

**Scientific publications:** we provide here an exhaustive list of scientific publications including scientific papers, patents, conference proceedings, as they were implemented/ co-authored by the partners. So far the cumulative impact factor reached by publishing COGITOR activities is 94.7. We have created a specific page on the project's website:

[Results & Progress » COGITOR](#)

**Table 6.3.1:** scientific papers published, book chapters, proceedings and patents filed.

Scientific Papers	1	Alessandro Chiolerio, Erik Garofalo, Neil Phillips, Ermelinda Falletta, Rodrigo de Oliveira, Andrew Adamatzky Learning in colloidal polyaniline nanorods RESULTS IN PHYSICS 58 (2024) 107501 (I.F. 4.4) <a href="https://doi.org/10.1016/j.rinp.2024.107501">https://doi.org/10.1016/j.rinp.2024.107501</a>
Scientific Papers	2	M. Crepaldi, C. Mohan, E. Garofalo, A. Adamatzky, K. Szaciłowski, A. Chiolerio Experimental Demonstration of In-Memory Computing in a Ferrofluid System ADVANCED MATERIALS 2211406 (2023) (I.F. 27.4) 10.1002/adma.202211406
Scientific Papers	3	Jamilpanah, L., Chiolerio, A., Crepaldi, M. et al. Proposing magnetoimpedance effect for neuromorphic computing. Sci Rep 13, 8635 (2023). <a href="https://doi.org/10.1038/s41598-023-35876-0">https://doi.org/10.1038/s41598-023-35876-0</a> (I.F. 3.8)
Scientific Papers	4	Matteo Bevione, Alessandro Chiolerio, Giulia Tagliabue Plasmonic Nanofluids: Enhancing Photothermal Gradients toward Liquid Robots ACS Appl. Mater. Interfaces 2023, 15, 43, 50106–50115, <a href="https://doi.org/10.1021/acsami.3c06859">https://doi.org/10.1021/acsami.3c06859</a> (I.F. 8.5)
Scientific Papers	5	Hygro-Dynamic and Conductive Actuator That Restructures and Heals by Water Qing Chen, Tina Künniger, Qun Song, Kai Zhang, Andrei Chumakov, Yusuf Bulut, Constantin Harder, Peter Müller-Buschbaum, Stephan V. Roth, and Artur Braun Adv. Funct. Mater. 2024, 34, 2402924. <a href="https://doi.org/10.1002/adfm.202402924">https://doi.org/10.1002/adfm.202402924</a> (I.F. 18.5)
Scientific Papers	6	Restructurable materials for soft actuators (Invited Distinguished Speaker Paper) Qing Chen, Journal of Materials Research 39, 2349–2368 (2024). <a href="https://doi.org/10.1557/s43578-024-01423-4">https://doi.org/10.1557/s43578-024-01423-4</a> (I.F. 2.7)
Scientific Papers	8	Pavlovian reflex in colloids N Raeisi Kheirabadi, A Chiolerio, A Adamatzky BioNanoScience, 1-9, 2024 (I.F. 3.0)
Scientific Papers	9	Logical circuits in colloids N Roberts, N Raeisi Kheirabadi, MA Tsompanas, A Chiolerio, M Crepaldi, ... Royal Society Open Science 11 (5), 231939 (I.F. 2.9)
Scientific Papers	10	Complexity and nonlinearity of colloid electrical transducers Raphael Fortulan, Noushin Raeisi Kheirabadi, Alessandro Chiolerio, Andrew Adamatzky arXiv preprint arXiv:2410.19757, 2024
Scientific Papers	11	Achieving liquid processors by colloidal suspensions for reservoir computing R Fortulan, NR Kheirabadi, A Chiolerio, A Adamatzky Communications Materials 5 (1), 199, 2024 (I.F. 7.5)
Scientific Papers	12	Boolean Circuits in Colloidal Mixtures of ZnO and Proteinoids R Fortulan, N Raeisi Kheirabadi, P Mougkogiannis, A Chiolerio, et al ACS omega 9 (41), 42127-42136, 2024 (I.F. 3.7)
Scientific Papers	13	Visible light: shaping chemical intelligence in proteinoid–ZnO interfaces P Mougkogiannis, NR Kheirabadi, A Adamatzky New Journal of Chemistry 48 (40), 17650-17669, 2024 (I.F. 2.7)

Scientific Papers	14	Electrical spiking activity of proteinoids-ZnO colloids P Mougkogiannis, NR Kheirabadi, A Chiolerio, A Adamatzky Neuromorphic Computing and Engineering 4 (1), 014007, 2024 (I.F. 5.8)
Scientific Papers	15	Qing Chen, Roman Furrer, Loghman Jamilpanah, Andrei Chumakov, Yusuf Bulut, Constantin Harder, Peter Müller-Buschbaum, Stephan V. Roth, and Artur Braun Responsive magnetic polymer nanocomposites through thermal-induced structural reorganization, ACS Nano (just accepted), 10.1021/acsnano.4c14311 (IF 15.8)
Scientific Papers	16	Noushin Raeisi Kheirabadi, Panagiotis Mougkogiannis, Raphael Fortulan, Nic Roberts, Alessandro Chiolerio, Andrew Adamatzky On Fault tolerant Boolean functions in proteinoids-ZnO colloid Journal of Materials Science: Materials in Electronics 36:245 (2025) <a href="https://doi.org/10.1007/s10854-025-14302-3">10.1007/s10854-025-14302-3</a> IF=2.8
Scientific Papers	17	Raphael Fortulan, Noushin Raeisi Kheirabadi, Davin Browner, Alessandro Chiolerio, Andrew Adamatzky Sustainable Reservoir Computing with Liquid Egg Albumen Journal of Materials Chemistry C 13 (2025) 7411-7419 10.1039/d4tc05233a IF=5.2
Scientific Papers	18	Raphael Fortulan, Noushin Raeisi Kheirabadi, Alessandro Chiolerio, Andrew Adamatzky Thermal Colloid Programming Scientific Reports 15 (2025) 12646 10.1038/s41598-025-97484-4 IF=3.9
Scientific Papers	19	Charanraj Mohan, Marco Crepaldi, Diego Torazza, Andrew Adamatzky, Gisy Abdi, Aleksandra Szkudlarek, and Alessandro Chiolerio Liquid Ferrofluid Synapses for Spike-based Neuromorphic Learning Materials Horizons 12 (2025) 4193-4207 DOI: 10.1039/d4mh01592d IF=10.7
Scientific Papers	20	Raphael Fortulan, Noushin Raeisi Kheirabadi, Alessandro Chiolerio, Mohammad Mahdi Dehshibi, Andrew Adamatzky Complexity and Nonlinearity of Colloid Electrical Transducers International Journal of Unconventional Computing 20:1-2 (2025) 121 IF=0.5
Scientific Papers	21	Alessandro Chiolerio Liquid Spaceships for Advanced Autonomous Exploration International Journal of Unconventional Computing 20:1-2 (2025) 137 IF=0.5
Scientific Papers	22	Charanraj Mohan, Marco Crepaldi, Alessandro Chiolerio An 180 nm Four-Port Multi-Directional ASIC for Holonomic Features Extraction of Colloidal Systems IEEE Transactions on Circuits and Systems I: Regular Papers (2025) in press DOI: 10.1109/TCSI.2025.3648506 IF=5.2
Scientific Papers	23	Adriana Nunes dos Santos, Rodrigo José de Oliveira, Alessandro Chiolerio Plasmonic Nanostructures for Enhanced Self-Healing in Materials: A Review ACS Omega 10 (2025) 47748-47760 DOI: 10.1021/acsomega.5c03274 IF=4.3
Scientific Papers	24	Raphael Fortulan, Noushin Raeisi Kheirabadi, Alessandro Chiolerio, and Andrew Adamatzky A Grapeful Discovery: Reservoir Computing with Wine Beads PNA Nexus pgaf335 (2025) <a href="https://doi.org/10.1093/pnasnexus/pgaf335">https://doi.org/10.1093/pnasnexus/pgaf335</a> IF=3.8
Scientific Papers	25	Gisy Abdi, Andrzej Sławek, Alessandro Chiolerio, Katarzyna Berent, Konrad Szaciłowski Electro-Ferroelectric Characterization of Nicotinium Tetrachloridocuprate(II) Memristor for Prospective Neuromorphic Applications Journal of Materials Chemistry C 13 (2025) 22539-22553 IF=5.2
Scientific Papers	26	Raphael Fortulan, Noushin Raeisi Kheirabadi, Clay Palmeira, Davin Browner, Alessandro Chiolerio, Andrew Adamatzky CAUIM: Amazonian Cassava-Based Programmable Biocolloid Advanced Intelligent Systems (2026) in press <a href="https://doi.org/10.1002/aisy.202501057">https://doi.org/10.1002/aisy.202501057</a> IF=6.1

Scientific Papers	27	Luigi Assom, Aron Larsson, Alessandro Chiolerio Tracing Innovation Pathways Inventions 11:1 (2026) 19 10.3390/inventions11010019 IF=1.9
Scientific Papers	28	Alessandro Chiolerio, Giuseppe Vitiello, Mohammad Mahdi Dehshibi, Marco Crepaldi, Diego Torazza, Andrew Adamatzky Observation of phase correlations in ferrofluids Scientific Reports (2026) in press IF=3.9
Scientific Papers	29	M. Bevione, N. Gopal, G. Tagliabue Hydrogel-based thermoelectrochemical cells for waste heat recovery under passive cooling conditions Materials Horizon (2025) IF=10.7 DOI: <a href="https://doi.org/10.1039/D5MH00771B">https://doi.org/10.1039/D5MH00771B</a>
Scientific Papers	30	Chen, Q., Jamilpanah, L., Künniger, T., Furrer, R., Song, Q., Zhang, K., ... Braun, A. Reconfigurable soft actuators constructed via layer-by-layer assembly Advanced Materials Interfaces 12(13) (2025) IF=4.4 DOI: <a href="https://doi.org/10.1002/admi.202500269">https://doi.org/10.1002/admi.202500269</a>
Scientific Papers	31	Chen, Q., Furrer, R., Jamilpanah, L., Chumakov, A., Bulut, Y., Harder, C., ... Braun, A. (2025). Responsive magnetic polymer nanocomposites through thermal-induced structural reorganization. ACS Nano, 19(6), 6165-6179. <a href="https://doi.org/10.1021/acsnano.4c14311">https://doi.org/10.1021/acsnano.4c14311</a> , IF=16.1
Scientific Papers	32	Braun A, Ryzhkov N, Rulev A. Soft robot for space exploration exposed to cosmic radiation arriving at the Sphinx-observatory at Jungfraujoch. In: HFSJG Activity Report 2024. (Leuenberger M ed.) International Foundation HFSJG / High Altitude Research Stations Jungfraujoch and Gornergrat: Bern, Schweiz, April 2025; pp. 83–84. <a href="https://www.hfsjg.ch/reports/2024/pdf/083_Empa_Braun_Cogitor.pdf">https://www.hfsjg.ch/reports/2024/pdf/083_Empa_Braun_Cogitor.pdf</a>
Scientific Papers	33	Yukio-Pegio Gunji, Kyoko Nakamura, Kazuto Sasai, Iori Tani, Mayo Kuroki, Alessandro Chiolerio, Andrew Adamatzky, Andrei Khrennikov Interplay between Vertical and Horizontal Schemes of Computation: From Bayesian Inference to Quantum Logic via Gluing Boolean Algebras 2026, Entropy (Just accepted) I.F.=2.2
Book Chapter	1	A. Chiolerio, M. Crepaldi, D. Torazza, N. Raeisi Kheirabadi, and A. Adamatzky, Post Apocalyptic Computing and Technology: Towards Computing from Natural Colloids and Micro-Fragments in WSPC Book Series in Unconventional Computing book series vol. 5, "Post-Apocalyptic Computing", Chapter 7, 2025, Ed. Andrew Adamatzky, World Scientific ISBN 978-981-12-9713-7 (print) <a href="https://doi.org/10.1142/13960">https://doi.org/10.1142/13960</a>
Patent	1	Italian patent application (07/11/2022) n. IT 3384158 (Assignee: Fondazione Istituto Italiano di Tecnologia; Inventors: Alessandro CHIOLERIO, Marco CREPALDI) "Sistema e metodo per la memorizzazione delle informazioni".
Proceedings	1	A. Chiolerio, "Colloid intelligence," Proc. SPIE PC12944, Bioinspiration, Biomimetics, and Bioreplication XIV, PC1294406 (Presented at SPIE Smart Structures + Nondestructive Evaluation: March 26, 2024; Published: 17 May 2024); <a href="https://doi.org/10.1117/12.3013018">https://doi.org/10.1117/12.3013018</a> .
Proceedings	2	Implementing Logic Operations in Gold Nanoparticles Colloidal Suspensions R Fortulan, NR Kheirabadi, A Antipov, C Jost, A Chiolerio, A Adamatzky, 13 <sup>th</sup> International Conference on Modern Circuits and Systems Technologies (MOCAST), Sofia, Bulgaria, 2024, pp. 01-04, doi: 10.1109/MOCAST61810.2024.10615444

**Table 6.3.2:** scientific papers in progress, book chapters, proceedings and patents in the pipeline and not yet public / filed.

Scientific Papers in Referege / Preparation	1	Adriana Nunes dos Santos, Rodrigo José de Oliveira, Alessandro Chiolerio Plasmonic self-healing materials Completed 1 review round, submitted to RSC Nanoscale Horizons (I.F. 8.0)
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Scientific Papers in Referege Preparation	/2	Alessandro Chiolerio, Giuseppe Vitiello, Mohammad Mahdi Dehshibi, Marco Crepaldi, Andrew Adamatzky Room Temperature Colloidal Entanglement in Ferrofluids 1 <sup>st</sup> review round, submitted to Physical Review X: Quantum (I.F. 9.3)
Scientific Papers in Referege Preparation	/3	Alessandro Chiolerio, Marco Pullia, Marco Crepaldi Effects of Ionizing Radiation Bombardment on Ferrofluid Impedance To be submitted to Journal of Physics D: Applied Physics (I.F. 3.1)
Scientific Papers in Referege Preparation	/4	Qing Chen, et al. Soft actuators with actuating and healing capabilities via layer-by-layer assembly To be submitted
Scientific Papers in Referege Preparation	/5	Qing Chen, et al. Small angle neutron study on soft matter actuators To be submitted
Scientific Papers in Referege Preparation	/6	Mapping Boolean Logic with Protein-Based Colloids: A Multi-Electrode Array (MEA) Approach Noushin Raeisi Kheirabadi, Raphael Fortulan, Davin Browner, Alessandro Chiolerio, Andrew Adamatzky
Scientific Papers in Referege Preparation	/7	Matteo Bevione, Narmada Gopal, Giulia Tagliabue Hydrogel-Based Thermoelectrochemical Cells for Efficient Waste Heat Recovery Under Passive Cooling Conditions To be submitted
Scientific Papers in Referege Preparation	/8	Artur Braun, Nikolay Ryzhkov, and Alexey Rulev Soft robot for space exploration exposed to cosmic radiation arriving at Sphinx HFSJG Submitted to International Foundation HFSJG / High Altitude Research Stations Jungfrauojoch and Gornergrat Activity Report 2025
Record of Invention to be patented (ON HOLD FOR ISSUES)	1	Charanraj Mohan, Marco Crepaldi, Alessandro Chiolerio Multi-Directional ASIC for Holonomic Features Extraction
Record of Invention to be patented	2	Adriana Nunes dos Santos, Alessandro Chiolerio Room Temperature Self-Healing Material

**Table 6.3.3:** scientific talks delivered by COGITOR.

Invited Talks	1	Professor A. Chiolerio Title Intelligence: Attempting to Build a Bridge Between Artificial and Biological Domains 3 <sup>rd</sup> International Conference on Functional Materials & Chemical Engineering Dubai, EAU Date 10 <sup>th</sup> November 2022
Invited Talks	2	Professor A. Chiolerio Title Intelligence: advancements across Artificial and Biological domains Hasard 4, Xocholat Fri-son, Fribourg, CH Date 8 <sup>th</sup> March 2023
Invited Talks	3	Professor A. Chiolerio Title Liquid intelligence: advancements across the synthetic domain 2 <sup>nd</sup> International Conference on Physics and its Applications Los Angeles, USA Date 18 <sup>th</sup> July 2023
Invited Talks	4	Professor A. Chiolerio Title Advances in colloid computers Workshop of Unconventional Computing V-Shed, Bristol, UK Date 5 <sup>th</sup> October 2023

<b>Invited Talks</b>	5	Professor A. Chiolerio Title Colloid Intelligence ISN2A 2024 – VIth International Caparica Symposium on Nanoparticles / Nanomaterials and Applications Costa do Caparica, Portugal Date 23 <sup>rd</sup> January 2024
<b>Invited Talks</b>	6	Professor A. Chiolerio Title Colloid Intelligence SPIE – Smart Structures + Nondestructive Evaluation Bioinspiration, biomimetics, and bioreplication XIV Hilton Hotel, Long Beach, USA Date 26 <sup>th</sup> March 2024
<b>Invited Talks</b>	7	Professor A. Chiolerio Title Autonomous Liquid Systems for Space Exploration Gagarin Readings Arnolfini, Bristol, UK Date 11 <sup>th</sup> April 2024
<b>Invited Talks</b>	8	Professor A. Chiolerio Title Colloid intelligence IMEM – CNR (seminar) Parma, Italy Date 11 <sup>th</sup> July 2024
<b>Invited Talks</b>	9	Professor A. Chiolerio Title Colloid intelligence IC – ANMBES 2024 Brasov, Romania Date 18 <sup>th</sup> September 2024
<b>Invited Talks</b>	10	Professor A. Chiolerio Title Liquid computing Alternative Computing Architectures Bonn, Germany Date 16 <sup>th</sup> October 2024
<b>Invited Talks</b>	11	Professor A. Chiolerio Title Holonomic computing: early architecture and new developments COglTOR Readings Nizza Monferrato (AT), IT Date 31 <sup>st</sup> October 2024
<b>Invited Talks</b>	12	Researcher M. Crepaldi Title Computing With Ferrofluids: Observing A Complex Dynamics COglTOR Readings Nizza Monferrato (AT), IT Date 31 <sup>st</sup> October 2024
<b>Invited Talks</b>	13	Researcher A. Nunes dos Santos Title Synthesis and characterization of self-healing clay-polymer composites with enhanced mechanical properties COglTOR Readings Nizza Monferrato (AT), IT Date 31 <sup>st</sup> October 2024
<b>Invited Talks</b>	14	Professor A. Adamatzky Neural networks from thermal proteins Workshop of Unconventional Computing V-Shed, Bristol, UK Date 6 <sup>th</sup> October 2023

<b>Invited Talks</b>	15	Researcher N. Raeisi Kheirabadi Colloid neural networks Workshop of Unconventional Computing V-Shed, Bristol, UK Date 6 <sup>th</sup> October 2023
<b>Invited Talks</b>	16	Professor A. Adamatzky Towards colloid computers Gagarin Readings Arnolfini, Bristol, UK Date 12 <sup>th</sup> April 2024
<b>Invited Talks</b>	17	Researcher N. Raeisi Kheirabadi Neuromorphic architectures in colloids Gagarin Readings Arnolfini, Bristol, UK Date 12 <sup>th</sup> April 2024
<b>Invited Talks</b>	18	Researcher Raphael Fortulan Towards colloid computers Gagarin Readings Arnolfini, Bristol, UK Date 12 <sup>th</sup> April 2024
<b>Invited Talks</b>	19	Researcher Raphael Fortulan Implementing Logic Operations in Gold Nanoparticles Colloidal Suspensions 13 <sup>th</sup> International Conference on Modern Circuits and Systems Technologies (MOCAST), Sofia, Bulgaria Date June 2024
<b>Invited Talks</b>	20	Researcher N. Raeisi Kheirabadi Boolean functions in Biological colloids COgITOR Readings Nizza Monferrato (AT), IT Date 31 <sup>st</sup> October 2024
<b>Invited Talks</b>	21	Researcher Raphael Fortulan Reservoir computing with biological-based colloids COgITOR Readings Nizza Monferrato (AT), IT Date 31 <sup>st</sup> October 2024
<b>Invited Talks</b>	22	Researcher Qing Chen A hierarchical fabrication strategy for multi-responsive actuators with structural reconfiguration-assisted self-healing ability 87 <sup>th</sup> Annual Meeting of the DPG and DPG Spring Meeting 2024 of the Condensed Matter Section (SKM) Technische Universität Berlin, Germany Date 22 <sup>nd</sup> March 2024
<b>Invited Talks</b>	23	Researcher Qing Chen The Design, Fabrication and Structural Modeling of Biomimetic Soft Materials for Robotic Applications 2024 MRS Spring Meeting & Exhibit Seattle, Washington, U.S.A. Date 23 <sup>rd</sup> April 2024
<b>Invited talks</b>	24	(A. Chiolerio) Liquid Machine: Quantum Phenomena Generative Center AI02 Round Table and Talk Besso, Lugano, Svizzera Date 14th January 2025

<b>Invited talks</b>	25	(A. Chiolerio) Biomimetic holonomic systems for neuromorphic computing SPIE – Smart Structures + Nondestructive Evaluation Bioinspiration, biomimetics, and bioreplication XV Vancouver, Canada Date 18th March 2025
<b>Invited talks</b>	26	(A. Chiolerio) Towards Liquid Intelligence: biomimetic holonomic systems for neuromorphic computing JAR Innovation and Enterprise Cooperation Forum (Keqiao Series I) Shaoxing, China (keynote) Date 3rd July 2025
<b>Invited talks</b>	27	(A. Chiolerio) Observation of undulatory correlations in ferrofluids Seminar at the Zhejiang University Hangzhou, China Date 4th July 2025
<b>Invited talks</b>	28	(A. Chiolerio) The COgITOR project: challenges, findings, open questions Unconventional Computing Workshop Bristol, UK Date 16th October 2025
<b>Invited talks</b>	29	(M. Crepaldi) Universal Turing Machine for Unconventional Computing Unconventional Computing Workshop Bristol, UK Date 16th October 2025
<b>Invited talks</b>	30	(L. Gammaitoni, EEAB) Fundamental limits in energy dissipation during computation Unconventional Computing Workshop Bristol, UK Date 16th October 2025
<b>Invited talks</b>	31	(G. Vitiello, EEAB) Molecular collective modes in superior plants Unconventional Computing Workshop Bristol, UK Date 16th October 2025
<b>Invited talks</b>	32	Noushin Raeisi Kheirabadi (UWE, UK) and Raphael Vincent Fortulan (remote, UWE and Huddersfield Uni, UK): Reservoir Computing with Colloids Unconventional Computing Workshop Bristol, UK Date 17th October 2025
<b>Invited talks</b>	33	Artur Braun (remote, ETH Zürich, Switzerland): Towards Green Computing Unconventional Computing Workshop Bristol, UK Date 17th October 2025
<b>Contributed Talks</b>	1	Researcher A. Nunes dos Santos Title Self-healing Materials ISN2A 2024 – VIth International Caparica Symposium on Nanoparticles / Nanomaterials and Applications Costa de Caparica, Portugal Date 23 <sup>rd</sup> January 2024

Contributed Talks	2	Researcher M. Bevione Title Photo-Thermo-Electrochemical Cell for Energy Harvesting MNHMT 2024, 7 <sup>th</sup> ASME International Conference of Micro/Nanoscale Heat and Mass Transfer University of Nottingham, UK Date 7 <sup>th</sup> August 2024
Contributed Talks	3	Researcher Qing Chen Multi-sensing and self-healing skin for robotic applications American Chemical Society, Fall meeting 2023, August 2023 San Francisco, U.S.A. Date 17 <sup>th</sup> August 2023
Contributed Talks	4	Researcher Qing Chen Investigation of strain-induced deformation of polymer thin films with small-angle X-ray scattering (SAXS) as a tool for microstructural study COLLOQUIUM636 "MODULATION OF PHYSICO-CHEMICAL PROCESSES BY ELASTIC STRAIN ENGINEERING" Besançon, France Date 22 <sup>nd</sup> May 2023
Contributed Talks	5	Professor Alessandro Chiolerio Liquid intelligence: advancements across the synthetic domain, The Science of Consciousness TSC-2023 Taormina (ME) Italy Date 23 <sup>rd</sup> May 2023
Contributed talks	6	(A. Chiolerio) Liquid intelligence Conference IX business system laboratory international symposium Varese, Italy Date 4th February 2025
Contributed talks	7	(A. Chiolerio) Room temperature multi-particle entanglement in ferrofluids Conference Dynalife 2025 Prague, Czech Republic Date 28th April 2025
Contributed talks	8	(A. Chiolerio) Room temperature multi-particle entanglement in ferrofluids Conference QIP-25 Växjö, Sweden Date 10th June 2025
Contributed talks	9	(A. Chiolerio) Colloidal reservoirs for AI-powered physics calculus Conference EUCalF-Conference 2025 Cagliari, IT Date 17th June 2025

#### Task 6.4: Communication activities and public engagement

Communication activities and public engagement have been taken care of by IIT and CTECH, with the support of all participants. All Task 6.4 activities done in the reference period were properly tracked and reported in the EU Reporting platform. The “**Advances in Unconventional Computing**” art & science event was co-organized by the COgITOR project in

October 2023, was hosted in-person in Bristol - UK, accompanied by public talks, held in an Art Gallery (The Island). The public talks were further enhanced by art exhibits depicting colloidal cybernetic systems, produced by IIT and Empa, as well as a demonstration of the prototype of liquid in-memory computing realized by IIT in collaboration with UWE, that visitors could see live while computing. Similarly the “**COGITOR Readings**”, was organized by A. Chiolerio in October 2024, was hosted in hybrid mode in Nizza Monferrato (Asti-IT), accompanied by talks open to public and broadcasted in real-time on Teams, held in a winery cellar (Cantine Bersano).

**Table 6.4.1:** divulgation papers published.

<b>Divulgation Papers / Newspapers</b>	1	Alessandro Chiolerio Liquid computing and cybernetics for robotics and computer science Open Access Government 185909 (2024) <a href="https://www.openaccessgovernment.org/article/liquid-computing-and-cybernetics-for-robotics-and-computer-science/185909/">https://www.openaccessgovernment.org/article/liquid-computing-and-cybernetics-for-robotics-and-computer-science/185909/</a>
<b>Divulgation Papers / Newspapers</b>	2	Federica D’Auria Costruire un computer liquido Wired Italia, 29/12/2023 <a href="https://www.wired.it/article/computer-liquido-istituto-italiano-di-tecnologia/">https://www.wired.it/article/computer-liquido-istituto-italiano-di-tecnologia/</a>
<b>Divulgation Papers / Newspapers</b>	3	Barbara Marcotulli L’Italia all’avanguardia: dell’IIT di Genova arriva il calcolatore a base liquida Maker Faire Rome, 06/02/2024 <a href="https://makerfairerome.eu/it/litalia-allavanguardia-dallit-di-genova-arriva-il-calcolatore-liquido/">https://makerfairerome.eu/it/litalia-allavanguardia-dallit-di-genova-arriva-il-calcolatore-liquido/</a>
<b>Divulgation Papers / Newspapers</b>	4	Francesco Rosso COGITOR: la rivoluzione della robotica morbida svelata a Nizza Monferrato Il Nazionale, 30/10/2024 <a href="https://www.ilnazionale.it/2024/10/30/leggi-notizia/argomenti/eventi-e-turismo/articolo/cogitor-la-rivoluzione-della-robotica-morbida-svelata-a-nizza-monferrato-1.html">https://www.ilnazionale.it/2024/10/30/leggi-notizia/argomenti/eventi-e-turismo/articolo/cogitor-la-rivoluzione-della-robotica-morbida-svelata-a-nizza-monferrato-1.html</a>
<b>Divulgation Papers / Newspapers</b>	5	Nemanja Babic Lo studio dei liquidi e la cibernetica - Conferenza del ricercatore Chiolerio La Nuova Provincia, 05/11/2024 in print