

BRICE BEFFARA

PSYCHOLOGICAL SCIENTIST



Villeurbanne, France

+33 642 234 339

brice.beffara@slowpen.science



slowpen.science

R⁶ Brice_Beffara

Brice Beffara

I am an independent volunteer researcher developing an open-slow science associative laboratory with other young scientists.



as latest degree from
Grenoble Alpes University and UCLouvain

And a post-doctoral researcher at the University of Lyon working on the effects of situational variations on stress and visuo-acoustic perception.

RESEARCH INTERESTS

My main research interest is the interplay between environmental context, stress, and prosociality with a behavioral and physiological approach.

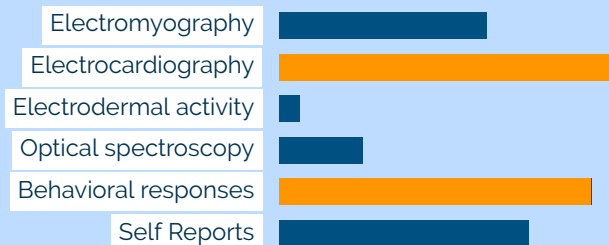
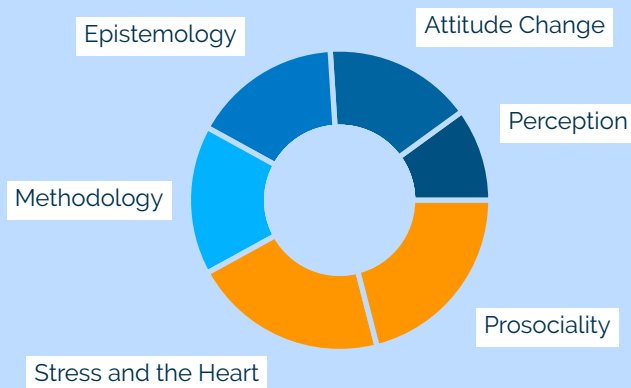
LANGUAGES



French (native)



English (scientific)



Currently, I examine the methodological interests and limits of heart rate variability as a physiological index of prosociality.

I am mainly using R for data analysis and Psychopy to program experiments.

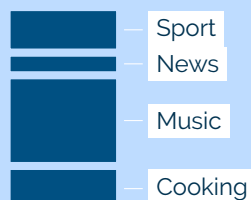


ACTIVITIES



as a volunteer in
popular education

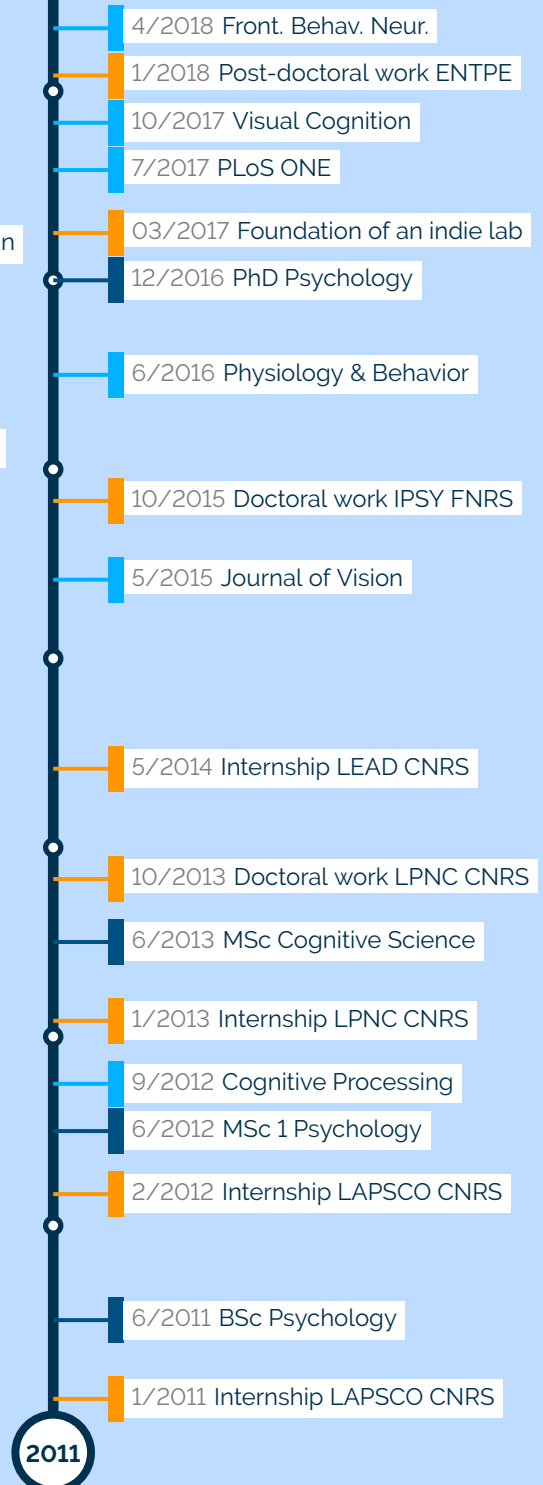
Arts and sports are complementary and essential to my scientific activities. They foster both rigor and creativity in new ways.



EXPERIENCE AND EDUCATION

2019

Experience Outputs Degrees



2011

CURRENT POSITION

2018 - present

Post-doctoral researcher

University of Lyon and ENTPE (France) in collaboration with the CRNL and ENS Lyon.

<http://imu.universite-lyon.fr/projet/vision-role-de-la-naturalite-sur-les-interactions-visuelles-et-sonores-en-environnement-urbain-exterieur-et-souterrain>

2017 - present

Independent volunteer researcher and co-founder of the Walden III Slowpen Science Laboratory

<http://slowpen.science>

CURRENT RESEARCH PROJECTS

Social Cognition - Social Psychology - Political Psychology

What is the link between political conservatism and the ability to update attitudes?

Bayesian modeling of cognitive conservatism and attitude change.

Experimental approach of inclusive writing as a tool to reduce prejudice.

Single or dual process in evaluative conditioning: ecological meaning and methodological considerations.

Psychophysiology - Biological Psychology - Behavioral Biology

How are cardiac characteristics of individuals associated with their prosociality?

How to reduce stress by the mean of environmental manipulation and/or internal learning?

Inter-species comparisons in terms of cardiac characteristics and prosocial tendencies.

Methodology - Data Analysis

What are the necessary methodological precautions during Bayesian sequential hypothesis testing?

Epistemology - Philosophy of Science

Academic separation between psychology and biology. Traditional or justified?

Affect and motivation in scientific practice and the categorization of research areas.

Politics and science. How to build better scientific practice under the "publish or perish" context?

GLOBAL DEVELOPING RESEARCH PROJECT

Methodological investigation for the study of threat-conservatism-prosociality interactions

Investigation méthodologique pour l'étude des interactions menace-conservatisme-prosocialité

<https://osf.io/vdwkf> (French)

COLLABORATIONS

Current

Amélie Bret [Grenoble Alpes University \(France\)](#) and [Catholic University of Louvain \(Belgium\)](#)

Ladislav Nalborczyk [Grenoble Alpes University \(France\)](#) and [Ghent University \(Belgium\)](#)

Yseult Héjja-Brichard [Paul Sabatier University - Toulouse III \(France\)](#)

Olivier Corneille [Catholic University of Louvain \(Belgium\)](#)

Catherine Marquis-Favre [ENTPE \(France\)](#)

Dominique Dumortier [ENTPE \(France\)](#)

Fabien Perrin [CRNL \(France\)](#)

Marylise Cottet [ENS Lyon \(France\)](#)

Thierry Phenix [Grenoble Alpes University \(France\)](#)

Past

Martial Mermillod [Grenoble Alpes University \(France\)](#)

Nicolas Vermeulen [Catholic University of Louvain \(Belgium\)](#)

Alexandre Domingues [Technical University of Lisbon \(Portugal\)](#)

Laura Ferreri [University of Burgundy \(France\)](#)

Aurélia Bugaïska [University of Burgundy \(France\)](#)

Marc Ouellet [Clermont-Auvergne University \(France\)](#)

EDUCATION

2013 - 2016

PhD Psychological and Educational Sciences [Catholic University of Louvain \(Belgium\)](#) - Cotutelle with the [Grenoble Alpes University \(France\)](#) -

PhD Cognitive Science, Psychology, and Neurocognition [Grenoble Alpes University \(France\)](#) - Cotutelle with the [Catholic University of Louvain \(Belgium\)](#) -

Research Work

High Frequency Heart Rate Variability and Prosocial Behaviors: A causal approach of the Polyvagal Theory <https://dial.uclouvain.be/pr/boreal/en/object/boreal%3A185705> Advisors: Pr. Nicolas Vermeulen (UCLouvain - FNRS) and Pr. Martial Mermillod (UGA - LPNC CNRS)

2012 - 2013

MSc Cognitive, Creation and Learning Engineering: Cognitive Science Orientation - Natural and Artificial Cognition option (high honors) [Grenoble Institute of Technology - Higher National School of Physics, Electronics, and Materials \(France\)](#)

Research Work

A Spatial Frequency Account of Emotional Inhibition. Evidence from Behavioral and Electromyographical Studies. Advisor: Pr. Martial Mermillod (UGA - LPNC CNRS)

2011 - 2012

1st year MSc Social and Cognitive Psychology [Blaise Pascal University \(France\)](#)

Research Work

Galvanization and Modulation of Embodiment by Social Relevance: An Electromyographical Study. Advisors: Pr. Martial Mermillod (UGA - LPNC CNRS) and Dr. Marc Ouellet (Clermont Auvergne University & University of Granada)

2008 - 2011

BSc Psychology (honors) [Blaise Pascal University \(France\)](#)

QUALIFICATIONS

2018

Qualified for associate professor positions in Psychology [16th section of the French National Council of Universities](#)

2018

Qualified for associate professor positions in Neuroscience [69th section of the French National Council of Universities](#)

SCIENTIFIC ARTICLES

In the pipeline

Beffara, B., & Bret, A. G. (*In Preparation*). French translation of the the experimental generation of interpersonal closeness procedure (Aron, 1997)

Beffara, B. (*In Preparation*). When can Heart Rate Variability Biofeedback join the clinical armamentarium ? <https://osf.io/4cdpj>

Spatola, N., Santiago, J., **Beffara, B.**, Mermillod, M., Ferrand, L., Ouellet, M. (*Under Review, Frontiers in Psychology*). When the sad past is left: the conceptual maps between Time, Valence, and Space.

Preprints

Beffara, B., Bret, A., & Nalborczyk, L. (2018). Automation in Sequential Testing: A commentary on Schönbrodt, Wagenmakers, Zehetleitner, and Perugini (2017) (*Submitted, Meta-Psychology*). PsyArXiv. <https://doi.org/10.17605/OSF.IO/V7XPG>

Bret, A., **Beffara, B.**, Mierop, A., Mermillod, M., & Corneille, O. (2017). Right-Wing Authoritarianism Predicts weakened Attitude Change in an Evaluative Counter-conditioning Paradigm. <https://doi.org/10.17605/OSF.IO/3MFA8> (*To be submitted*)

Beffara, B., Mermillod, M., & Vermeulen, N. (2016). Can we test the influence of prosociality on high frequency heart rate variability? A double-blind sham-controlled approach. bioRxiv, 078006. <https://doi.org/10.1101/078006>

Beffara, B., Vermeulen, N., & Mermillod, M. (2016). Resting high frequency heart rate variability is not associated with the recognition of emotional facial expressions in healthy human adults. *bioRxiv*, 077784. <https://doi.org/10.1101/077784>

Journal Articles

Mermillod, M., Grynberg, D., Pio-Lopez, L., Rychlowska, M., **Beffara, B.**, Harquel, S., ... Droit-Volet, S. (2018). Evidence of Rapid Modulation by Social Information of Subjective, Physiological, and Neural Responses to Emotional Expressions. *Frontiers in Behavioral Neuroscience*, 11. <https://doi.org/10.3389/fnbeh.2017.00231>

Kauffmann, L., Roux-Sibilon, A., **Beffara, B.**, Mermillod, M., Guyader, N., & Peyrin, C. (2017). How does information from low and high spatial frequencies interact during scene categorization? *Visual Cognition*, 1–15. <https://doi.org/10.1080/13506285.2017.1347590>

Bret, A., **Beffara, B.**, McFadyen, J., Mermillod, M. (2017). Right wing authoritarianism is associated with race bias in face detection. *PLoS ONE* 12(7): e0179894. <https://doi.org/10.1371/journal.pone.0179894>

Beffara, B., Bret, A. G., Vermeulen, N., & Mermillod, M. (2016). Resting high frequency heart rate variability selectively predicts cooperative behavior. *Physiology & Behavior*, 164, 417–428. <http://doi.org/10.1016/j.physbeh.2016.06.011>

Beffara, B., Wicker, B., Vermeulen, N., Ouellet, M., Bret, A., Molina, M. J. F., & Mermillod, M. (2015). Reduction of interference effect by low spatial frequency information priming in an emotional Stroop task. *Journal of vision*, 15(6), 16–16. <http://doi.org/10.1167/15.6.16>

Bret, A., & **Beffara, B.** (2013). Anthropomorphising Ourselves : The Origin of the Free Will Illusion. *Student Journal of Psychology*, 2, 1, 28–30. http://docs.wixstatic.com/ugd/fefdbbc_62582ff81c851d5cb7117522f7457fbd.pdf

Beffara, B., Ouellet, M., Vermeulen, N., Basu, A., Morisseau, T. & Mermillod, M. (2012). Enhanced embodied response following ambiguous emotional processing. *Cognitive Processing*, 13, S103–S10. <http://doi.org/10.1007/s10339-012-0468-6>

CONFERENCES - WORKSHOPS - SEMINARS

Beffara, B., Nalborczyk, L., Héjja-Brichard, Y., and Bret, A. (2017, November) Open, slow and sustainable science. Talk presented at the PhD student day of the LPNC, Grenoble, France.

Bret, A., Mierop, A., **Beffara, B.**, Corneille, O., and Mermillod, M. (2017, August) Political conservatism and evaluative counter-conditioning: Motivational and cognitive differences. Talk presented at ESCON, Gdansk, Poland.

Bret, A., Mierop, A., **Beffara, B.**, Corneille, O., and Mermillod, M. (2017, July) Right-Wing Authoritarianism is negatively associated with counter-conditioning. Talk presented at EASP, Granada, Spain.

Bret, A., Mierop, A., **Beffara, B.**, Corneille, O., and Mermillod, M., (2017, March) When sensitivity to evaluative counterconditioning is associated with sociopolitical ideologies: Is this due to style differences? Talk presented at TEAP, Dresden, Germany.

Bret, A.G., Mierop, A., **Beffara, B.**, Mermillod, M. & Corneille, O. (2016, December) Quand une plus faible sensibilité au contre-conditionnement évaluatif est associée aux idéologies socio-politiques : ces différences sont-elles dues au style cognitif [When a weaker sensitivity to counter evaluative conditioning is associated with socio-political ideologies: are these differences due to cognitive style ? Talk presented at the Journées de la Cognition Sociale, Grenoble, France.

Bret A, Mierop A, **Beffara B**, Corneille O and Mermillod M. (2016, August) Socio-political ideologies Predict (Un) Learning Evaluatively Conditioned Attitudes. Talk presented at ESCON, Lisbon, Portugal.

Bret A, Mierop A, **Beffara B**, Corneille O and Mermillod M. (2016, July) Socio-political ideologies Predict (Un) Learning Evaluatively Conditioned Attitudes. Talk presented at the EASP Medium Size Meeting: The Psychology of Attitudes: Cologne, Germany.

Brice Beffara, Amélie Bret, Nicolas Vermeulen & Martial Mermillod. Social neurocardiology. The case of heart rate variability and cooperation in healthy human adults. The 8th European Conference on Behavioural Biology (ECBB 2016), 2016, July 12-15, Vienna, Austria

Bret A, Mierop A, **Beffara B**, Corneille O and Mermillod M. (2016, June) Les idéologies socio-politiques prédisent la formation de préjugés sans médiation par la flexibilité cognitive. Talk presented at the: Genève, Switzerland.

Beffara, B., Bret, A., Ferreri, L., Bard, P., Vermeulen, N., Bugaiska, A., & Mermillod, M. (2016). Healthy adults with lowest levels of cooperation are more cooperative after heart rate variability biofeedback. Annual Conference of the Society for Affective Science. Chicago (Illinois). USA. March 2016.

Bret, A., **Beffara, B.**, & Mermillod, M. (2016). Right-wing authoritarianism explains differences in the visual search of faces from different races. Annual Conference of the Society for Affective Science. Chicago (Illinois). USA. March 2016.

Amélie Bret, **Brice Beffara** & Martial Mermillod. Infrahumanization or threat perception ? Measuring racial discrimination by the visual search of faces. ESCOP 2015, September 17-20, Paphos, Cyprus

Brice Beffara, Amélie Bret, Nicolas Vermeulen & Martial Mermillod. Socio-emotional skills and homeostasis in mammals: the key role of heart-brain interactions. ESCOP 2015, September 17-20, Paphos, Cyprus

Nicolas Spatola, Julio Santiago, **Brice Beffara**, Martial Mermillod & Marc Ouellet. The non-conglomerate conceptual mappings between Time, Valence and Space and how a bad mood makes you look towards the past. ESCOP 2015, September 17-20, Paphos, Cyprus

Amélie Bret, **Brice Beffara** & Martial Mermillod. Cognitive roots of racial discrimination: infrahumanization or threat perception ? A visual search approach. ISRE 2015, July 8-10, Geneva, Switzerland

Brice Beffara, Amélie Bret, Amélie Baldini, Nicolas Vermeulen & Martial Mermillod. High frequency heart rate variability is positively associated with cooperation in a chicken game. ISRE 2015, July 8-10, Geneva, Switzerland

Amélie Bret, **Brice Beffara** & Martial Mermillod. Bases cognitives de la discrimination raciale : du spécisme au racisme [Cognitive roots of racial discrimination: from speciesism to racism]. 6e Rencontres du Pôle Grenoble Cognition, 6 juin 2015 : Cognition, Santé, Education

Brice Beffara, Amélie Bret, Nicolas Vermeulen & Martial Mermillod. Comportements pro-sociaux et homéostasie chez les mammifères : le rôle central de l'interaction cœur-cerveau [Pro-social behaviors and homeostasis in mammals: the key role of heart-brain interactions]. 6e Rencontres du Pôle Grenoble Cognition, 6 juin 2015 : Cognition, Santé, Education

Beffara, B., Bret, A., Chausse, P., Guinet, E., Vermeulen, N., & Mermillod, M. (2015). Increased Heart Rate Variability after Short Term Biofeedback : Visual Feedback without Paced Breathing is Sufficient to Regulate. Annual Conference of the Society for Affective Science. Oakland (California). USA. April 2015.

Mermillod, M., **Beffara, B.**, Bret, A., Lepage, J., Morisseau, T., & Vermeulen, N. (2014). Is the Devil (or Angel) Located in Frontal Cortical Areas? The 12th International Conference on Cognitive Neuroscience. Brisbane. Australia. July 2014.

Brice Beffara, Nicolas Vermeulen, Amélie Bret, and Martial Mermillod : From Fast Visual Perception to Frontal Emotional Inhibition (Consortium of European Research on Emotion conference, March 27 - 28, 2014, Berlin, Germany)

Brice Beffara, Marc Ouellet, Nicolas Vermeulen, Amélie Bret, Tiffany Morisseau and Martial Mermillod : Toward new physiological evidence of Social Top-down Response Modulation (International Symposium Vision, action and concepts : Behavioural and neural basis of embodied perception and cognition, 28-30 October 2013, Lille, France)

Brice Beffara, Bruno Wicker, Nicolas Vermeulen, Marc Ouellet, Amélie Bret, Maria Jesus Funes Molina & Martial Mermillod : Is Low Spatial Frequency Information Really Have a Preferential Role in Emotional Frontal Inhibition ? A Behavioral Study. (ESCOP 2013, Eighteenth Meeting of the European Society for Cognitive Psychology, 29 August - 1 September 2013 - Budapest, Hungary)

Brice Beffara, Coriandre Vilain, Bruno Wicker, Nicolas Vermeulen, Marc Ouellet, Amélie Bret, Maria Jesus Funes Molina & Martial Mermillod. Le Rôle des Basses Fréquences Spatiales dans le Processus d'Inhibition Emotionnelle [The Role of Low Spatial Frequency Information in Emotional Inhibition]. 4e Rencontres du Pôle Grenoble Cognition, 4 juin 2013 : Cognition naturelle et cognition artificielle - des données aux modèles, aux systèmes et aux artefacts

Brice Beffara & Martial Mermillod. L'Anticipation dans la Perception Sociale des Emotions [Anticipation in the Social Perception of Emotions]. Small Group Workshop on Embodied Cognition, 18-19 Avril 2013, LPNC, Grenoble.

Ouellet, Spatola, Sémary, **Beffara**, Mermillod & Santiago de Torres : When the sad past is left (6 Septembre 2012, 5th International Conference on Spatial Cognition, Sapienza, Rome)

Beffara, Ouellet, Vermeulen, Basu, Morisseau, & Mermillod : Enhanced embodied response following ambiguous emotional processing (7 Septembre 2012, 5th International Conference on Spatial Cognition, Sapienza, Rome)

REVIEWER

Frontiers in psychology <http://journal.frontiersin.org/journal/psychology#> (N = 1)

Psychophysiology [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1469-8986](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1469-8986) (N = 2)

SCIENTIFIC TOOLS

Open Transparent Reproducible Science

Open Science Framework, bioRxiv, PsyArXiv, GitHub,
Signatory of the [Commitment to Research Transparency and Open Science](#)

Programming experiments

Psychopy, OpenSesame, Eprime, jspsych (beginner), lab.js (beginner),

Data Analysis

R, jamovi, SPSS, Statistica

Behavioral-Cognitive Measurements

Response times, Social dilemmas, Signal detection, Attentional Blink, Eye-Tracking (beginner)

Physiological Recording

Acqknowledge, Labchart, Zephyr Bioharness, Oxysoft (beginner)

Physiological Measurements

Electrocardiography, Electromyography, Electrodermal Activity (Beginner), Functional Near Infrared Spectroscopy (beginner)

Physiological Signal Analysis

Kubios HRV, gHRV, R, Python (beginner), Matlab (Beginner)

Image Processing

Matlab (beginner)

Redaction

LaTeX (Overleaf), RMarkdown, Authorea, LibreOffice

Surveys

Qualtrics, Testable, Prolific Academic

Bibliography

Zotero, Mendeley, EndNote

TEACHING

1st year Psychology, Sociology, and Educational Sciences (Grenoble Alpes University): Introduction to Psychology

2^d year Psychology (Grenoble Alpes University): Cognitive Psychology

3rd year Psychology (Grenoble Alpes University): Statistics et Data Analysis (SPSS)

4th year social and cognitive psychology (Grenoble Alpes University): Programming Experiments (E-Prime)

Doctoral students (miscellaneous research areas, Grenoble Alpes University): Contribution of psychology to teaching situations

ADVISOR

Amélie Bret (MSc Cognitive and Social Psychology, Grenoble Alpes University) 2014-2015. Is the out-group not enough interesting or too much threatening? Dual route dehumanization leads to racial discrimination. Co-advised with Pr. Martial Mermillod

Dorine Chatel (Research Internship 1st year MSc Cognitive and Social Psychology, Grenoble Alpes University) 2014-2015. Investigation of induction techniques in order to reduce implicit dehumanization. Co-advised with Pr. Martial Mermillod and Amélie Bret, MSc

Elie Bes (1st year MSc Cognitive and Social Psychology, Grenoble Alpes University) 2014-2015. Social networks, multi-tasking and attentional skills. Co-advised with Pr. Martial Mermillod

Mickaël Perrier (1st year MSc Cognitive and Social Psychology, Grenoble Alpes University) 2014-2015. Can We Get a Boosted Bounce? Spatial Frequencies Play a Role in the Attentional Blink. Co-advised with Pr. Martial Mermillod

Leo Riera and Rafaël Lopes (1st year MSc Web Informatics and Knowledge, Grenoble Alpes University) 2014-2015. Development of a portable biofeedback application on Android. Co-advised with Pr. Martial Mermillod and Eric Guinet, Engineer

Amélie Bret (1st year MSc Cognitive and Social Psychology, Grenoble Alpes University) 2013-2014. Modulation Of Cognitive Processes By Racial Discrimination. Co-advised with Pr. Martial Mermillod

Oriane Gordzki (1st year MSc Cognitive and Social Psychology, Grenoble Alpes University) 2013-2014. Modulation of emotional facial expressions identification by perceptive and social variables. Co-advised with Pr. Martial Mermillod

GRANTS

Mermillod, M., **Beffara, B.**, Champeaux, G., & Bret, A. (2016) Psychophysiological vectors of extremist behaviors following the terrorist attack of the 13th November 2015 : evaluation and remediation 15 K€ **CNRS**

Mermillod, M., Bègue, L., Bugaiska, A., Vermeulen, N., & **Beffara, B.** (2015) Remediation of socio-affective functioning by biofeedback 2.2 K€ **Grenoble Cognition Center**

Mermillod, M., Vilain, C., & **Beffara, B.** (2013) Top-down perception of emotions: behavioral and electromyographical approach 4 K€ **Grenoble Cognition Center**

SCIENTIFIC SOCIETIES

Association for Psychological Science (2016-2017) <https://www.psychologicalscience.org>

International Society for Research on Emotions (2015-2016) <https://isre.org>

Society for Affective Science (2015-2016) <https://society-for-affective-science.org>

POPULARIZATION

Beffara, B. (2017). Good Researcher, Bad Researcher. Student radio of Lyon University <http://www.troisieme-lieu.fr/2017/12/04/logos-4-bon-chercheur-mauvais-chercheur/>

Bret, A., **Beffara, B.**, & Mermillod, M. Psychology, Neuroscience and Political Orientation (2015). Pint of Science, Grenoble

Bret, A. & **Beffara, B.** (2014). What is Experimental Psychology? Montdory High school, Thiers

Beffara, B. & Bret, A. (2013). What is Experimental Psychology? Montdory High school, Thiers