

Dalila Burin

Researcher in Cognitive
Neuroscience

Personal Info

Date of birth and nationality
May 28th 1988; Italian

Address
ADAPT Centre, School of
Computer Science and Statistics,
Custom House Quay, Stack B
2.018, Trinity College Dublin

Phone
(+353) 1 896 8174

Email
burind@tcd.ie
dalila.burin@adaptcentre.ie

Links

orcid.org/0000-0002-9884-7650

scholar.google.com/citations?user=C_1no4cAAAAJ

researchgate.net/profile/Dalila-Burin

researchmap.jp/7000022513/

Languages

Italian

Mother tongue

English

Excellent spoken and outstanding
written skills

Spanish

Great oral communication and reading
abilities

Japanese

Good speaking skills for informal
communication, good reading skills
(hiragana, katakana, basic kanji)

French

Good speaking, writing and reading
skills

Current Position

Apr, 2023 - present **Research Fellow** Marie Skłodowska-Curie (Human+ programme).
ADAPT Centre, School of Computer Science and Statistics, Trinity College Dublin.

I explore how visual manipulations of the virtual body can affect the physical body, in terms of motor, cognitive and physiological reactions.

Previous experiences

Oct 2017 – **Assistant Professor**. Smart-Ageing Research Center (SARC),
Sept 2022 Institute of Development, Aging and Cancer (IDAC), Tohoku University, Japan.

Jan 2013 – **PhD in Neuroscience**. Doctoral School in Life and Health
Dec 2016 Science. Research Group SpAtial, Motor & Bodily Awareness (SAMBA), Department of Psychology, University of Turin (Italy).

Mar, 2015 - **Visiting PhD student**. Experimental Virtual Environment for
Jun, 2015 Neuroscience and Technology (EVENT) laboratory, Universitat de Barcelona (Spain). <http://www.event-lab.org/>
Mar, 2014 -
Sep, 2014

Sept 2010- **Master degree in Psychology, Sciences of Mind**, 107/110.
Jul 2012 Faculty of Psychology, University of Turin (Italy).

Accomplishments

Grants Apr, 2019 - KAKENHI Grants-in-Aid for Scientific Research,
Mar, 2022 Early-Career Scientists, JSPS. PI: Burin Dalila.
19K20639. Tohoku University (Japan).

kaken.nii.ac.jp/en/grant/KAKENHI-PROJECT-19K20639/

May, 2019- Grant “Participatory Design in Robotics for Elderly
May, 2021 Care in Germany & Japan (PADERO)” Federal Ministry of Education and Research (Germany, Japan). Coinvestigator: Burin Dalila. padero.net/

Jan, 2016 - EU Horizon 2020 grant “My Active and Healthy
Mar, 2020 Aging (My-AHA)”. Extra UE partner: IDAC, Tohoku University. activeageing.unito.it/

Scholarship Sep, 2015 - Talents for civil society scholarships. Foundation
Sep, 2016; CRT, Foundation Gorla and Foundation Molo;
Sep, 2013 - Department of Psychology, University of Turin
Mar, 2015 (Italy).
Mar, 2015 - Erasmus+ Traineeship mobility grant, Department of
May 2015 Psychology, University of Turin (Italy).

Awards June, 2019 Best Presentation at 152nd IDAC biannual meeting,
Tohoku University (Japan).

May, 2016 GiovedìScienza award for young researchers, 5th
edition, Association CentroScienza (Italy).
youtube.com/watch?v=Sevj8ZOG67k

Dec, 2016 Aldo Fasolo award, 2nd edition, PhD school in
Neuroscience, University of Turin (Italy).

Sept, 2015 Nominated Expert in the subject of Cognitive
Neuroscience (M-PSI/02) Department of Psychology
(University of Turin, Italy).

Nov, 2015 Italian Society of Psychophysiology (SIPF) award
for young researchers 2015 for the best scientific
contribution at conference (Italy).

Patent May, 2021 Patent n. JP2021081864 “Display program, display
method, head mount display and information
processor” Burin Dalila (100%).

patents.google.com/patent/JP2021081864A/en?qoq=JP2021081864

Research-related skills and activities

Research Areas and Interests Cognitive neuroscience; Basic brain sciences; Neuropsychology; Experimental psychology. Body and motor consciousness; Bodily self; Immersive Virtual Reality (IVR); Neurological disorders; Higher Cognitive Functions; Artificial Intelligence.

Skills and Competence

- Outstanding creativity and development of original ideas for research proposals; persistent interests in learning and contamination experiences;
- Substantial experience in programming, develop and coordinate research protocols and data collection (e.g., with E-Prime, Biopac), independently and within interdisciplinary/international collaborations;
- Considerable skills in programming language (C++) and programming IVR (Unity 3D) with animations and motion tracking (3D Motion Builder), also in combination with other devices (e.g., Arduino);
- Excellent expertise with behavioral methods (e.g., multisensory illusions, measures of motor performance), physiological measurements (e.g., EEG with Letswave, EMG, neuroendocrine salivary response), brain stimulation (e.g., TMS) and imaging techniques (e.g., fNIRS, voxel-based MRI);
- Considerable experience working with neurological patients with motor and consciousness disorders; experience in neuropsychological assessment for cognitive and motor functions, and proposing experimental rehabilitation strategies with IVR;
- Proficiency in data analysis with specific software (e.g., Statistica, SPSS, GPower);
- Sizable experience in properly writing/reviewing reports and scientific papers in English;
- Excellent ability to manage, organize and coordinate interdisciplinary and international projects; brilliant ability to create and maintain local and international networks.

Editorial Activities Guest Associate Editor
Frontiers in Psychology- Neuropsychology
Special issue "Virtual, Mixed, and Augmented Reality in Cognitive Neuroscience and Neuropsychology"

Review Editor
Frontiers in Human Neuroscience- Brain Health and Clinical Neuroscience

Review Editor
Frontiers in Psychology- Neuropsychology

Social Activities Volunteer scientist
"Skype a Scientist"
skypeascientist.com/

TEDx Tohoku University Women
TEDx Tohoku University, Sendai (Japan), Dec, 2018

Toastmasters International toastmasters.org/

Media Coverage Association of Italian Researchers in Japan (AIRJ) <https://www.airj.info/>

"Robotics in Elderly Care: International Project PADERO Advances Geriatrics"
Tohoku University Research News, Apr, 2021
https://www.tohoku.ac.jp/en/news/research/robotics_in_elderly_care_padero_project.html

"The World and Our Body Are Not Before Our Eyes"
TEDx Tohoku University, Sep, 2020
https://www.youtube.com/watch?v=o_ox2xOmxGM

From virtual to reality! Virtual training improves physical and cognitive functions
EurekaAlert! Sep, 2020
https://www.eurekaalert.org/pub_releases/2020-09/tu-fvt083120.php

From Virtual to Reality! Virtual Training Improves Physical and Cognitive Functions
Tohoku University Research News, Aug, 2020
https://www.tohoku.ac.jp/en/press/from_virtual_to_reality.html?fbclid=IwAR317HEydLW6NVsE_70_7dmLEA-jvV5nzJXQyo-COUspI5azMFX3AtqCas

The Great Rehabilitation Game
GiovedìScienza, CentroScienza onlus, GiovedìScienza conferences, Turin (Italy), Feb, 2017
<https://www.youtube.com/watch?v=Sevj8ZOG67k>

Social Networks <https://researchgate.net/profile/Dalila-Burin>
<https://loop.frontiersin.org/people/739907/overview>
<https://www.linkedin.com/in/dalila-burin-03b59686/>

Teaching Activities

2018- 2021	Supervisor and coordinator of 5 research assistants (Tohoku University, Japan)
2018-2020	Manager of “Journal Club” (Tohoku University, Japan)
2017-2020	Co-supervisor of a PhD student (Tohoku University, Japan)
2017	Co-supervisor of a visiting student (Tohoku University, Japan)
2016-2017	Special lecturer “Experimental neuropsychology”, master course of Faculty of Psychology (University of Turin, Italy)
2015-2016	Co-supervisor of 8 bachelor and master degree thesis (University of Turin, Italy) Special lecturer “Research methods”, master course of Faculty of Psychology (University of Turin, Italy)
2014-2015	Special lecturer “Neuropsychology of body consciousness”, master course of Faculty of Psychology (University of Turin, Italy)

Scientific collaborations and contacts for references

* Prof. Ryuta Kawashima	Tohoku University (Japan)
Prof. Alessandro Vercelli,	University of Turin (Italy)
Prof. Innocenzo Rainero,	University of Turin (Italy)
* Prof. Lorenzo Pia,	University of Turin (Italy)
Prof. Annamaria Berti	University of Turin (Italy)
* Prof. Ruth Lanius,	University of Western Ontario (Canada)
Dr. Daniela Rabellino	University of Western Ontario (Canada)
Prof. Yuka Kotozaki	Iwate Medical University (Japan)
Prof. Sarah Consentino	Waseda University (Japan)
Prof. Rainer Wieching	University Siegen (Germany)
Prof. Mel Slater	Universitat de Barcelona (Spain)
Dr. Mar Gonzalez-Franco	Microsoft Corporation (USA)
Dr. Maria Teresa Molo	Foundation Molo (Italy)
Dr. Kei Tamura	Japan Display Inc. (Japan)
Prof. Mathew Summers	University of the Sunshine Coast (Australia)
Prof. Giorgio De Pasquale	Polytechnic of Turin (Italy)

Publications

List of peer-reviewed scientific papers <https://orcid.org/0000-0002-9884-7650>
https://scholar.google.com/citations?user=C_1no4cAAAAJ
https://researchmap.jp/7000022513/published_papers
See also next page

List of presentations at conferences <https://researchmap.jp/7000022513/presentations>
See also next page

Metrics https://scopus.com/cto2/main.uri?ctoId=CTODS_1371249312&authors=56436894200&origin=AuthorNamesList

https://scholar.google.com/citations?user=C_1no4cAAAAJ

LIST OF PUBLICATIONS

(in chronological order from the most recent, organized by year)

*corresponding author; ° lead author; ¹ equal contribution as first authors.

PEER-REVIEWED JOURNAL ARTICLES

2022

1. **Burin D**, Salatino A, Ziat M. (2022). *Editorial: Virtual, mixed, and augmented reality in cognitive neuroscience and neuropsychology*. Front Psychol. 2022 Sep 2;13:1010852. doi: <https://10.3389/fpsyg.2022.1010852>.
2. **Burin D**, Cavanna G, Rabellino D, Kotozaki Y, Kawashima R. (2022). *Neuroendocrine Response and State Anxiety Due to Psychosocial Stress Decrease after a Training with Subject's Own (but Not Another) Virtual Body: An RCT Study*. Int J Environ Res Public Health. 2022 May 23;19(10):6340. doi: <https://10.3390/ijerph19106340>.

2021

3. Tambone R., Poggio G., Pyasik M., **Burin D.**, Dal Monte O., Schintu S., Ciorli T., Lucà L., Semino M.V., Pia L. (2021). *Changing your body changes your eating attitudes: Embodiment of a slim virtual avatar induces avoidance of high calorie food*. Heliyon. 7:e07515. doi: <https://10.1016/j.heliyon.2021.e07515>
4. **Burin D.***°, Kawashima R. (2021). *Repeated Exposure to Illusory Sense of Body Ownership and Agency Over a Moving Virtual Body Improves Executive Functioning and Increases Prefrontal Cortex Activity in the Elderly*. Front Hum Neurosci. 15:674326. <https://doi.org/10.3389/fnhum.2021.674326>
5. Tambone R., Giachero A., Calati M., Molo M.T., **Burin D.**, Pyasik M., Cabria F., Pia L. (2021). *Using Body Ownership to Modulate the Motor System in Stroke Patients*. Psychol Sci. 32(5):655-667. doi: <https://10.1177/0956797620975774>
6. Rainero I., Summers M.J., Monter M., Bazzani M., Giannouli E., Aumayr G., **Burin D.**, Provero P., Vercelli A.E.; My-AHA Consortium. (2021). *The My Active and Healthy Aging ICT platform prevents quality of life decline in older adults: a randomised controlled study*. Age Ageing. 22:afaa290. doi: <https://10.1093/ageing/afaa290>
7. Pyasik M., Ronga I., **Burin D.**, Salatino A., Sarasso P., Garbarini F., Ricci R., Pia L. (2021). *I'm a believer: Illusory self-generated touch elicits sensory attenuation and somatosensory evoked potentials similar to the real self-touch*. Neuroimage. 1;229:117727. doi: <https://10.1016/j.neuroimage.2021.117727>

2020

8. **Burin D.***°, Liu Y., Yamaya N., Kawashima R. (2020). *Virtual training leads to physical, cognitive and neural benefits in healthy adults*. Neuroimage. 21;222:117297. <https://doi.org/10.1016/j.neuroimage.2020.117297>
9. Fossataro C.¹, **Burin D.**^{1°}, Ronga I., Galigani M., Rossi Sebastiano A., Pia L., Garbarini F. (2020). *Agent-dependent modulation of corticospinal excitability during painful transcutaneous electrical stimulation*. Neuroimage. 15;217:116897. doi: <https://10.1016/j.neuroimage.2020.116897>
10. Pia L., Fossataro C., **Burin D.**, Bruno V., Spinazzola L., Gindri P., Fotopoulou K., Berti A., Garbarini F. (2020). *The anatomo-clinical picture of the pathological embodiment over someone else's body part after stroke*. Cortex. 130:203-219. doi: <https://10.1016/j.cortex.2020.05.002>

2019

11. **Burin D.**^{1°}, Pignolo C.¹, Ales F., Giromini L., Pyasik M., Ghirardello D., Zennaro A., Angilletta M., Castellino L., Pia L. (2019). *Relationships Between Personality Features and the Rubber Hand Illusion: An Exploratory Study*. Front Psychol. 10;10:2762. <https://doi.org/10.3389/fpsyg.2019.02762>
12. Himmelmeier R.M., Nouchi R., Saito T., **Burin D.**, Wiltfang J., Kawashima R. (2019). *Study Protocol: Does an Acute Intervention of High-Intensity Physical Exercise Followed by a Brain Training Video Game Have Immediate Effects on Brain Activity of Older People During Stroop Task in fMRI?-A Randomized Controlled Trial With Crossover Design*. Front Aging Neurosci. 18;11:260. doi: <https://10.3389/fnagi.2019.00260>
13. **Burin D.***°, Yamaya N., Ogitsu R., Kawashima R. (2019). *Virtual training leads to real acute physical, cognitive, and neural benefits on healthy adults: study protocol for a randomized controlled trial*. Trials. 11;20(1):559. doi: <https://10.1186/s13063-019-3591-1>

14. Pyasik M., Salatino A., **Burin D.**, Berti A., Ricci R., Pia L. (2019). *Shared neurocognitive mechanisms of attenuating self-touch and illusory self-touch*. Soc Cogn Affect Neurosci. 13;14(2):119-127. doi: <https://10.1093/scan/nsz002>
15. **Burin D.**¹°, Kilteni K.¹, Rabuffetti M., Pia L., Slater M. (2019). *Body ownership increases the interference between observed and executed movements*. PLoS One. 3;14(1):e0209899. doi: <https://10.1371/journal.pone.0209899>
- 2018
16. Dell'Anna A., Fossataro C., **Burin D.**, Bruno V., Salatino A., Garbarini F., Pia L., Ricci R., Leman M., Berti A. (2018). *Entrainment beyond embodiment*. Neuropsychologia. <https://119:233-240>. doi: <https://10.1016/j.neuropsychologia.2018.08.017>
17. Summers J., Rainero I., Vercelli A.E., Aumayr G., De Rosario H., Monter M., Kawashima R., for the My-AHA Consortium, **Burin D.** (2018). *The My Active and Healthy Aging (My-AHA) ICT platform to detect and prevent frailty in older adults: Randomised control trial design and protocol*. Alzheimers Dement (N Y). 10;4:252-262. doi: <https://10.1016/j.trci.2018.06.004>
18. Iani F., **Burin D.**, Salatino A., Pia L., Ricci R., Bucciarelli M. (2018). *The beneficial effect of a speaker's gestures on the listener's memory for action phrases: The pivotal role of the listener's premotor cortex*. Brain Lang. 180-182:8-13. doi: <https://10.1016/j.bandl.2018.03.001>
19. Rabellino D., **Burin D.**, Harricharan S., Lloyd C., Frewen P.A., McKinnon M.C., Lanius R.A. (2018). *Altered Sense of Body Ownership and Agency in Post-traumatic Stress Disorder and its Dissociative Subtype: A Rubber Hand Illusion Study*. Frontiers in Human Neuroscience. 1;12:163. doi: <https://10.3389/fnhum.2018.00163>
20. Pyasik M., **Burin D.**, Pia L. (2018). *On the relation between body ownership and sense of agency: A link at the level of sensory-related signals*. Acta Psychol (Amst). 185:219-228. doi: <https://10.1016/j.actpsy.2018.03.001>
21. **Burin D.**°, Pyasik M., Ronga I., Cavallo M., Salatino A., Pia L. (2018). *As long as that is my hand, that willed action is mine: Timing of agency triggered by body ownership*. Conscious Cogn. 58:186-192. doi: <https://10.1016/j.concog.2017.12.005>
- 2017
22. **Burin D.**°, Garbarini F., Bruno V., Fossataro C., Berti A., Pia L. (2017). *Movements and body ownership: evidence from the rubber hand illusion after mechanic limb immobilization*. Neuropsychologia. 107:41-47. doi: <https://10.1016/j.neuropsychologia.2017.11.004>
23. **Burin D.**°, Salatino A., Pia L. (2017). *That's my hand! Therefore, that's my willed action: how body ownership acts upon conscious awareness of willed actions*. Cognition. 166:164-173. doi: <https://10.1016/j.cognition.2017.05.035>
24. **Burin D.**°, Battaglini A., Pia L., Falvo G., Palombella M., Salatino A. (2017). *Comparing intensities and modalities within the sensory attenuation paradigm: Preliminary evidence*. J Adv Res. 8(6):649-653. doi: <https://10.1016/j.jare.2017.08.001>
- 2016
25. Rabellino D., Harricharan S., Frewen P.A., **Burin D.**, McKinnon M.C., Lanius R.A. (2016). *I can't tell whether it's my hand: Neurophenomenology of Body Representation during the Rubber Hand Illusion in Trauma-related Disorders*. European Journal of Psychotraumatology. 21;7:32918. doi: <https://10.3402/ejpt.v7.32918>
26. Pia L., Garbarini F., Fossataro C., **Burin D.**, Berti A. (2016). *Sensing the body, representing the body: Evidence from a neurologically based delusion of body ownership*. Cogn Neuropsychol. 33(1-2):112-9. doi: <https://10.1080/02643294.2016.1185404>
- 2015
27. Pia L., Garbarini F., **Burin D.**, Fossataro C., Berti A. (2015). *A predictive nature for tactile awareness? Insights from damaged and intact central-nervous-system functioning*. Front Hum Neurosci. 2015 May 19;9:287. doi: <https://10.3389/fnhum.2015.00287>
28. **Burin D.**°, Livelli A., Garbarini F., Fossataro C., Folegatti A., Pia L. (2015). *Are movements necessary for a normal body ownership? Evidence from rubber hand illusion in pure hemiplegic patients*. PLoS One. 16;10(3):e0117155. doi: <https://10.1371/journal.pone.0117155>

29. Pia L., Spinazzola L., Garbarini F., Bellan G., Piedimonte A., Fossataro C., Livelli A., **Burin D.**, Berti A. (2014). *Anosognosia for hemianaesthesia: a voxel-based lesion-symptom mapping study*. *Cortex*. 61:158-66. doi: <https://10.1016/j.cortex.2014.08.006>

PEER-REVIEWED CONFERENCE PROCEEDINGS

1. Gonzalez-Franco M., Cohn B., Ofek E., **Burin D.**, Maselli A. (2020). *The Self-Avatar Follower Effect in Virtual Reality*. 2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR), 2020, pp. 18-25, doi: <https://10.1109/VR46266.2020.00019>
2. De Pasquale G., Mastrototaro L., Pia L., **Burin D.** (2018). *Wearable system with embedded force sensors for neurologic rehabilitation trainings*. 2018 Symposium on Design, Test, Integration & Packaging of MEMS and MOEMS (DTIP), pp. 1-4, doi: <https://10.1109/DTIP.2018.8394187>
3. **Burin D.**, Fossataro C., Pia L., Garbarini F. (2016). *The sense of agency affects defensive responses: modulation of the corticospinal excitability during self-generated and other-generated pain*. XXIV National Congress of the Italian Society of Psychophysiology. Proceedings on Neuropsychological Trends 20/2016: 71.
4. **Burin D.**, Pia L., Falvo G., Battaglini A., Palombella M., Salatino A. (2015). *The sensory attenuation effect comparing kind and intensity of stimulation*. XXIII National Congress of the Italian Society of Psychophysiology. Proceedings on Neuropsychological Trends, 18/2015: 88.
5. **Burin D.**, Salatino A., Pia L. (2015). *That's my movement! Embodiment of a fake hand induces sensory attenuation* XXIII National Congress of the Italian Society of Psychophysiology. Proceedings on Neuropsychological Trends, 18/2015: 89.
6. Fossataro C., **Burin D.**, Garbarini F., Livelli A., Piedimonte A., Berti A., Pia L. (2015). *Does sense of agency affect body ownership? Evidence from rubber hand illusion in pure hemiplegic patients*. In Proceedings of the 9 th FENS Forum of Neuroscience.

PRESENTATIONS (in chronological order from the most recent)

*invited speaker.

1. * Presentation “*Virtual training, real improvement*” Brain Week 2021 (online), 2021/3/16.
2. Oral communication “*Virtual training leads to real acute physical, cognitive and neural benefits on healthy adults*” Organization Human Brain Mapping conference (online), 2020/6/19.
3. Oral communication “*Virtual training leads to real acute physical, cognitive and neural benefits on healthy adults*” European Workshop on Cognitive Neuroscience EWCN (Bressanone, Italy), 2020/1/28.
4. Oral communication “*From virtual to the real! Virtual training leads to real cognitive and neural benefits*” 10th APRU Population Aging Conference (Tokyo, Japan), 2019/10/4.
5. * Presentation “*From virtual to reality! Virtual training leads to real physical and cognitive benefits*” 152nd IDAC biannual meeting (Sendai, Japan), 2019/7/12.
6. * Presentation “*From virtual to reality! Virtual training leads to real physical and cognitive benefits*” Winter School of Cuban Neuroscience Centre (Havana, Cuba), 2017/12/5.
7. * Presentation “*Rehabilitation is a kid game: clinical applications of immersive virtual reality for the treatment of neurological patients*” in conference “*Bodily consciousness disorders and cerebral damages: changing the boundaries between self, other and the world*” San Camillo Hospital, Turin (Italy), 2017/3/10.
8. * Conference “*The great game of rehabilitation: more than videogame, interactive pathways of immersive virtual reality towards new clinical practice*” GiovediScienza 31st edition, Politecnico di Torino (Italy), 2017/02/23.
9. * Conference “*Looking for the bodily self, between neurological disorders and experimental manipulations*” Aldo Fasolo award, 2016/12/16, Turin (Italy).

10. * Conference "*Virtually-me: experimental manipulations of body representation*", 2016/7/3. XXV Summer School of Media Education, Lucca (Italy).
11. Oral communication "*That's my movement! The sensory attenuation effect arises after the embodiment of a fake hand*", 34th Workshop on Cognitive Neuropsychology, 2016/1/28, Brixen (Italy).
12. Oral communication "*The sensory attenuation effect comparing kind and intensity of stimulation*", XXIII SIPF-Italian Society of Psychophysiology national congress, 2015/11/20, Lucca (Italy).
13. Oral communication "*That's my movement! Embodiment of a fake hand induces sensory attenuation*", D-day PhD school in Life and Health sciences, 2015/9/15, Turin (Italy).
14. Oral communication "*Controlling a body versus controlling 'my' body: body ownership modulates motor performance notwithstanding intention violation*", D-day PhD school in Life and Health sciences, 2015/9/16, Turin (Italy).
15. Oral communication "*Controlling a body versus controlling 'my' body: modulation of motor performance by ownership of a virtual arm under violation of motor intention*", 2nd VERE Symposium, 2014/10/23, Barcelona (Spain).
16. Oral communication "*Changing motor potentialities affects body ownership: evidence from rubber hand illusion in pure hemiplegic patients*", 32nd Workshop on Cognitive Neuropsychology, 2014/1/27, Bressanone (Italy).