



# Juan David Leongómez

ASSOCIATE PROFESSOR

Faculty of Psychology, Universidad El Bosque

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*I am a scientist mainly interested in human behaviour, and more recently quantitative methods and reproducible science.*

## About me

I am an Associate Professor and Researcher at the [Human Behaviour Lab \(LACH\)](#), Faculty of Psychology, at [Universidad El Bosque](#) in Bogota, Colombia. My research interests include mate choice and human vocal communication, with an aspiration towards understanding musicality. I am also interested in bioacoustics and psychoacoustics, as well as hormonal effects on human behaviour. I published among the first articles showing within-individual changes in voice pitch in response to the social status of the listener, and have demonstrated strong effects of voice modulation on listeners in courtship contexts. I am very passionate about quantitative methods and R programming, as a tool to promote reproducibility and open science.

## Primary Research Methods

- Experimental designs
- Online questionnaires
- Voice recording
- Acoustic analysis
- Facial photographs
- Geometric morphometrics
- Anthropometry
- Data Science-Based Reproducible Research

## Skills

<b>Data Science</b>	R (advanced: all data wrangling, analysis, plots and tables made in R)
<b>Reproducible Reports</b>	Markdown/Rmarkdown
<b>Quantitative Research</b>	General and Generalised Linear Models, Linear Mixed Effects Models, PCA
<b>Software</b>	R, RStudio, Praat, Audacity, InkScape, Mendeley, Zotero
<b>Languages</b>	English/Spanish (native)

## Research Areas

- Human voice
- Vocal modulation
- Mate choice
- Human behaviour
- Hormones and behaviour

## Education

### University of Stirling

PHD - PSYCHOLOGY

*Stirling, UK*

2014

- Dissertation Title: "Contextual musicality: vocal modulation and its perception in human social interaction".
- Supervisors: Prof. S. Craig Roberts, and Prof. Anthony C. Little.
- Committee members: Prof. Phyllis C. Lee (dissertation chair), and Prof. Stuart Semple.

### University of Liverpool

MSc IN EVOLUTIONARY PSYCHOLOGY

*Liverpool, UK*

2009

- Supervisor: Prof. S. Craig Roberts.
- Best overall performance in the MSc.

- GPA: 4.28/5.00.
- Research project: 4.90/5.00

## Working Experience

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### Universidad El Bosque

Bogota, Colombia

ASSOCIATE PROFESSOR

Apr. 2019 - Present

- Researcher at the Human Behaviour Analysis Lab (LACH).
- Leader of the Cognitive Processes and Education research group (Procesos Cognoscitivos y Educación) (since 2016).
- Supervision of a variety of undergraduate research projects associated with psychology and biology.
- Member of the Research Committee.
- Member of the Advisory Committee on Research Ethics.

### Universidad El Bosque

Bogota, Colombia

ASSISTANT PROFESSOR

Jan. 2015 - Apr. 2019

- Researcher at the Human Behaviour Analysis Lab (LACH).
- Methodological and statistical advisor for postgraduate and faculty research projects.
- Leader of the Cognitive Processes and Education research group (Procesos Cognoscitivos y Educación) (since 2016).
- Organiser of the Nerd Café weekly conference series of the Faculty of Psychology (2016-2017).
- Supervision of a variety of undergraduate research projects associated with psychology and biology.
- Postdoctoral stay (2018-2019).
- Co-supervision of Doctoral Students: Milena Vásquez-Amézquita (PhD in Neuroscience, University of Valencia, Spain – 2015-2018).

### Universidad de La Sabana

Chia, Colombia

CATHEDRATIC PROFESSOR

Jan. 2015 - Dec. 2016

- Teaching and supervision of research projects.

### University of Stirling

Stirling, UK

TEACHING ASSISTANT

2011 - 2014

- Supervision of an MSc research project (Evolutionary Psychology MSc).
- Marking and statistical advice to MSc students.

### Universidad Pedagógica Nacional

Bogota, Colombia

AUXILIAR PROFESSOR

2010

- Member of the Research Committee.
- Supervision of research projects.

## Teaching Experience

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### Universidad El Bosque

Bogota, Colombia

ASSOCIATE PROFESSOR

2017 - Present

- Quantitative Methods II (Psychology MSc).

### Universidad El Bosque

Bogota, Colombia

ASSISTANT PROFESSOR

2017

- Quantitative Methods I (Psychology MSc).

### Universidad El Bosque

Bogota, Colombia

ASSISTANT PROFESSOR

2018

- Research Degree Project.

### Universidad El Bosque

Bogota, Colombia

ASSISTANT PROFESSOR

2015

- Sources and Documentation Styles in Psychology.

### Universidad de La Sabana

Chia, Colombia

CATHEDRATIC PROFESSOR

2016

- Evolution and Development of Vocal Communication: Songs, Fashion, and Language.

### Universidad de La Sabana

Chia, Colombia

CATHEDRATIC PROFESSOR

2015 - 2016

- Inferential Statistics.
- Descriptive Statistics).

## University of Stirling

TEACHING ASSISTANT

- Animal Behaviour (lecture on vocal communication).

Stirling, UK

2012

## University of Stirling

TEACHING ASSISTANT

- Quantitative Methods (Psychology MSc – several lectures, practical supervision, one-on-one teaching).
- Cognition Module (leading research projects in psychoacoustics).

Stirling, UK

2012-2014

## Universidad Pedagógica Nacional

AUXILIAR PROFESSOR

- Research Project I.
- Research Lab II.

Bogota, Colombia

2010

# Scholarships, Awards and Honors

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## Ig Nobel Prize

ECONOMICS PRIZE

- For 'trying to quantify the relationship between different countries' national income inequality and the average amount of mouth-to-mouth kissing' (Watkins, et al., 2019).

Cambridge, Massachusetts, USA.

Sep. 2020

## Universidad El Bosque

VIII EXCELLENCE AWARDS

- COP\$7.000.000

Bogota, Colombia

Dic. 2019

## Universidad El Bosque

VII EXCELLENCE AWARDS

- COP\$5.000.000

Bogota, Colombia

Dic. 2018

## Universidad El Bosque

VI EXCELLENCE AWARDS

- COP\$5.000.000

Bogota, Colombia

Dic. 2017

## Experimental Psychology Society

GRINDLEY GRANTS

Canterbury, UK

Sep. 2014

## Colciencias

FRANCISCO JOSÉ DE CALDAS SCHOLARSHIP FOR DOCTORAL STUDIES

Bogota, Colombia

Oct. 2010 - Oct. 2014

## School of Life Sciences – University of Liverpool

ANNUAL PRIZE IN EVOLUTIONARY PSYCHOLOGY

- Best overall performance in the MSc.

Liverpool, UK

Oct. 2009

## University of Liverpool

UNIVERSITY OF LIVERPOOL INTERNATIONAL SCHOLARSHIP

Liverpool, UK

Sep. 2008 - Sep. 2009

## Colfuturo

SCHOLARSHIP-LOAN PROGRAMME

Bogota, Colombia

Sep. 2008 - Sep. 2009

# Grants

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## Colciencias

POSTDOCTORAL RESEARCH STAYS - COLCIENCIAS BENEFICIARIES 2017

- Project: Perceptible signals of physical and mental health in faces, voices and body odors, and their relationship with hormonal levels
- COP\$84.000.000

Bogota, Colombia

Jan. 2018 - Jan. 2019

## Universidad El Bosque

IX INTERNAL CALL FOR FINANCING RESEARCH AND TECHNOLOGICAL INNOVATION PROJECTS EL BOSQUE UNIVERSITY, 2017

- Project: Perceptible signals of physical and mental health in faces, voices and body odors, and their relationship with hormonal levels
- COP\$136.586.537

Bogota, Colombia

Jan. 2018 - Dec. 2021

## Universidad El Bosque

VIII INTERNAL CALL FOR FINANCING RESEARCH AND TECHNOLOGICAL INNOVATION PROJECTS EL BOSQUE UNIVERSITY, 2016

- Project: Effects of evolutionary relevant static signals (sex, dominance, and attractiveness) on the cortical processing of human faces
- COP\$80.000.000

Bogota, Colombia

Jan. 2017 - Dec. 2020

- Project: Efectos de los niveles hormonales, masculinidad y feminidad, en la discriminación tonal en hombres y mujeres
- COP\$13.000.000

## Publications

### PREPRINTS AND ARTICLES UNDER REVIEW

- Jones, B. C., DeBruine, L. M., Flake, J. K., Aczel, B., Adamkovic, M., Alaei, R., Alper, S., Solas, S. Á., Andreychik, M. R., Ansari, D., Arnal, J. D., Babinčák, P., Balas, B., Baník, G., Krystian, Barzykowski, Baskin, E., Batres, C., Beaudry, J. L., ... Chartier, C. R. (accepted-). To which world regions does the valence-dominance model of social perception apply? *Nature Human Behaviour*. <https://doi.org/10.31234/osf.io/n26dy>
- Fiala, V., Třebický, V., **Leongómez, J. D.**, Tureček, P., Pazhoohi, F., Saribay, S. A., Akoko, R. M., & Kleisner, K. (2020). Cues for facial attractiveness and preference of sexual dimorphism: A comparison across five cultures. *PsyArXiv*. <https://doi.org/10.31234/osf.io/vh4rj>
- Kleisner, K., Tureček, P., Roberts, S. C., Havlicek, J., Varella Valentova, J., Akoko, R. M., **Leongómez, J. D.**, Apostol, S., Varella, M. A. C., & Saribay, S. A. (2020). How and why patterns of sexual dimorphism in human faces vary across the world. *PsyArXiv*. <https://doi.org/10.31234/osf.io/7vdmB>
- Leongómez, J. D.** (2020). Análisis de poder estadístico y cálculo de tamaño de muestra en R: Guía práctica. *Zenodo*. <https://doi.org/10.5281/zenodo.3988777>
- Leongómez, J. D.**, Sánchez, O. R., Vásquez-Amézquita, M., & Roberts, S. C. (2020). Contextualising courtship: Exploring male body odour effects on vocal modulation. *PsyArXiv*. <https://doi.org/10.31234/osf.io/8f7g3>
- Martínez, C. A., & **Leongómez, J. D.** (2019). Dehumanization Effects on Agency Attributions, Retributive Justice judgments, and Resocialization Attitudes towards Former Perpetrators in Post-conflict. *PsyArXiv*. <https://doi.org/10.31234/osf.io/w5tka>

### JOURNAL ARTICLES

- Leongómez, J. D.**, Sánchez, O. R., Vásquez-Amézquita, M., Valderrama, E., Castellanos-Chacón, A., Morales-Sánchez, L., Nieto, J., & González-Santoyo, I. (2020). Self-reported health is related to body height and waist circumference in rural indigenous and urbanised latin-american populations. *Scientific Reports*, 10(1), 4391. <https://doi.org/10.1038/s41598-020-61289-4>
- Bonilla, F. M., & **Leongómez, J. D.** (2019). Efectos de la expresión emocional y de la orientación del rostro sobre las respuestas conductuales y el componente N170. *Psychologia*, 13(2), 95–106. <https://revistas.usb.edu.co/index.php/Psychologia/article/view/3473>
- Vásquez-Amézquita, M., **Leongómez, J. D.**, Seto, M. C., Bonilla, F. M., Rodríguez-Padilla, A., & Salvador, A. (2019). Visual Attention Patterns Differ in Gynephilic and Androphilic Men and Women Depending on Age and Gender of Targets. *Journal of Sex Research*, 56(1), 85–101. <https://doi.org/10.1080/00224499.2017.1372353>
- Vásquez Amézquita, M., **Leongómez, J. D.**, Seto, M. C., & Salvador, A. (2019). Differences in Visual Attention Patterns to Sexually Mature and Immature Stimuli Between Heterosexual Sexual Offenders, Nonsexual Offenders, and Nonoffending Men. *Journal of Sex Research*, 56(2), 213–228. <https://doi.org/10.1080/00224499.2018.1511965>
- Watkins, C. D., **Leongómez, J. D.**, Bovet, J., Żelaźniewicz, A., Korbmacher, M., Corrêa Varella, M. A., Fernandez, A. M., Wagstaff, D., & Bolgan, S. (2019). National income inequality predicts cultural variation in mouth to mouth kissing. *Scientific Reports*, 9, 6698. <https://doi.org/10.1038/s41598-019-43267-7>
- Culpepper, P. D., Havlíček, J., **Leongómez, J. D.**, & Roberts, S. C. (2018). Visually Activating Pathogen Disgust: A New Instrument for Studying the Behavioral Immune System. *Frontiers in Psychology*, 9, 1397. <https://doi.org/10.3389/fpsyg.2018.01397>
- Danel, D. P., Valentova, J. V., Sánchez, O. R., **Leongómez, J. D.**, Corrêa Varella, M. A., & Kleisner, K. (2018). A cross-cultural study of sex-typicality and averageness: Correlation between frontal and lateral measures of human faces. *American Journal of Human Biology*, 30(5), e23147. <https://doi.org/10.1002/ajhb.23147>

- Vásquez-Amézquita, M., **Leongómez, J. D.**, Seto, M. C., Bonilla, F. M., Rodríguez-Padilla, A., & Salvador, A. (2018). No relation between digit ratio (2D:4D) and visual attention patterns to sexually preferred and non-preferred stimuli. *Personality and Individual Differences*, 120, 151–158. <https://doi.org/10.1016/j.paid.2017.08.022>
- Bonilla, F. M., & **Leongómez, J. D.** (2017). Efectos en la amplitud y la latencia del componente N170 ante la presentación de rostros emocionales de ira y miedo. *Psychologia*, 11(1), 39–48. <https://doi.org/10.21500/19002386.3100>
- Leongómez, J. D.**, Mileva, V. R., Little, A. C., & Roberts, S. C. (2017). Perceived differences in social status between speaker and listener affect the speaker's vocal characteristics. *PLoS One*, 12(6), e0179407. <https://doi.org/10.1371/journal.pone.0179407>
- Cobey, K. D., Nicholls, M., **Leongómez, J. D.**, & Roberts, S. C. (2015). Self-reported Dominance in Women: Associations with Hormonal Contraceptive use, Relationship Status, and Testosterone. *Adaptive Human Behavior and Physiology*, 1(4), 449–459. <https://doi.org/10.1007/s40750-015-0022-8>
- Leongómez, J. D.** (2015). La música como objeto de estudio científico: consideraciones en torno a la musicalidad y el origen de la música. *Pensamiento Palabra Y Obra*, 13, 77–86. <https://doi.org/10.17227/2011804X.15PP077.86>
- Leongómez, J. D.** (2014). *Contextual musicality: vocal modulation and its perception in human social interaction* [PhD, University of Stirling]. <https://doi.org/10.13140/RG.2.2.36521.39520>
- Leongómez, J. D.**, Binter, J., Kubicová, L., Stolařová, P., Klapilová, K., Havlíček, J., & Roberts, S. C. (2014). Vocal modulation during courtship increases perceptivity even in naive listeners. *Evolution and Human Behavior*, 35(6), 489–496. <https://doi.org/10.1016/j.evolhumbehav.2014.06.008>
- Binter, J., **Leongómez, J. D.**, Moyano, N., Valentova, J., Jouza, L., & Klapilová, K. (2012). Sex differences in the incidence of sexual fantasies focused on evolutionary relevant objects. *Anthropologie*, 50(1), 83–93. <http://puvodni.mzm.cz/Anthropologie/article.php?ID=1413>
- Ferdenzi, C., Lemaître, J.-F., **Leongómez, J. D.**, & Roberts, S. C. (2011). Digit ratio (2D:4D) predicts facial, but not voice or body odour, attractiveness in men. *Proceedings of the Royal Society B: Biological Sciences*, 278(1724), 3551–3557. <https://doi.org/10.1098/rspb.2011.0544>
- Leongómez, J. D.** (2009). *Variation of pitch and loudness range of human voice in response to intra- and inter-sexual stimuli* [MSc]. University of Liverpool.
- Leongómez, J. D.** (2008). El origen no humano de la música. (*Pensamiento*), (*Palabra*) Y *Obra*, 1(1), 87–97. <https://revistas.pedagogica.edu.co/index.php/revistafba/article/view/50>

#### DIVULGATION ARTICLES

- Mileva, V. R., & **Leongómez, J. D.** (2017). We change our voice when we talk to high-status people, shows new study. *The Conversation*. <https://shorturl.at/FL015>
- Mileva, V. R., & **Leongómez, J. D.** (2018). Want to know if your partner's cheating on you? Just listen to their voice. *The Conversation*. <https://shorturl.at/fhlHK>

## Investigación Abierta (YouTube channel)

**Investigación Abierta** is a YouTube channel (in Spanish) where I post videos and tutorials related to quantitative research methods and open science, as well as useful open source software.

- Leongómez, J. D.** (2020). Poder estadístico y tamaño de muestra en R [3 videos]. In *Investigación Abierta (YouTube channel)*. <https://jdleongomez.info/es/post/power/>
- Leongómez, J. D.** (2020). ¿Qué es un valor p? Te lo puedo mostrar gráficamente y con simulaciones [Video]. In *Investigación Abierta (YouTube channel)*. [https://youtu.be/X0At\\_roDnHc/](https://youtu.be/X0At_roDnHc/)
- Leongómez, J. D.** (2020). Introducción a OBS Studio [Video]. In *Investigación Abierta (YouTube channel)*. <https://jdleongomez.info/es/post/obs/>

**Leongómez, J. D.** (2020). Introducción a jamovi [2 videos]. In *Investigación Abierta (YouTube channel)*. <https://jdleongomez.info/es/post/jamovi/>

## Conference Presentations, Posters and Workshops

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**Leongómez, J.D.** & Sánchez, O. R. (2019, September). *Association between height and waist circumference with health in rural indigenous and urban populations in Latin America*. Paper presented at the XXV Institutional Research Congress (Universidad El Bosque), Bogotá, Colombia.

**Leongómez, J.D.**, Sánchez, O.R., Vásquez-Amézquita, M., Valderrama, E., Castellanos-Chacón, A., Morales-Sánchez, L., Nieto, J., & González-Santoyo, I. (2019, August). *Self-reported Health is Related to Body Height and Waist Circumference in Rural Indigenous and Urbanised Latin-American Populations*. Paper presented at the VII Summer Institute of the International Society for Human Ethology (ISHE), Zadar, Croatia.

**Leongómez, J.D.** (2019, June). *Experimental Designs*. Workshop at the Vicerectory of Research (Universidad El Bosque), Bogotá, Colombia.

**Leongómez, J.D.**, Murray, A.K., & Roberts, S.C. (2018, September). *Contextualising courtship: male body odour effects on vocal modulation*. Paper presented at the XXIV Biannual Conference for Human Ethology (ISHE), Santiago, Chile.

**Leongómez, J.D.** (2017, September). *Effects of hormonal levels, masculinity and femininity, on men's and women's pitch discrimination*. Paper presented at the XXIII Institutional Research Congress (El Bosque University), Bogotá, Colombia.

**Leongómez, J.D.** (2017, August). *The sound of seduction: Vocal modulations and their effects during courtship*. Plenary session at the 2nd Symposium of Neurosciences, Cognition and Society (Javeriana University), Bogotá, Colombia.

**Leongómez, J.D.** (2017, March). *Is the relationship between musical and linguistic processing a vestige of the evolutionary origins of music?*. Plenary session at the 2017 Brain Awareness Week 2017 (El Bosque University), Bogotá, Colombia.

**Leongómez, J.D.**, Mileva, V.R., Little, A.C., & Roberts, S.C. (2016, August). *Perceived differences in social status between speaker and listener affect the speaker's vocal characteristics*. Paper presented at the XXIII Biennial Congress On Human Ethology (ISHE), Stirling, UK.

**Leongómez, J.D.**, Binter, J., Kubicová, L., Stolařová, P., Klapilová, K., Havlíček, J., & Roberts, S.C. (2014, April). *Vocal modulation during courtship increases proceptivity even in naive listeners*. Paper presented at the European Human Behaviour and Evolution Association (EHBEA) Annual Meeting 2014 (University of Bristol), Bristol, UK.

**Leongómez, J.D.**, & Roberts, S.C. (2013, April). *The sound of sweet nothings: How men and women modulate vocal parameters in speech directed towards attractive and unattractive individuals*. Oral presentation for the Mind and Brain Group (University of Stirling), Stirling, UK.

**Leongómez, J.D.**, & Roberts, S.C. (2013, March). *The sound of sweet nothings: How men and women modulate vocal parameters in speech directed towards attractive and unattractive individuals*. Poster presented at the European Human Behaviour and Evolution Association (EHBEA) Annual Meeting 2013 (VU University Amsterdam), Amsterdam, Netherlands.

**Leongómez, J.D.** (2013, March). *Voice research techniques using Praat*. Workshop at the Faculty of Humanities (Charles University), Prague, Czech Republic.

**Leongómez, J.D.** (2013, March). *Acoustic Communication*. Oral presentation at the Centre for Theoretical Study, Prague, Czech Republic.

**Leongómez, J.D.**, & Roberts, S.C. (2012, May). *The sound of sweet nothings: How men and women modulate vocal parameters in speech directed towards attractive and unattractive individuals*. Oral presentation for the Group of Human Ethology (Charles University), Prague, Czech Republic.

**Leongómez, J.D.** (2013, March). *Voice research techniques using Praat*. Workshop at the Scottish Universities Psychology Postgraduate Research Training – SUPPORT (University of Stirling), Stirling, UK.



**Leongómez, J.D., & Roberts, S.C.** (2011, February). *The sound of sweet nothings: How men and women modulate vocal parameters in speech directed towards attractive and unattractive individuals*. Oral presentation for the Behaviour and Evolution Research Group (University of Stirling), Stirling, UK.

**Leongómez, J.D., & Roberts, S.C.** (2010, December). *Context-dependant modulation of vocal parameters*. Poster presented at The Language of Music, the Music of Language; Meeting 2: Entrainment/Meaning (Centre for Music & Science, University of Cambridge), Cambridge, UK.

## Postgraduate and undergraduate Supervision

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### Postgraduate

PHD IN NEUROSCIENCE

- Milena Vásquez-Amézquita. Supervised together with Alicia Salvador.

*University of Valencia, Spain*

2015 - 2018

### Postgraduate

PROFESSIONAL DOCTORATE IN COUNSELLING PSYCHOLOGY

- Francisco Javier Flores. Supervised together with Lisa Chiara Fellin.

*University of East London, UK*

2015 - 2018

### Postgraduate

PSYCHOLOGICAL RESEARCH METHODS (EVOLUTIONARY PSYCHOLOGY) MSc

- Julia Sanz-Vidania. Supervised together with S. Craig Roberts.

*University of Stirling, UK*

2013 - 2014

### Postgraduate

MSc IN PSYCHOLOGY

- Adrián Acosta Guerrero. Supervised together with Milena Vásquez-Amézquita.

*Universidad El Bosque*

2019 - 2020

### Undergraduate

PSYCHOLOGY

- Andrés Castellanos-Chacón (2017 - 2018; teaching supervision 2019 - Present).
- Paula Andrea Betancourt Velandia (2018 - 2019).
- Ana Sofía Gómez Castelblanco (2018 - 2019).
- Lina María García Hoyos (2016 - 2017).
- Angie Liliana Pérez Rodríguez (2016 - 2018).
- Lina María Morales Sánchez (2016 - 2017).
- Laura Milena Estupiñán Aldana (2016 - 2017).
- Vanesa Díaz Güiza (2016 - 2018).
- Cindy Paola Moncada Gómez (2016 - 2017).
- Haydn Ricardo Roldán Morales (2015 - 2016).

*Universidad El Bosque*

Since 2015

### Undergraduate

BIOLOGY

- Maria Alejandra Abello Mozo (2017 - 2018).

*Universidad El Bosque*

2017 - 2018

### Undergraduate

MUSIC PEDAGOGY

- Natalia Elizabeth Moreno Buitrago.
- Juan Felipe Pérez Ariza.

*Universidad Pedagógica Nacional*

2017 - 2019

## Editorial Appointments

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My verified review record is available from my [Publons](#) profile.

### Editorial Boards

REVIEW EDITOR

- Specialty section on Evolutionary Psychology

*Frontiers in Psychology*

2019 - Present

### Ad Hoc Reviewer

JOURNALS INCLUDE

- Proceedings of the Royal Society B: Biological Sciences
- Basic and Applied Social Psychology
- Royal Society Open Science
- Journal of Nonverbal Behavior
- Frontiers in Psychology
- Human Ethology Bulletin

*Journals*

Since 2013

- Colciencias
- Universidad Nacional de Colombia

## Memberships

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### CURRENT

- International Society for Human Ethology (ISHE)
- Association for Psychological Science (APS)

### PAST

- European Human Behaviour and Evolution Association (EHBEA)