Space Science Reviews*, 215:56 (also appearing as a chapter in *Ocean Worlds: Habitability in the Outer Solar System and Beyond*, Springer, 2021) (citations: 94)

**2019 Choblet, G.**, Cadek, O., Freissinet, C., Jones, G., Le Gall, A., MacKenzie, S., Neveu, M., Olsson-Francis, K., Saur, J., Schmidt, J., Sekine, Y., Tobie, G., Vance, S., Barge, L., Behoukova, M., Buch, A., **Camprubi, E.**, Hedman, M., Lainey, V., Lucchetti, A., Mitri, G., Nimmo, F., Panning, M., Postberg, F., Shibuya, T., Sotin, C., Soucek, O., Szopa, C., Tomohiro, U., Van Hoolst, T. Enceladus as a potential oasis for life: Science goals and investigations for future explorations (a white paper submitted in response to ESA's Voyage 2050 call). Published also in *Experimental Astronomy*, <https://doi.org/10.1007/s10686-021-09808-7> (citations: 19)

**2018 Camprubi, E.**, Whicher, A., Pinna, S., Herschy, B., Lane, N. Acetyl phosphate as a primordial energy currency at the origin of life. *Origin of life and evolution of biospheres*, 48(2):159-179 (citations: 81)

**2017 Camprubi, E.**, Jordan, S., Vasiliadou, R., Lane, N. Iron catalysis at the origin of life. *IUBMB Life*, 69(6), 373-381 (citations: 142)

**2016 Sojo, V.**, Herschy, B., Whicher, A., **Camprubi, E.**, Lane, N. The origin of life in alkaline hydrothermal vents. *Astrobiology*, 16(2), 181-197 (citations: 319)

**2014 Herschy, B.**, Whicher, A., **Camprubi, E.**, Watson, C., Dartnell, L., Ward, J., Evans, J. R. G., Lane, N. An Origin-of-Life reactor to simulate alkaline hydrothermal vents. *Journal of Molecular Evolution*, 79, 213-227 (citations: 204)

#### **Awards, fellowships and grants**

**2025** (under review) NASA/Maine Space Grant Consortium – EPSCoR. Role: Co-I. Title: Maine Core Facilities For Materials and Geochemical Analyses: Enabling Research Ranging from the Origin-of-Life to the Origin of the Peopling of Maine – **\$600,000**. Result: **under review**.

**2025** (under review) NASA MOSAICS Seed Funding (MSF). Role: PI. Title: GeoRedox – Establishing a cross-mentoring collaborative network between NASA JPL and two under-

resourced institutions to carry out astrobiological investigations of aqueous geochemistry – **\$500,000**. Result: **under review**.

**2025** (under review) NASA – MUREP ESSR. Role: Co-I. Title: VITAL - Virtual Institute for Temporal and Additive Learning – **\$1,200,000**. Result: **under review**.

**2025** NSF BRC-BIO. Role: PI. Title: Building a Cell - Coupling Amphiphile Prebiotic Chemistry to Protocell Heredity – **\$502,983**. Result: **funded** (official announcement pending).

**2025** (under review) NSF REU. Role: Collaborator. Title: REU Site - Summer Undergraduate Research Program in Biochemistry – **\$145,000**. Result: **under review**.

**2024** Maine Space Grant Consortium (MSGC) - EPSCoR RID. Role: Co-I. Title: Geochemical analyses into the origins of life and the peopling of Maine; inclusive pathways to NASA-related research lead primarily by a team of displaced chemists – **\$50,000**. Result: **funded**.

**2024** USDA NIFA. Role: Project Director (PI). Title: Catalytic isomerization of galactose from acid whey into low-calorie tagatose – **\$299,672**. Result: **funded**.

**2024** NASA Research Initiation Awards (RIA). Role: PI. Title: Understanding Europa's surficial chemistry - A window to its ocean – **\$299,246**. Result: **funded**.

**2024** NASA Research Opportunities in Space and Earth Sciences 2023 (ROSES-2023) Exobiology. Role: Co-I. Title: Tracing Biosignature Diagenesis in Icy Worlds – \$1,871,000. Result: not funded.

**2024** NSF S-STEM. Role: Co-I. Supporting Training for Achieving RGV Scholars in STEM – \$1,999,997. Result: not funded.

**2024** NASA MIRO. Role: Co-I. Title: The South Texas Space Science Institute - Partnering with NASA to advance research and education in the space sciences – \$4,842,046. Result: withdrawn.

**2024** Welch Foundation Research Grant. Role: PI. Building a Membrane: From the Prebiotic Chemistry of Amphiphiles to Protocell Biophysics – \$300,000. Result: not funded.

**2024** Faculty Travel Support Program (UTRGV) – **\$800**. Result: **funded**.

**2023** Heising-Simons Foundation, Texas Area Planetary Science travel grant – **\$600**. Result: **funded**.

**2023** NSF MRI. Role: Senior personnel. Title: Acquisition of a Single-Crystal Xray Diffractometer – \$375,133. Result: not funded.

**2023** Human Frontier Science Program (HFSP) Early-Career Research Grant. Role: PI. Title: Beyond the central dogma: Evolution before genetic coding in protocell populations – \$1,050,000. Result: not funded.

**2023** Faculty Travel Support Program (UTRGV) – **\$800**. Result: **funded**.

**2023** NSF MRI. Role: Senior personnel. Title: Acquisition of a TCI CryoProbe Prodigy for a 600 MHz NMR Spectrometer for Research & Education at Rio Grande Valley – \$350,064. Result: not funded.

**2022** John Templeton Foundation General Call. Role: co-PI. Title: Beyond the central dogma: Evolution in vesicle systems without genetic coding – \$1,489,617. Result: not funded.

**2022** Maine Space Grant Consortium (MSGC)/ EPSCoR RID. Role: Senior personnel. Title: Elucidating mechanisms for a potential origin of life on water/rocky planets – \$50,000. Result: not funded.

**2022** The University of Texas System. Role: PI. Rising STARs award – **\$300,000**. Result: **funded**.

**2022** Selected as one of 30 fully-funded international ECRs to attend the Templeton Foundation's IdeasLab "Bringing Chemistry, Physics and Computing to Life", an interdisciplinary grant-writing workshop which took place June 19-24 2022 in Prague (CZ) aimed at obtaining extramural funding for Origins and Artificial Life research – **€2,000**. Result: **funded**.

**2021** Awarded a Human Frontier Science Program (HFSP) 3-year Cross-Disciplinary Fellowship to join the Earth-Life Science Institute (Tokyo Tech, Japan) – **€160,000**. Result: **funded**.

**2019** 'Sandpit' grant to foster networking and interdisciplinary grant write-up. Awarded by the Physics of life network 2 (PoLNet2), EPSRC Research Council (UK) – **£5,000**. Result: **funded**.

**2018** Funding for the organisation of a 1-day international Origins Symposium at Utrecht University awarded by the Dutch Origins Center (NWO) – **€10,000**. Result: **funded**.

**2017** Awarded an Origins Center (NWO) 3-year Fellowship for its 1<sup>st</sup> gamechanger: 'Origin and co-evolution of Earth-like planets and life' to construct a high-pressure origins simulator. I chose Dr Inge Loes ten Kate's Astrobiology group (Utrecht University) as my host lab – **€140,000** (excluding salary). Result: **funded**.

**2017** SLMS PhD student travel grant for international conferences (to ELSI, Japan) awarded by UCL – **£1,500**. Result: **funded**.

**2016** EANA travel grant for postgraduate students (EANA, Greece) – **€400**. Result: **funded**.

**2015** AbGradE + EANA travel grant for postgraduate students (EANA, Netherlands) – **€500**. Result: **funded**.

**2014** Fellowship for PhD study for highly impactful PhD projects awarded by UCL Impact Awards (2 years of PhD funding; UK) – **£70,000**. Result: **funded**.

**2014** Fellowship for overseas postgraduate study awarded by 'la Caixa' Foundation (2 years of PhD funding; Spain). This fellowship is handed in person by the King of Spain – **€85,000**. Result: **funded**.

**2012** Extraordinary prize for the highest grades during the Biochemistry degree amongst the 2012 cohort awarded by the Autonomous University of Barcelona.

### **Career development training**

**2024** 'Documenting Teaching Effectiveness: Showcasing Your Teaching Values & Beliefs in Your Dossier', Center for Teaching Excellence, Division of Student Success (UTRGV)

**2023** 'Juntos al Éxito! – Empowering Our Pedagogical Skills' (UTRGV)

**2023** 'Juntos al Éxito! – COLTT Services and Support' (UTRGV)

**2023** 'Professional development in teaching' workshop (by Dr. Justin Shaffer) as part of one of the new course design Ad Hoc committees, SIBCS (UTRGV)

**2023** Writing-Mentoring Program, Mentor: Prof. Mario Diaz (Department of Physics and Astronomy), College of Sciences (UTRGV) (testimonial video: <https://www.utrgv.edu/cos/faculty-success/writing-mentoring-program/index.htm>)

**2023** 'Eliciting Meaningful Student Feedback on Course Evaluations through Guided Open-Ended Questions', Center for Teaching Excellence, Division of Student Success (UTRGV)

**2023** 'How to make the most of your mentor relationship', workshop organized by the Office of Faculty Success & Diversity (UTRGV)

**2023** 'Traditional Lecture vs. Active Learning: Exploring the Impact of Hands-On Engagement for Student Success Across Academic Disciplines', Center for Teaching Excellence, Division of Student Success (UTRGV)

**2023** 'Cheating in the 21st Century: How to turn a menace into an innovative educational tool?', Juntos al Éxito, College of Sciences (UTRGV)

**2023** 'Curating Your Teaching Narrative for Tenure and Promotion', Center for Teaching Excellence, Division of Student Success (UTRGV)

**2022 – 2023** 'Keys to Research' workshop series, Faculty Research & Professional Development Program, Division of Research (UTRGV)

**2022** 'Say Goodbye to Reading the Syllabus: Explore memorable and interactive learning' workshop, Center for Teaching Excellence, Division of Student Success (UTRGV)

**2022** 'Not Just Another Reading Assignment: Active reading strategies to engage your students' workshop, Center for Teaching Excellence, Division of Student Success (UTRGV)

**2022** 'Incorporating Critical Reflection to Help Students Articulate Their Learning' workshop, Center for Teaching Excellence, Division of Student Success (UTRGV)

### **Service**

**04/2024** Hosted an in-person external speaker (Dr. Rebecca Rapf, Trinity University) at the SIBCS Seminar Series

**01/2024** Manned SIBCS stand to welcome and provide information to new students

**12/01/2023 - present day:** Professional Outreach Lead, South Texas Space Science Institute, University of Texas Rio Grande Valley (Texas, United States)  
(<https://www.utrgv.edu/stssi/>)

**09/2023** Interview in Vaquero Radio together with Dean Incera and Director Dearth to promote and explain the interdisciplinary nature of the new School of Integrative Biological and Chemical Sciences (<https://utrgvradio.com/index.php/2023/09/18/utrgv-new-school-of-integrative-biological-and-chemical-sciences/>)

**08/2023** Manned SIBCS stand to welcome and provide information to new students

**08/2023 - 05/2024** Member of the new course development (Cell & Molecular Biology course) Ad Hoc Committee, SIBCS (UTRGV)

**04/2023** Judge at UTRGV's COS Annual Research Conference (Brownsville, TX) for the Departments of Biology and Chemistry

**02/2023 - 08/2023** Member of the Instrumentation Committee for the Department of Chemistry

**01/2023 - present day** Member of UTRGV's Biochemistry & Molecular Biology MS organizing committee

**01/2023** Manned Biology Department stand to welcome and provide information to new students

**09/2022 - 09/2024** Member of the Marketing and Community Engagement Committee, Department of Biology/SIBCS

**11/2022** Co-organization of the Department of Chemistry's Open House events (both Brownsville and Edinburg). Collaborated with a divulgatory demonstration stand of the research conducted in the Astrobiochemistry Lab.

### **Conference contributions**

I have attended numerous national and international conferences, workshops, and institutional seminars. Most (9/12) of my conference contributions since September 2022 were invited by the organizers. Please find the full list of my oral and poster contributions at the end of this document.

### **Teaching activities**

#### Formal teaching:

**Spring 2024** Taught 'Topics in Biol I: Astrobiology as a graduate course (BIOL 6398, 02I); student evaluation of 70% agree or strongly agree. Enrollment of 8.

**Fall 2023** Taught 'Special Topics I: Astrobiology' as an undergraduate course (BIOL 4398-02); student evaluation of 95% agree or strongly agree. Enrollment of 17.

**Spring 2023** Designed new undergraduate course on 'Special Topics in Biochemistry: Astrobiology' (CHEM 4306); student evaluation of 95% agree or strongly agree. Enrollment of 18.

**Spring 2023** Guest Lecture on the 'Origin of Life' in Dr. Kathryn Perez's 'Evolution' course (BIOL 331).

**Spring 2020** and **Spring 2019** Lectured on the course 'Planetology, an introduction' (Utrecht University, Netherlands) to 3<sup>rd</sup> year Geosciences students.

**Spring 2017** and **Spring 2016** Lectured on the course 'Energy and evolution' (UCL, UK) to 2<sup>nd</sup> year Biological Sciences students.

Research student supervision:

PhD students (as primary supervisor):

**Myrine Barreiro-Arevalo** (September 2023 – present), Mathematics and Statistics with Interdisciplinary Applications, UTRGV

**Mauricio Berazalu** (September 2024 – present), Materials Science and Engineering, UTRGV

PhD students (not as primary supervisor):

**Nina Kopacz** (May 2019 – September 2021), Planetary Sciences, Utrecht University

**Claudia Giese** (November 2018 – March 2021), Planetary Sciences, Utrecht University

**Jingbo Nan** (September 2018 – January 2021), Planetary Sciences, Utrecht University

MS students:

**Gabriella Garza** (September 2023 – present), Biology, UTRGV

**Ilan kuzhali Elavarasan** (January 2024 – present), Chemistry, UTRGV

**Andrea Aldaba** (September 2024 – present), Biochemistry and Molecular Biology, UTRGV

**Sophie Luijendijk** (September 2020 – September 2021), Environmental Sciences, Utrecht University

**Michiel Somers** (March 2020 – August 2020), Geochemistry, Utrecht University

**Frances Versluis** (September 2019 – May 2020), Earth Sciences, Utrecht University

**Silvana Pinna** (October 2016 – September 2017), Biochemistry, University College London

**Jeroen Carmiggelt** (April 2019 – August 2019), Earth Sciences, Utrecht University

**Stan Bakker** (November 2018 – April 2019), Earth Sciences, Utrecht University

**Iro Pierides** (October 2016 – April 2017), Biochemistry, University College London

**Sylvia Lim** (October 2015 – April 2016), Biochemistry, University College London

BS students:

**Dulce Castillo** (September 2023 – present), Biology, UTRGV

**Kiara Garduño** (September 2023 – present), Biology, UTRGV

**Kimberly Moran** (January 2024 – May 2024), Biology, UTRGV

**Sarah Walzer** (September 2023 – May 2024), Biology, UTRGV

**David Hernandez** (September 2023 – May 2024), Chemistry (Chem Problems, CHEM 4201), UTRGV

**Mauricio Berazalu** (September 2023 – May 2024), Chemistry (Chem Problems, CHEM 4201), UTRGV

**Abraham Torres** (October 2023 – December 2023), Biology, UTRGV

**Carlos Gonzalez** (September 2023 – December 2023), Biology, UTRGV

**Fernando Garcia** (September 2023 – December 2023), Biology, UTRGV

**Hebe Wildi** (January 2016 – April 2016), Natural Sciences, University College London

**Naho Genko** (October 2014 – April 2015), Biochemistry, University College London

Post-bacc students:

**David Segovia** (August 2024 – present), UTRGV

**Andrea Aldaba** (June 2024 – August 2024), UTRGV

**Sarah Walzer** (June 2024 – July 2024), UTRGV

**Gabriella Garza** (January 2023 – September 2023), UTRGV

Summer interns and exchange students:

**Ruvan de Graaf** (July 2024 – August 2024), UTRGV (exchange student from CoA, Maine)

**Jeanne Bonnel** (June 2016 – August 2016), University College London

Achievements of mentored students:

**Myrine Barreiro-Arevalo** – JSPS (Japanese Education Ministry) Summer Research Fellowship for performing PhD research at the lab of Dr. Tomoaki Matsuura (Toyko Institute of Technology) for 3 months during summer 2024

**Myrine Barreiro-Arevalo** – Outstanding Graduate Research Award from UTRGV's SMSS PhD Program

**Mauricio Berazaluze** – Travel grant by Arizona State University to attend their 'MateriALZ (materials science applied to space sciences) Winter School' (Tucson, Arizona) (2024)

**Mauricio Berazaluze** – Travel and research grant by Maine Space Grant Consortium/EPSCoR RID to work for the month of July at the lab of my collaborator Dr. Reuben Hudson (College of the Atlantic, Maine) (2024)

**Dulce Castillo** – SIBCS Summer Undergraduate Research Scholar (2024)

**Ilankuzhali Elavarasan** – Travel grant by the Lunar and Planetary Institute (LPI) to attend their hands-on workshop on 'Modern SEM Techniques for Planetary Materials' (2024)

**Kiara Garduño** – Acceptance into REU Program in Physics & Astronomy (2024)

**Dulce Castillo** – Dean Excellence Fellowship (2023)

**Gabriella Garza** – UTRGV Presidential Fellowship for Biology MS studies (2023)

**Gabriella Garza** – LSAMP-PRELS Fellowship (2023)

Since September 2022, a total of 5 student travel grants have been awarded by conference organizers to my research students for their conference attendance:

Texas Area Planetary Science 2024 (San Antonio) – Mauricio, Ilankuzhali, Andrea  
SACNAS conference 2023 (Portland) – Myrine  
LSAMP conference 2023 (El Paso) – Gabriella

I often write recommendation letters (3/semester in average) for awards and higher-level studies for both taught and research students who exceeded my expectations as a mentor.

### **Conference and workshop organization and chairing**

**2023 - 2024** Primary convener for session titled 'Prebiotic chemistry or biosignature? Navigating the maze of abiogenesis for space exploration'. We received more than 20 abstracts, which were distributed into 3 sessions (2 oral, 1 poster). Astrobiology Science Conference (AbSciCon), Providence, (US)

**2023** Chaired invited speakers' session #3 at the first Texas Area Planetary Science meeting, San Antonio, (US)

**2023** Member of the scientific organizing committee for the first Texas Area Planetary Science meeting, San Antonio, (US)

**2021** Steering group for the organization of the workshop 'Out-of-Equilibrium Systems, Emergence and Life' (Lorentz Center-Online, Netherlands)

**2018** Organized an international 1-day symposium at Utrecht University (Netherlands) titled 'Origins Symposium – Tracing life's emergence and preservation'.

**2018** Chaired session 'Prebiotic chemistry' at the 1<sup>st</sup> Interdisciplinary Origin of Life (IOoL) meeting, Düsseldorf (Germany).

**2018** Chaired session 'The building blocks of life' at the European Astrobiology Network Association (EANA) conference, Berlin (Germany).

**2015** Organising committee for the Astrobiology Society of Britain (ASB06) conference at UCL-Birkbeck (UK).

**2014** Organising committee for UCL's Origin of life open symposium (UK).

### **Industrial innovation**

**2018 - 2020** Together with Micronit Microtechnologies (Enschede, NL) we developed three types of pressure-resistant (up to 75 bar) relaxed glass microfluidics chips. Since then, Micronit offers high-pressure solutions for a variety of laboratory applications.

**2018 - 2020** Developed a high-pressure H<sub>2</sub> solubilization unit in collaboration with Da Vinci Laboratory Solutions (Rotterdam, NL) capable of maintaining the pressurization level when

the unit's contents are being suctioned by a high-pressure syringe pump (<https://digitaalmagazine.labvision.nl/labvision-uitgave-1/labvision-1-artikel-da-vinci>).

### **Research expeditions**

**07/2018** Participated in a research expedition with Dr Helen King (Utrecht University) to Rio Tinto (Huelva, Spain) to study phosphate O-isotopes as a tracer for life in extreme environments (funding by EuroPlanet 2017). This project led to our co-supervision of masters student Stan Bakker.

### **Science dissemination activities**

**08/2024** Interview for the wider audience with Thomas Spencer (UTRGV – Division of Research) on my recently awarded NASA RIA project impacting the data analyses from NASA's current mission to Saturn 'Europa Clipper' (<https://www.utrgv.edu/research/news/archive/astrobiology-and-icy-worlds/index.htm>).

**05/2024** Designed and manned (together with 4 of my research students) an interactive Space Science stand (as part of the South Texas Space Science Institute) at Space Fest Brownsville.

**03/2024** Designed and manned (together with 3 of my research students) an interactive stand with UTRGV's Mineral and Fossil collection for the 6th Annual Science Discovery Day IDEA College Prep Elsa.

**08/2023** Divulcation article 'On organic molecules in space and what they tell us' for South Texas Astronomical Society's FarFarOut! Magazine; Volume 2, Issue 2, pages 10-13 (<https://starsocietyrgv.org/wp-content/uploads/2023/08/FFO-6-Master.pdf>).

**05/2023** Video interview by PhD Insiders on my research at and mentoring philosophy (English: <https://www.phdinsiders.com/labs/camprubi-casas-lab> & Spanish: <https://www.youtube.com/watch?v=dxLprym85hY>).

**03/2023** Divulcation talk 'From the stars to your backyard – Meteorites impacting the Rio Grande Valley'; in collaboration with Prof. Juan Gonzalez and organized by UTRGV's College of Sciences. Also appeared on a television interview (Telemundo 40) covering this event (<https://www.telemundo40.com/noticias/local/en-texas-han-caido-al-menos-300-meteoritos-y-crece-el-interes-por-estas-rocas/2272716/>).

**02/2023** Television interview (Channel 5-KRGV) covering the meteorite impact which fell in Starr county in February 2023 (<https://www.krgv.com/news/meteorite-fragment-sparks-interest-among-local-researchers>).

**01/2023** Designed and manned an interactive stand with UTRGV's Mineral and Fossil collection for the 5th Annual Science Discovery Day IDEA College Prep Elsa.

**02/2021** Collaboration with Esther Thole on two NEMO Kennislink articles: 'De oeroceaan op zakformaat' (English: A pocket-sized primeval ocean) (<https://www.nemokennislink.nl/publicaties/de-oeroceaan-op-zakformaat/>) and 'De jonge aarde was een gigantische batterij' (English: The young Earth was a giant battery) (<https://www.nemokennislink.nl/publicaties/de-jonge-aarde-was-een-gigantische-batterij/>).

**05/2020** Collaboration with Melanie Metz on a Quest physical magazine article about the origins of life and my research 'Hoe is ooit het leven ter wereld gekomen?' (English: How did life emerge?).

**02/2020** Collaboration with Utrecht Young Academy and JINC with disfavored students from vocational schools (VMBO) on designing a vlog about space exploration 'Waar in het heelal kunnen we leven vinden?' (English: Where in the Universe can we find life?).

**12/2019** YouTube video 'How did life get Started?' on my research as part of the Origins Center produced by Sander van Iersel: [https://www.youtube.com/watch?v=ssy\\_IF120Pw&t=3s](https://www.youtube.com/watch?v=ssy_IF120Pw&t=3s).

**03/2016** Two talks on space exploration at Long Sutton CofE Primary School (UK) to KS2 students as part of the Astrobiology Society of Britain 'STARS' space sciences talks.



**01/2016** Talk on the choices for a career in astrobiology at IES Gurb (Spain) to 4<sup>th</sup> year high school students.

**05/2015** Co-organized and manned a one-week scientific divulgation stand for the Royal Society Summer Exhibition 'UCL Origins and Life'.

I often collaborate with science divulgation magazines and blogs covering new advances in the astrobiology and origins fields (e.g., <https://www.the-scientist.com/news-opinion/hydrogen-fueled-life-s-origins-study-69528>, <https://www.livescience.com/what-energy-source-sparked-the-evolution-of-life>).

### **Memberships, synergistic activities, and peer reviewing**

**01/2025 - present day** Elected member of the Board of Directors at NASA's Texas Space Grant Consortium (Texas, United States).

**12/2024 - present day** Member of an expert working group for the European Space Agency on updating the planetary protection regulations for the exploration of Icy Worlds.

**08/2024 - present day** Member of the Steering Committee of NASA's Network for Ocean Worlds (NOW). We regularly inform and recommend actions to NASA headquarters regarding science and technology developments for Ocean Worlds space exploration.

**11/2023 - present day** Founding membership of the Scientific Society for Astrobiology (SSA).

**07/2023 - present day** Member of the American Geophysical Union (AGU).

**03/2023 - present day** Member of the Texas Area Planetary Science (TAPS) network as the UTRGV representative (<https://sites.google.com/view/tapsmeeting/participating-institutions>).

**11/2022 - present day** Member of the International Society for the Study of the Origin of Life – The International Astrobiology Society (ISSOL).

**02/2022 – 05/2023** Special Issue Editor "The Origin and Early Evolution of Life: Prebiotic Chemistry Perspective" (*Life*; 2075-1729, MDPI).

**10/2021 - present day** Member of the Working Group on abiogenesis, European Astrobiology Institute (EAI).

**09/2021 - present day** Member of the Network of Researchers on the Chemical Evolution of Life (NoRCEL).

**06/2021 - present day** Member of SAGANet.

**04/2021 - 12/2023** Topic Editor at the Editorial Board of *Symmetry* (2073-8994, MDPI).

**08/2020** Member of the selection panel for a PEPSci-2 consortium PhD position on 'Prebiotic polymerization routes on rocky exoplanets' (University of Amsterdam).

**05/2020 - present day** Member of the international Origin of Life Early-career Network (OoLEN).

**08/2018 – 07/2022** Member of the management committee for the COST action 'Chemobionics' as the formal Netherlands representative.

**05/2018 - present day** Member of the Dutch Origins Center.

**02/2017 - present day** Member of the European Astrobiology Network Association (EANA).

I am an active reviewer for many scientific journals including **Nature**, ACS Accounts of Chemical Research, Earth and Planetary Science Letters, Communications Earth & Environment, Frontiers in Microbiology, PNAS, BioEssays, Chemistry - A European Journal, Life, Minerals, Symmetry, DNA and Cell Biology, and Evolution.

I often peer-review national and international grant proposals within the wide field of astrobiology, covering foundational biological & chemical research to geochemistry & planetary science topics.

### **Conference contributions, in chronological order**

Oral (IT = invited talk; IW = invited workshop):

**2025** IT: On wet rocky worlds – How does origin of life research impact space exploration efforts at ocean worlds?; ICE-CSIC Seminar Series, Space Science Institute – Universitat Autònoma de Barcelona, Bellaterra (Spain)

**2024** IT: On wet rocky worlds – How does origin of life research impact space exploration efforts at ocean worlds?; UTIG Seminar Series, University of Texas Austin, Austin (US)

**2024** IT (**PhD summer school**): Understanding life's emergence and distribution; Dust2DNA PhD summer school; Globe – University of Copenhagen, Copenhagen (Denmark)

**2024** IT (**Keynote talk**): What are biosignatures? Searching for E.T. in our cosmic backyard; College of Science Annual Research Conference, UTRGV, Edinburg (US)

**2024** Spaceflight Human Optimization and Performance Summit (SHOP-24) (networking opportunity, no presentation), University of Houston-Clear Lake, Houston (US)

**2024** IT: On wet space rocks – The dance between geochemistry and biochemistry; Center for Advanced Measurements in Extreme Environments (CAMEE), University of Texas San Antonio, San Antonio (US)

**2023** IT: How to make a planet – A beginner's guide; UTRGV's SIBCS Research Seminar

**2023** IT: Becoming a Professor; Origin of Life Early career Network (OoLEN) seminar series, (International Audience), Online

**2023** IT: Life's emergence as a planetary phenomenon – Hints for life beyond Earth; Texas Area Planetary Science (TAPS) meeting, San Antonio (US)

**2023** IW: Panel discussion on 'Challenges to becoming a professor in Astrobiology'; AbGradEPEC Symposium; Astrobiology Graduates in Europe (AbGradE)- Europlanet Early Careers (EPEC), La Palma (Spain)

**2023** IT: The transition between Hadean geochemistry and ancient biochemistry – What are we missing?; Globe Institute seminar series, Copenhagen (Denmark)

**2023** IT: The transition between Hadean geochemistry and ancient biochemistry – What are we missing?; Astrobiology Hour at Pennsylvania State University (US), Online

**2022** IT: Living Energy – How hydrothermal systems bridge the gap between Earth's geochemistry and earliest biochemistry, and beyond; UTRGV's Biology Research Seminar

**2022** IT: The role of vectorial chemistry at life's emergence; MPIA conference 'Towards Molecular Complexity: At the crossroads between astrophysics and biochemistry', Heidelberg (Germany)

**2021** IT: Metal sulphides as primitive energy-coupling systems on the early Earth and beyond; HPSTAR Beijing (China) seminar, Online

**2021** IT: Metal sulphides as primitive energy-coupling systems on the early Earth and beyond; 2<sup>nd</sup> Origins Center (Netherlands) conference, Online

**2020** IT: An experimental high-pressure Origins Simulator to study the emergence of life on Earth; 2<sup>nd</sup> Interdisciplinary Origin of Life (IOoL) meeting, Online

**2019** IT: An experimental high-pressure Origins Simulator to study the emergence of life on Earth; Netherlands Institute for Space Research (SRON) seminar, Groningen (Netherlands)

**2019** IT: An experimental high-pressure Origins Simulator to study the emergence of life on Earth; Earth-Life Science Institute (ELSI) seminar, Tokyo (Japan)

**2019** IT: An experimental Origins Simulator to study the emergence of life on Earth – When, where, how and why; Centre de Biophysique Moléculaire (CBM) seminar, Orléans (France)

**2019** IT: An experimental Origins Simulator to study the emergence of life on Earth – When, where, how and why; FEST (Utrecht University's Earth Sciences department seminar), Utrecht (Netherlands)

**2019** Contributed talk: An origins simulator – Could natural pH gradients have powered the origin of life?; Nederlands Aardwetenschappelijk congress (NAC), Utrecht (Netherlands)

**2019** IT: An origins simulator – Did vectorial electrochemistry power the emergence of life?; 30/80 meeting celebrating 30 years of the alkaline vent hypothesis and Mike Russell's 80<sup>th</sup> birthday, Granada (Spain)

**2018** IT: The emergence of life on Earth, Mars and beyond; KNGMG Kringendag/Symposium at the Vrije Universiteit, Amsterdam (Netherlands)

**2018** IT: An origins simulator – Could pH gradients have powered the origin of life?; ExoOceans workshop by the International Space Science Institute (ISSI), Bern (Switzerland)

**2018** Contributed talk: An origins simulator – Could natural pH gradients have powered the origin of life?; European Astrobiology Network Association (EANA) conference, Berlin (Germany)

**2017** Contributed talk: Alkaline hydrothermal vents as electrochemical reactors driving an autotrophic origin of life; The International Society for the Study of the Origin of Life (ISSOL) meeting, San Diego (USA)

**2017** IT: Acetyl phosphate and the origin of life at alkaline hydrothermal vents; Genetics, Evolution and Environment (GEE) department symposium UCL, London (United Kingdom)

**2016** Contributed talk: Alkaline hydrothermal vents as electrochemical reactors driving an autotrophic origin of life; European Astrobiology Network Association (EANA) conference, Athens (Greece)

Poster (SP = poster by my student):

**2024** SP (Kiara Garduño) Probing vesicle formation across the pH scale – Investigating primordial heredity mechanisms, SIBCS Undergraduate Symposium, Edinburg (TX), US

**2024** SP (Mauricio Berazaluce) Synthesis of Catalytic Materials for Origin of Life studies, SIBCS Undergraduate Symposium, Edinburg (TX), US

**2024** SP (David Hernandez) Developing Methods for Solid-Phase Extraction Purification and Liquid Chromatography - Mass Spectrometry Quantification of Aqueous Nucleotide Samples, SIBCS Undergraduate Symposium, Edinburg (TX), US

**2024** SP (Sarah Walzer) Identifying Algal Lipids via LC-MS: Applications to Biofuel Production, SIBCS Undergraduate Symposium, Edinburg (TX), US

**2024** SP (Ilankuzhali Elavarasan, Andrea Aldaba) BOREAS - Probing Europa's Subsurface Ocean by Simulating Icy Surficial Conditions, TAPS Meeting, San Antonio (TX), US

**2024** SP (Mauricio Berazaluce) Probing Prebiotic Polymerization on Mineral Surfaces using Microfluidics, TAPS Meeting, San Antonio (TX), US

**2024** SP (Ilankuzhali Elavarasan), BOREAS - Probing Europa's Subsurface Ocean by Simulating Icy Surficial Conditions, COS Annual Research Conference, Edinburg (TX), US

**2024** SP (Myrine Barreiro-Arevalo) Synthesis and Characterization of Vesicle Compartments to Study the Origins of Heredity, COS Annual Research Conference, Edinburg (TX), US

**2024** SP (Gabriella Garza) Prebiotic RNA oligonucleotide polymerization on mineral surfaces using microfluidics, COS Annual Research Conference, Edinburg (TX), US

**2024** Self-oxidation of the atmospheres of rocky planets – implications for the origin of life, Astrobiology Science Conference (AbSciCon), Providence (RI), US

**2023** Self-oxidation of the atmospheres of rocky planets – implications for the origin of life, American Geophysical Union (AGU), San Francisco (CA), US

**2023** SP (Gabriella Garza) Prebiotic RNA oligonucleotide polymerization on mineral surfaces using microfluidics, UT System LSAMP Conference, El Paso (TX), US

**2023** Do soluble phosphates direct the formose reaction towards pentose sugars?; Biennial European Astrobiology Conference (BEACON) 2023, European Astrobiology Institute (EAI), La Palma (Spain)

**2023** SP (Gabriella Garza) Prebiotic RNA oligonucleotide polymerization on mineral surfaces using microfluidics, COS Annual Research Conference, Brownsville (TX), US

**2018** An origins simulator - Origins Center's gamechanger 1; A roadmap for universal life workshop by the Lorentz Center, Leiden (Netherlands)

**2018** Alkaline hydrothermal vents as electrochemical reactors driving an autotrophic origin of life; Earth-Life Science Institute (ELSI) 6<sup>th</sup> International Symposium, Tokyo (Japan)

**2018** An origin of life simulator in order to mimic the emergence of proto-metabolism in the far-from-equilibrium conditions of Hadean Earth; Origins Center fellows kick-off meeting, Utrecht (Netherlands)

**2017** Controversies on the origin of life; Astrobiology Society of Britain 7 (ASB07) meeting, Milton Keynes (United Kingdom)

**2016** Controversies on the origin of life; AbGradE (Astrobiology Graduates in Europe) conference, Athens (Greece)

**2015** Proto-metabolic flux leading to polymerisation at life's origin; Astrobiology Society of Britain 6 (ASB06) meeting, London (United Kingdom)

**2015** Proto-metabolic flux leading to polymerisation at life's origin; European Astrobiology Network Association (EANA) conference, Noordwijk (Netherlands)