BIOGRAPHICAL SKETCH

Claudia Bagni, Ph.D. Full Professor, Department Fundamental Neurosciences, University of Lausanne (CH) & Department of Biomedicine and Prevention, University of Rome Tor Vergata (IT)

Education – Institution and Location	Degree	Completion Date	Field of study
University of Rome Tor Vergata, Rome, IT	M.Sc.	1987	Biology
University of Rome Tor Vergata, Rome, IT	Ph.D.	1992	Cellular and Molecular Biology
University Paul Sabatier, Toulouse, FR	Postdoc Fellow	1992-1994	Molecular Biology
Harvard University, Cambridge, USA	Postdoc Fellow	1994-1995	Developmental Biology
EMBL, Heidelberg, DE	Postdoc Fellow	1995-1996	Developmental Biology & Neuroscience

A. Personal Statement. I believe that curiosity, research, and innovation are the fuel for human knowledge and scientific discoveries - curiosity first among all. Over the past 20 years my research expanded in different and interconnected areas of biomedical neuroscience while maintaining my desired balance between basic and translational research. My expertise on mRNA metabolism in the context of neurodevelopmental diseases and the joint collaborations with clinicians, engineers, mathematicians and basic scientists gave me the open mindset to achieve interdisciplinary and international research goals and advance the knowledge on the molecular, cellular and behavioral aspects on the most common form of inherited intellectual disability and monogenic cause of syndromic autism spectrum disorder (ASD), namely the Fragile X Syndrome (FXS). The knowledge gained through a wide range of professional experiences (i.e., director of the department of fundamental neurosciences for > 5 years and vice-dean research and innovation of our large faculty of biology and medicine, evaluator of international research institutions and funding agencies; working experience as professor in different european universities; collaboration with pharma) has been – over the years the ground to unravel complex aspects of ASD and FXS.
The recurring aspect in FXS and ASD is the dysregulation of the synaptic proteome. Examining the molecular mechanisms at the synapses, during key developmental periods, has offered a major inroad into the identification of processes that govern spine dynamics and behavior and helped to the understanding of disorders that arise from malfunctioning synapses. Over the past years, we became interested in the underlying cellular circuitries governing specific behaviors such as motor balance, sociability, sleep, and flexibility. To reach this challenging and ambitious goals I combine state of the art molecular, cellular, and imaging approaches with machine learning using mice, flies (*Drosophila*) and human stem cells and organoids. FXS, ASD are still without an effective cure, and we aim, ultimately with the use of different biological models, to develop strategies to modulate pathways and behavioral features of these human conditions.

B. Positions and Honors

Academic Appointments:

Aug 2021-2024 Vice-Dean for Research and Innovation, Faculty of Biology and Medicine, University of Lausanne, CH (*kindly declined the offer to renew the mandate for additional 3 years*).
Jan 2016-pres. Full Professor, Department of Fundamental Neurosciences, University of Lausanne, CH.
Jan 2016-2021 Director, Department of Fundamental Neurosciences, University of Lausanne, CH.
2011-2014 Director of the K University of Leuven Neurogenetics Program, Center for Human Genetics, BE.
2008- 2016 Full Professor and VIB group leader, Faculty of Medicine, K University of Leuven, BE.
2000-pres. Assistant, Associate and Full professor in Biology. University of Rome “Tor Vergata”, IT.
1995-1999 Researcher (lecturer - tenured) in Molecular Biology. University of Rome “Tor Vergata”, IT.

Honors:

2024 Elected Member of the Academia Europaea, EU.
2023 Knight of the Order of Merit of the Italian Republic (Cavaliere O.M.R.I), IT.
2020 Honorary Citizenship of Castelforte, IT.
2018 Nestle Research & Development – Women in Science Award, CH.
2017 Pavoncella Prize (to women: given for scientific creativity, IT.
2016 Solvay Prize, BE.
2014 UCB (Union Chimique Belge) Award, BE.
2013 Baron van Gysel de Meise Prize, BE.
2013 Honorary Member Italian Fragile X Association, IT.
2011 EMBO member, EU.
2011 Queen Elisabeth Foundation Award, BE.

As junior researcher

1997 European Science Foundation Short Term Fellowship, EU.
1997 EMBO Short Term Fellowship, EU.
1995 European Union-Human Capital Mobility Fellowship, EU.
1994 NIH-Fogarty International Fellowship, US.
1992 EMBO Long Term Fellowship, EU.

Institutional Responsibilities:

2021-2024 Vice-Dean for Research and Innovation, FBM, University of Lausanne, CH.

2018-2021 Committee member for commission consultative des promotions, UNIL, Lausanne, CH.
2016-2021 Director of the Department of Fundamental Neurosciences (DNF), Lausanne, CH.
2015-pres. Committee member for academic recruitment at the University of Lausanne, CH.
President & Committee member for academic recruitment and promotions, sector BIO11 and BIO13, IT.
2010-2016: Committee member for academic recruitment at K University Leuven, BE.

Memberships in panels, boards, etc, and individual scientific reviewing activities:

2024-pres. Scientific Committee member of the Association Autisme Suisse Romande, CH.
2023-2026 Advisory Board member of the Donders Institute, Nijmegen, NL.
2024 Evaluator for the European Research Council (ERC, COG), EU.
2023 Panel Evaluator for the European Research Council (ERC, STG), EU.
Research Mentoring Committee, Biozentrum Basel, CH.
Advisory Board Fragile X International – FraXI, EU.
International Scientific Advisory Board (iSAB) for the Institute of Psychiatry and Neuroscience of Paris, FR.
2023-pres. Council Swiss Network for Dementia Research, CH.
Council Biowise Foundation and scientific coordinator, Biowise (CH).
2022-pres. Evaluator for the Lundbeck Foundation, DK.
Council Lukas Lundin & Family Brain Tumor Research Center Foundation CHUV, Lausanne, CH.
2022 Commission Vice-Chairman for the European Research Council (ERC, COG).
2021-2022 Evaluator for the European Research Council (ERC, STG, COG and ADG).
2021 Advisory Board of the new International Neuroscience Centre 'Cajal' (CINC), FR.
Advisory Board of the Interdisciplinary Institute of Neuroscience in Bordeaux (IINS), FR.
2021- pres. Advisory Board of the Max-Planck-Institute of Neurobiology, Munich, DE.
Scientific Committee member of the Center Cantonal Autism, CH.
2021 - 2024 Co-Chair of the Selection Committee Herbette Foundation, CH.
Chairman Selection Committee Donase Foundation, CH.
Council member Sense Institute, CH.
Member of the following Swiss Committees: Agassiz Foundation: Swiss Centre for Applied Human Toxicology (SCAHT); Sandoz Foundation; Lemanic Animal Experimentation Network (RESAL).
Board member of the following Swiss institutions: Bioinformatics Competence Centre, BICC (UNIL-EPFL); Swiss Institute of Bioinformatics (SIB).
2020 Evaluator for projects of the Deutsche Forschungsgemeinschaft (DFG), DE.
Evaluator for the European Research Council (ERC, COG).
2019-2021 Advisory Board ITN Syn2Psy Network Marie Curie Actions.
Commission for Equality, Diversity and Integration at the University of Lausanne, CH.
2017-pres. Selection Committee for the Mia Foundation funds, IT.
2016-pres. Faculty Search Committee at the University of Lausanne (UNIL), UNIL University Hospital (CHUV), University of Geneva, and EPFL Neuroscience, CH.
2014 Evaluator for the European Research Council (ERC, ADG) (declined in 2016 and 2018)
2013-2020 Advisory Board for the Leibniz Institute of Neurobiology, Magdeburg, DE.
2013-2015 EMBO Long-Term Fellowship Commission, EMBL, DE.
2012 Departmental Evaluation Board (DEB) of the Department of Neuroscience at the Pasteur Institute, FR.
2010-2016 Faculty Search Committee at the K University of Leuven, BE.
2010-pres. Faculty Search Committee Member at the following Italian Universities: University of Rome Tor Vergata, University of Trento, University of Milan, University Foro Italico, UniCamillus, University of Rome San Raffaele Pisana, UniNettuno University.

Meeting Co-organizer/ Board Member:

2026-2028 Gordon Research Conference on Fragile X and Autism-Related Disorders (elected Vice-Chair 2026 and Chair 2028).
2023 1) EMBO Workshop Cell biology of the Nervous System: Long-term resilience and vulnerability, Crete, GR.
2019 1) 1st Stem Cells and Brain Organoids Training Course and Symposium, University of Lausanne/CHUV, CH; 2) EMBO Conference Cell Biology of the Neuron: Polarity, Plasticity and Regeneration, Crete, GR; 3) 7th European¨ Synapse Meeting. Department of Fundamental Neurosciences, Lausanne, CH;
2016 1) Gordon Research Conference. Cell Biology of the Neuron, Waterville Valley Resort, US.
2013 1) 10th International Conference on “Intracellular RNA Localization and Localized Translation”. Niagara-on-the-Lake, CA; 2) Kemali-IBRO Summer School on “RNA and Disease”, Cortona, IT.
2012 1) 8th FENS Forum of Neuroscience. Symposium on “The interplay between ERK and mTOR signaling in drug addiction and hyperdopaminergic disorders”, Barcelona, ES.
2011 1) FASEB-EMBO Meeting on “Intracellular RNA localization & Localized Translation”. Il Ciocco, Barga, IT; 2) 23rd Biennal Meeting International Society for Neurochemistry (ISN). Symposium on “Molecular, Cellular and Behavioral Aspects of Mental Retardation and Autism”, Athens, GR.
2008 1) EMBO Conference Series on RNA and Disease. “RNA metabolism and associated pathologies”, Rome, IT.
2007 1) Italian Society for Neuroscience. “Mental retardation genes and synaptic dysfunctions”. Verona, IT; 2) 13th International Workshop on “Fragile X and X-linked Mental Retardation”, Venice, IT.

Advisory Board/Scientific Committee

2025 1) 21st Workshop on Fragile X and other Neurodevelopmental Disorders, Noordwijk, NL.
2023 1) Telethon Convention, Riva del Garda, IT.
2019 1) 19th Workshop on Fragile X and other Neurodevelopmental Disorders, Sorrento, IT.

Session Chair

2022 1) Gordon Research Conference. Novel Technologies to Advance Discovery of Disease Mechanisms and

Therapeutics for Fragile X and Autism, Barga (Lucca), IT.
2018 1) 11th FENS forum of Neuroscience. 8th EMCCS Satellite Meeting, Berlin, DE.
2015 1) FEBS 2015 Control of neuronal function by regulating protein homeostasis, Berlin, Germany; 2) EMBO Workshop on RNA Localization, Crete, GR.
2014 1) 19th Annual Meeting of the RNA Society. Québec, Canada; 2) Gordon Research Conference. Cell Biology of the Neuron, Waterville Valley Resort, US.
2008 1) Cold Spring Harbor Meeting on Translational Control. New York, US.
2002 1) EMBO Workshop on Translational Control in Development and Neurobiology. Majorca, ES.

C. Contribution to Science Describe briefly up to five of the applicant's most significant contributions to science.

1) The Fragile X Messenger Ribonucleoprotein-CYFIP1 complex is a repressor of translation at mammalian synapses and regulates synapse diversity and plasticity. Dr. Bagni's observation that the Fragile X Ribonucleoprotein (FMRP) functions as translation repressor at synapses (*Zalfa et al., 2003 Cell*) has helped explaining the complex synaptic molecular underpinnings of the Fragile X Syndrome that lead to the discovery of the function of the Cytoplasmic FMRP-Interacting Protein, CYFIP1, an important cofactor in mRNA translation (*Napoli et. al., 2008 Cell*). By exploiting the power of advanced techniques like three-dimensional structural modeling and sophisticated Förster Resonance Energy Transfer analysis, she made groundbreaking discoveries unraveling the intricate functions of CYFIP1. Her pioneering efforts not only highlighted the role of CYFIP1 as a molecular switch orchestrating the interactions between the actin cytoskeleton and translational control at synapses but also uncovered significant implications for various forms of neuropsychiatric disorders such as autism (ASD), major depressive disorders, Alzheimer disease and schizophrenia (*De Rubeis et al., 2013 Neuron*). With her studies on the CYFIP1 interactome, she unraveled the cellular and molecular mechanisms governing synapse reshaping. She furthermore showed that CYFIP1 heterozygous mice have reduced functional connectivity and defects in white matter architecture, phenotypes also observed in patients with ASD and other neuropsychiatric disorders and using electron microscopy determined the neural cause behind the reported brain wiring deficits (*Dominguez-Iturza et al., 2019 Nat.Commun*). Of note, Dr. Bagni's team recent work showed that brain region-specific variations in the post-synaptic density contribute to FXS specifically to the reduced cognitive flexibility highlighting the broader significance of synapse heterogeneity in neurodevelopmental disorders (*Mercaldo et al., 2023 Neuron*).

2) *Enriched environment can reverse several structural (spine) and behavioral abnormalities in a mouse model of FXS.* Dr. Bagni published a pioneer study in which she demonstrated that in a mouse model for FXS (*FMR1* KO), animals reared in an enriched environment (EE) can reverse spine and behavioral abnormalities. Traditionally associated with developmental deficits and cognitive challenges, the FXS mouse model exhibits a response to EE providing the basis for further observations indicating that environmental factors positively influence the behavioral outcome of children with FXS. At the core of these observations lies a neuronal plasticity, a fundamental attribute of the brain circuit reshaping in response to experiences, that is still functional in FXS. The discovered underlying mechanisms behind this phenomenon are multifaceted. Dr. Bagni showed that synaptic connections, long impaired in FXS, have demonstrated an unexpected resilience and capacity for being remodeled when exposed to EE. Such structural modifications are accompanied by molecular changes in both genotypes including altered expression of receptors associated with synaptic plasticity and learning. The discovery that EE has a positive effect on FXS mice made it possible to investigate the underlying mechanisms of neuronal plasticity that are still preserved and can be triggered by environmental stimulation in the absence of FMRP (*Restivo et al., Proc. Natl. Acad. Sci. U.S.A 2005*).

3) *FMRP regulates neuronal migration during embryonic development.* Dr. Bagni entered the field of developmental neurobiology in the context of FXS providing insights into the embryonic cellular mechanisms underpinning the neuropathology of intellectual disabilities with no major brain abnormalities exemplified by FXS. She showed that in neuronal cells, FMRP exerts a regulatory role in orchestrating the Multipolar-to-Bipolar (MBT) transition modulating specific mRNA targets that establish neuronal polarity – such as N-cadherin mRNA. MBT is essential for the proper navigation of neurons to their correct locations in the developing brain. Furthermore, spontaneous network activity and high-resolution brain imaging revealed defects in the establishment of neuronal networks at very early developmental stages, further revealing an unbalanced excitatory and inhibitory network. Considering the comorbidity of FXS with autism and epilepsy, diseases in part characterized by defects in neuronal migration during embryonic development, and the presence of heterotopia in individuals with FXS, her work provided a first point to explain this comorbidity (*La Fata et al., Nat. Neurosci. 2014*).

4) *A role of FMRP in cancer progression.* Dr. Bagni pioneered and established the first functional connection between the cellular mechanisms implicated in Fragile X Syndrome (FXS) and the intricate landscape of cancer. These series of discoveries highlighted a new role for the Fragile X Mental Retardation protein in cancer progression She discovered that FMRP is upregulated in metastatic human tumors and its levels correlate with prognostic indicators of aggressive cancer. In the context of breast cancer, for example, in collaboration with clinicians in UK, she showed that patients with FXS have a reduced incidence of cancer progression and, through the identification of the FMRP regulon in different types of cancer, unraveled how high FMRP levels – regulating epithelial-mesenchymal transition (EMT) and other processes such as Wnt signaling might promote cancer progression (*Luca et al., EMBO Mol. Med. 2013; Zalfa et al., 2017 Cell Death Dis; Di Grazia et al. 2021 Cell Mol Gastroenterol Hepatol; Pedini et al. 2022 Cell Death Dis.)*.

5) *Therapy for FXS and ASD.* Dr. Bagni, while venturing deeper into the understanding of the intricate cellular and molecular complexity of FXS and ASD, she pioneered novel therapeutic approaches for these diseases. Her research has moved nearer to formulating innovative interventions that hold the potential to effectively counteract the challenges posed by these disorders. First, Dr. Bagni discovered that the APP non-amyloidogenic pathway is specifically dysregulated in FXS during postnatal development: APP and the α-secretase ADAM10 are excessively produced in FXS only during synaptogenesis. This dual dysregulation leads to an excess of soluble APPα (sAPPα). Reduction of sAPPα levels successfully restores three key affected features in FXS: dysregulated protein synthesis, synaptic morphology, and synaptic plasticity. Down-regulation of ADAM10 activity – through a peptide therapy at synapses (patent filed) might be an effective strategy to ameliorate some of the FXS phenotypes setting the basis for a bench-to-bedside approach for FXS (*Pasciuto et al., 2015 Neuron*). Second, Dr. Bagni made seminal contributions to the understanding of the mechanisms affected in the context of the CYFIP1 haploinsufficiency, which contributes to the 15q11.2 microdeletion syndrome, a form of ID associated with autism and schizophrenia. In *Drosophila*, *Cyfip1* heterozygosity causes, through the dysregulation of multiple proteins, a hyperactivity of mitochondria, specifically in the brain. The latter finding led to the elucidation of a novel mechanism, by which mitochondria regulate

inhibitory neurotransmission: increased mitochondrial activity and their subsequent hyperpolarization drives the transporter Aralar boosting the sequestration of GABA into the mitochondria, thereby dampening GABA availability, and affecting social behavior. Social deficits are rescued by modulation of GABA levels and mitochondrial activity (*Kanellopoulos et al., 2020 Cell)(patent filed)*.

D. Relevant Publications – Please list up to 10 publications relevant to application.

1) Mariano V., Kanellopoulos A., Ricci C., Di Marino D., C. Borrie S., Dupraz S., Bradke F., Achsel T., Legius E., Odent S., Billuart P., Bienvenu T. and **Bagni C**. (2024). Intellectual Disability and Behavioral Deficits Linked to *CYFIP1* Missense Variants Disrupting Actin Polymerization. **Biol. Psychiatry,** S0006-3223(23)01563-9
2) Mercaldo V, Vidimova B, Gastaldo D, Fernández E, Lo Adrian C, Cencelli G, Pedini G, De Rubeis S, Longo F, Klann E, Smit A.B., Grant S.G.N., Achsel T. and **Bagni C**. (2023). Altered striatal actin-dynamics drives behavioral inflexibility in a mouse of Fragile X syndrome. **Neuron** Mar 28; S0896-6273(23)00204-0.
3) Roig AA, Martínez-López JA, van der Spek SJF; SYNGO consortium (includes **Bagni C**); Sullivan PF, Smit AB, Verhage M, Hjerling-Leffler J (2023). Transcriptional diversity in specific synaptic gene sets discriminates cortical neuronal identity. **Biol. Direct** 18(1):22.
4) Cencelli G., Pacini L., De Luca A., Messia I., Kang Y., Nobile V., Tabolacci E., Jin P., Farace MG., and **Bagni C** (2023). Age-dependent dysregulation of APP in brain and skin cells from Fragile X individuals. **Cells**, 12(5):758.
5) Kanellopoulos A.K., Mariano V, Spinazzi M, Jae Woo Y, McLean C, Pech U, Li KW, Armstrong J.D., A, Callaerts P, Smit A.B., Abrahams B.S., Fiala A, Achsel T and **Bagni C** (2020). Aralar sequesters GABA into hyperactive mitochondria causing social behavior deficits. **Cell**, 180(6): 1178-1197.e20.
   Highlighted in Signal Transduct Target Ther (2020) 5:126
6) Domínguez-Iturza N, Lo A.C., Shah D, Armendáriz M, Vannelli A1, Mercaldo V, Trusel M, Li K.W., Gastaldo D., Santos AR, Callaerts-Vegh Z, D'Hooge R, Mameli M, Van der Linden A, Smit A.B, Achsel T and **Bagni C** (2019). The autism and schizophrenia-associated protein CYFIP1 regulates bilateral brain connectivity and behaviour. **Nat. Commun**., 1(10): 3454.
   Highlighted in Nat. Rev. Neurosci., (2019) 20: 575
   Highlighted in Trends Neurosci. (2019) 42: 843-844
7) Briz V, Restivo L, Pasciuto E, Juczewski K, Mercaldo V, Baatsen P, Gounko NV, Borreca A, Girardi T, Luca R, Nys J, Lo AC, Poorthuis R, Mansvelder H, Fisone G, Ammassari-Teule M, Arckens L, Krieger P, Meredith R and **Bagni C** (2017). The non-coding RNA BC1 regulates experience-dependent structural plasticity and learning. **Nat. Commun**., 17;8(1):293.
8) La Fata G, Gärtner A, Domínguez-Iturza N, Dresselaers T, Dawitz J, Poorthuis RB, Averna M, Himmelreich U, Meredith RM, Achsel T, Dotti CG and **Bagni C** (2014). The Fragile X Mental Retardation Protein regulates neuronal multipolar-bipolar transition and affects cortical circuitry in the developing cortex. **Nat. Neurosci**., 17: 1693-1700.
9) De Rubeis S, Pasciuto W, Li Ka Wan, Fernández E, Di Marino D, Buzzi A, Ostroff L, Klann E, Zwartkruis F, Komiyama NH, Grant S, Choquet D, Poujol C, Achsel T, Posthuma D, Smit AB and **Bagni C** (2013). CYFIP1 coordinates mRNA translation and cytoskeleton remodeling to ensure proper dendritic spine formation. **Neuron**, 79: 1169-1182.
10) Napoli I, Mercaldo V, Pilo Boyl P, Eleuteri B, Zalfa F, De Rubeis S, Di Marino D, Mohr E, Massimi M, Falconi M, Witke W, Costa-Mattioli M, Sonenberg N, Achsel T and **Bagni C** (2008). The Fragile X Mental Retardation Protein represses activity-dependent translation through CYFIP1, a new 4E-BP **Cell**, 134: 1042-1054.

Personal Author ID: ORCID: orcid.org/0000-0002-4419-210X. Co-author of 129 publications.

Reviewing activities:

1) **Journals:** Cell, Nature, Science, J Exp Med, Lancet Neurol, Neuron, Nat Neurosci, J Neurosci, Cell Death Differ, Hum Mol Genet, J Biol Chem, Mol Cell Biol, Mol Cell Neurosci, PLoS Biol, Neuroscience, PLoS Genet, PLoS One, RNA, Trends Genet, Trends Neurosci, Trends Biochem Sci, Nat Rev Neurosci, Proc Natl Acad Sci USA, Dev Cell, Neuropsychopharmacol, EMBO J, EMBO Rep, Nat Commun, Mol Psychiatry, Glia, Brain.

2) **Funding Agencies:** *European*: European Research Council (ERC), The Wellcome Trust (UK); Fondation Recherche Medicale (FR), Fédération pour la Recherche sur le Cerveau (FR); Royal Netherlands Academy of Arts and Sciences (NL); French Centre National Recherche Scientifique ATIP (FR); Portuguese Foundation for Science and Technology (PT); Agence Nationale de la Recerche-ANR (FR); Fonds de la Recherche Scientifique (FNRS, FR), Swedish Research Council (SE); Fondi Investimenti Ricerca Base (FIRB, IT); Cancer Research UK (UK); Austrian Special Research Programs (SFBs, AT); Prinses Beatrix Fonds (NL), Deutsche Forschungsgemeinschaft (DFG, DE), Lundbeck Foundation, Talent Panel (DK).
American: National Science Foundation (NSF), US-Israel Binational Science Foundation, Whitehall Foundation, Simons Foundation.

3) **Editorial Responsibilities**: Section Editor for Neuroscience (2010-2013), Review Editor for Frontiers in Neuroscience (since 2009), Editorial Board Current Opinion in Neurobiology (2017-2021), Editorial Board Neurobiology of Disease (2018-2020), Advisory Board Neuroscience Next (since 2019), Editorial Board Molecular Psychiatry (since 2020), Editorial Board Current Research in Neurobiology (since 2020), Reviewing editor eLife (since 2021), Advisory Board EMBO Reports (since 2022).

4) **Evaluation for Tenure and Promotions:** University of Rome Tor Vergata (IT); University of Trento (IT); University of Rome "Foro Italico"(IT); University of Lausanne (CH); University of Geneva (CH); Yale University (US); Boston University (US); University of California UCLA (US); UT Southwestern Medical Center (US); UC San Diego (US); Baylor College of Medicine (US); Institute of Science and Technology (IST), AU; McGill University (CA); Radbound University Nijmegen (NL); Institute Pasteur (FR); University of Nottingham (UK); Stockholm University (SE); Freie Universität Berlin (DE); NYU Abu Dhabi (UAE); Academia Sinica (TW).

Member of Scientific Societies: Federation of European Neuroscience Societies (FENS), European Molecular and Cellular Cognition Society (EMCCS), American Molecular and Cellular Cognition Society (MCCS), Associazione Italiana Biologia e Genetica (AIBG), EMBO Member, Academia Europaea (pan-European Academy of Humanities, Letters, Law, and Sciences).
Contribution to juniors' career: 26 PhD students and 28 postdocs - most of them having a scientific career in academia or companies.
Invited speaker at international meetings: > 20 invitations over the past 5 years in USA, Europe, Asia (including Gordon Research Conferences, Keystone, Cold Spring Harbor, EMBO Meetings, Armenise Harvard Symposium, etc) and > 15 invitations at universities

and research institutions (MIT, Sorbonne, IST, MPI etc). Plenary and Special Lectures: 2024 Plenary Lecture, Gordon Research Conference "Cell Biology of the Neuron", Waterville Valley, US; 2022 EMBO Plenary Lecture, EMBO Workshop "Molecular and physiological basis of behavioural and cognitive defects in Neurodevelopmental disorders", IN; 2019 Plenary Lecture, 44th FEBS 2019, Krakow, PL; 2012 The Malvin and Eleanor Mayer Lecture, MIT, Cambridge, US; 2012 Plenary Lecture. 35th Annual Meeting Japan Neuroscience Society. Nagoya, JP; Plenary Lecture 9th meeting French Neuroscience Society, Bordeaux, FR; 2006 Mini Nobel Symposium "The active dendrite", Stockholm, SE.

Outreach activities:

2024: 1. Talk *Midi Scientifique* at Hospital de Morges, CH (invitation accepted – November, Morges), CH; 2. Semaine du Cerveau, in partnership with Association Autisme Suisse Romande "Understanding Autism: A Journey of Awareness and Acceptance-Beyond a Label", CHUV Lausanne University Hospital, CH; 3. Unisanté Research Support Sector Research Symposium - What is the impact of research on training? CHUV Lausanne University Hospital, CH.

2023: 1. FRAXAS Open day at the Department of Fundamental Neurosciences for the Swiss and the Italian families and children with Fragile X Syndrome. Experiments, lectures, and laboratory visit (October, DNF, University of Lausanne), CH https://fraxas.ch/journee-portes-ouvertes-2023/; 2. Semaine du Cerveau, University of Lausanne (March, DNF, Lausanne), CH https://news.unil.ch/display/1674035207382; 3. Telethon Webinar for Italian High School (virtual, IT) "Meraviglioso RNA. Dall'origine della vita alle terapie del futuro https://us02web.zoom.us/webinar/register/WN_BTHsFw2nSPabHKtNTalsyg#/registration.

2022: 1. Italian Fragile X Association annual meeting (Napoli), IT; SPECTRUM interview https://www.spectrumnews.org/news/the-cloudy-connection-between-fragile-x-and-cancer/ ; 2. UNIL – L'ACTU : L'X fragile, bouclier contre le cancer du cerveau ; https://www.myscience.ch/fr/news/2022/l_x_fragile_bouclier_contre_le_cancer_du_cerveau-2022-unil; 3. Migros Magazine : Vers une science sans cobayes https://corporate.migros.ch/fr/Magazine/2022/01/experimentation-animale-votation-recherche-progres.html .

2021: 1. RAI TV Telethon Foundation Marathon (virtual, December); 2. Telethon Foundation Family Associations and Provincial Coordinators Conference: Frontiers of Rare Genetic Disease Research (virtual, October); 3. Life Sciences, Pharma & Biotech Summit, Il Sole 24 ORE (virtual, July); 4. FRAXAS meeting. Child development and fragile X syndrome. From biological models to therapies (virtual, May); 5. Italian Fragile X Syndrome Association.Training and inclusion project (virtual, May).

2019: 1. Women in Science 7th Annual Lecture & Luncheon, Fairmont Le Montreux Palace (November, Montreux), CH ; 2. Annual Meeting of the Italian Association X Fragile. Overview of current research on FXS (April, Rome), IT; 3. Empowering Women in Science-Panel Discussion at Medtronic (March, Tolochenaz), CH.

2018 FRAXAS-D. Open day at the Department of Fundamental Neurosciences for Swiss families and children with Fragile X Syndrome. Experiments, lectures, and laboratory visit (September, DNF) CH.

2017 Annual meeting of the European Associations of Families X Fragile (November, Nyon), CH.

2014-16 Queen Elisabeth Foundation in the presence of Princess Astrid of Belgium, Royal Palace in Brussels, BE. Interviews and press releases (Italian, Belgian, Swiss newspapers, and radio).

D. Research Support

• Swiss National Science Foundation, SNSF (CH)	2023 – 2026
• Novartis Foundation for Medical-Biological Research (CH)	2023
• CelVivo for standardized and optimized organoid production	2023
• Projects of Relevant National Interest (PRIN), Ministry of University and Research, MUR (IT)	2023 – 2025
• Fondazione Autismo Italia, FIA (IT)	2023 – 2025
• Telethon Foundation (IT)	2021 – 2024
• ERA-NET NEURON Joint Transnational Research Projects on Sensory Disorders (EU)	2021 – 2024
• Projects of Relevant National Interest (PRIN), Ministry of University and Research, MUR (IT)	2019 – 2023
• Swiss National Science Foundation, SNSF (CH)	2019 – 2022
• Fondazione Terzo Pilastro Internazionale (IT)	2019 – 2020
• Angelini S.p.A. (IT)	2019 – 2020
• Donase, Faculty Biology and Medicine, UNIL (CH)	2019 – 2020
• Novartis Foundation for Medical-Biological Research (CH)	2018
• NCCR-Synapsy (Swiss National Science Foundation, SNSF) (CH)	2016 – 2022
• University of Lausanne, Etat de Vaud (CH)	2016 – 2025
• KU Leuven Alumni – Opening the Future	2016 – 2019

Grants obtained by PhD and Postdocs since 2016 at the University of Lausanne

• Fondation Donase-Commission de la Recherche UNIL-FBM (CH) to G. Aiello	2024 – 2026
• Swiss 3R Competence Center (3RCC) – 3r Doctoral Programme (CH) to B. Vidimova	2023 – 2027
• Fondation Pierre Mercier pour la Science (CH) to A. Kanellopoulos	2020 – 2022
• Autism Research Institute (USA) to A. Kanellopoulos	2019 – 2021
• Fondation Sophie Afenduli (CH) to A. Kanellopoulos	2018 – 2020
• SNSF - Marie Heim Vögtlin (CH) to F. Hollis	2017 – 2019
• Fondation Sophie Afenduli (CH) to A. Kanellopoulos	2017 – 2018
• Autism Speaks (USA) to A. Kanellopoulos	2016 – 2018

Previous to 2016. Opening the Future (K University, BE); Research Foundation Flanders (FWO, BE); Department of Defense (US Army); Telethon Foundation (IT); Flemish Institute for Biotechnology (VIB, BE); Intra-University Funds (K University of Leuven, BE); Foundation Alzheimer Research Belgium (SAO-FRMA, BE); ERA-NET NEURON Joint Translational Call for European Research Projects on Mental Disorders (EU); G.S.K.E. (Queen Elisabeth Foundation, BE); CARIPLO (Bank Foundation, IT); Foundation Jerome Lejeune (FR); Marie Curie Actions (FP7-PEOPLE-2010-IEF, EU).