

# Curriculum Vitae

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**Pablo Alejandro Barrionuevo**

(November 2023)

FB06 Psychologie und Sportwissenschaften, Justus-Liebig Universität Giessen. Alter-Steinbacher-Weg 38, D-35394 Giessen, Germany.

Instituto de Investigación en Luz, Ambiente y Visión (ILAV), Universidad Nacional de Tucumán (UNT) - National Scientific and Technical Research Council (CONICET). Av. Independencia 1800, San Miguel de Tucumán (T4002BLR), Tucumán, Argentina.

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Lab webpage: <https://vnl.ar>

## Education

- 2012 - 2015 Postdoctoral training. "Photoreceptor Interaction in Human Vision" University of Illinois at Chicago, USA, Department of Ophthalmology and Visual Sciences. Advisor: Dingcai Cao
- 2007 - 2012 Ph.D. in Visual Environment and Efficient Lighting. Universidad Nacional de Tucumán (UNT), Argentina. Dissertation: "Computational Model of Lightness Constancy". Advisors: Luis Issolio and Elisa Colombo.
- 2006 - 2009 M.Sc. in Lighting: UNT, Argentina. Thesis: "Development of a System to Measure Glare Effects". Advisor: Luis Issolio.
- 2006 Specialist in Visual Environment and Efficient Lighting: UNT, Argentina.
- 2005 B. Sc. in Electronic Engineering: UNT, Argentina.

## Positions and work experience

- 2022 - Visiting Postdoctoral Fellow. Justus Liebig University, Germany.
- 2019 - Associate researcher. CONICET, Argentina.
- 2016 - 2019 Assistant researcher. CONICET, Argentina.
- 2019 Visiting Researcher. Departamento de Física Teórica, Atómica y Óptica, Universidad de Valladolid (UVa), Spain.
- 2018 Visiting Researcher. Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago (UIC), USA.
- 2015 Repatriate Postdoctoral Fellow. CONICET, Argentina.
- 2012 - 2015 Postdoctoral Fellow, Department of Ophthalmology and Visual Sciences, UIC, USA.
- 2006 - 2012 Graduate Student, Departamento de Luminotecnia, Luz y Visión (DLLyV), UNT, Argentina.
- 2008 Researcher in training, Centre for Sensors, Instruments and Systems Development, Polytechnic University of Catalunya, Spain.
- 2007 Researcher in training, Institute of Psychology, University of São Paulo, Brazil.

## Research Fellowships

- 2018 Short stay fellowship. Fulbright Commission and CONICET.
- 2015 Repatriation Postdoctoral Fellowship. CONICET, Argentina.
- 2012 - 2013 IBRO John G. Nicholls Research Fellowship.
- 2007 - 2012 Doctoral Fellowship. CONICET, Argentina.
- 2006 - 2007 Initiation Fellowship. National Agency for Science and Technology Promotion (ANPCyT), Argentina.

## Awards and distinctions

2023	Travel grant and invitation to participate as expositor in the Rank Symposium: "Melanopsin-mediated responses to light", Grasmere, UK.
2014	Travel grant and invitation to participate as expositor in the Symposium: "Non visual opsins" in the 16th International Congress of Photobiology.
2013	International Color Vision Society Travel Grant.
2011	International Color Vision Society Travel Grant.
2010	European Conference on Visual Perception (ECVP) Travel Fellowship.
2010	IIInd Ibero-American Road Safety Congress: Third Prize. Technical paper: "Hacia una normalización en el uso de vidrios oscurecidos (Toward a normalization in the use of tinted windows)".
2007	ARVO Nicolas Bazán Travel Grant.

### Current Research Grants

2022 – 2025	"Color Vision and Codification" PIP 0949. CONICET, PI: Andres Martin, Co-PI: Pablo Barrionuevo. ARS 1,080,000.
2022 – 2024	"Beyond Cone Vision: Rods and Melanopsin Role in Brightness Induction" PIBAA 1234. CONICET, PI: Pablo Barrionuevo. ARS 300,000.
2021 – 2023	"Melanopsin contribution to human vision" PICT 2019-03673. Agencia I+D+i, PI: Pablo Barrionuevo. ARS 1,012,500.
2019 – 2022	"Non-visual Light Effects. Recording and Analysis of Circadian Illumination and Its Impact in Human Activity" PICT 2017-1852. ANPCyT, PI: Roberto Rodriguez. ARS 465000.
2017 – 2022	"The dimensions of lighting: the technological challenge and the problems of light interaction with human beings, materials and the environment" PI UE ILAV. CONICET. (PI: Elisa Colombo). ARS 5000000.

### Publications

1. O. Preciado, M. Sandoval, L. Issolio, **P. Barrionuevo\***. "Systems for selective stimulation of retinal pathways". *Optica Pura y Aplicada*. 2023; 56(2): 51150.
2. **P. Barrionuevo\***, L. Issolio, C. Tripolone. "Photoreceptor contributions to the human pupil light reflex". *J. Photochem. Photobiol.* 2023; 15: 100178.
3. **P. Barrionuevo\***, O. Preciado, M. Sandoval, L. Issolio. "Using optical stimulators to study the human visual system". *Progress in Brain Research*. 2022; 273: 13-32.
4. Cormenzana, B. O'Donell, A. Martin, D. Cao, **P. Barrionuevo\***. "The intrusion of rods in luminance and chromatic pathways". *J Opt Soc Am A* 2022; 39(10): 1782-1793.
5. C. Tripolone, L. Issolio, C. Agüero, A. Lavaque, D. Cao, **P. Barrionuevo\***. Comparing flickering and pulsed pupil light responses. *J Opt Soc Am A* 2022; 39(8): 1505-1512.
6. **P. Barrionuevo\***, C. Paz Filgueira, D. Cao. Is Melanopsin Activation Affecting Large Field Color Matching Functions? *J Opt Soc Am A* 2022; 39(6): 1104-1110.
7. EG Vicente, I Arranz, D Galarreta, **PA Barrionuevo**, M Rodriguez-Rosa, S Mar, J Aparicio, B Matesanz. Effect of different spectral power distributions on mesopic visual performance with blue light-filtering intraocular lens. *Leukos* 2021; 17(1): 59 – 74.
8. **PA Barrionuevo\***. D. Cao. Does melanopsin help to explain color constancy in natural environments? *Proceedings of the International Color Association (AIC) Conference 2019*: 598–605.
9. FI Karas, A Arteaga, **PA Barrionuevo**, D Cao, JJ McAnany, E Shorter, MS Cortina. Intraocular Light Scatter in Eyes with Boston Type 1 Keratoprosthesis. *Cornea*. 2019; 38(1): 50-53.
10. **PA Barrionuevo\***, LLMcAnany, AJ Zele, D Cao. Nonlinearities in the rod and cone photoreceptor inputs to the afferent pupil light response. *Frontiers in Neurology* 2018; 9.
11. C. Tripolone, L. Issolio, B. Silva, C. Paz Filgueira, D. Perez, **P. Barrionuevo\***. Contrast sensitivity in early glaucoma patients: Effects of light level and eccentricity. *Anales AFA*. 2018; Especial issue inVisionT: 62-66.
12. O. Preciado, L. Issolio, E. Manzano, E. Colombo, **P. Barrionuevo\***. Melanopsin excitation in conditions of natural and artificial lighting. *Anales AFA*. 2018; Especial issue inVisionT, 25-30.
13. **PA Barrionuevo\***, B Matesanz, A Gloriani, I Arranz, LA Issolio, S Mar, J Aparicio. Effect of eccentricity and light level on the timing of light adaptation mechanisms, *J Opt Soc Am A* 2018; 35(4): B144-B151.
14. C. Feitosa-Santana, M. Lutze, **PA Barrionuevo**, D. Cao. Assessment of #TheDress with Traditional Color Vision Tests: Perception differences are associated with "blueness" *i-Perception* 2018; 9(2).

15. **PA Barionuevo**, D Cao. Luminance and chromatic signals interact differently with melanopsin activation to control flicker pupillary response, *Journal of Vision* 2016; 16(11):29, 1-17.
16. A Gloriani, B Matesanz, **PA Barrionuevo**, I Arranz, LA Issolio, S Mar, J Aparicio. Effect of light level, stimuli size and eccentricity in visual adaptation mechanisms, *Vision Research* 2016 125: 12-22.
17. J. Santillán, A. Martín, **PA Barrionuevo** M.E. Nano, and V. Lansingh. Darkened glasses in motor vehicles: standardization and ophthalmologic information. *Oftalmología Clínica y Experimental*. 2016; 9(4):170–177.
18. D Cao, **PA Barrionuevo**. The Importance of intrinsically photosensitive retinal ganglion cells and implications for lighting design, *Journal of Solid State Lighting*. 2015 2(1):1:8.
19. D Cao, **PA Barrionuevo**. The Importance of Melanopsin Activation in Perception, Health, and Lighting Design, *SID Digest*. 2015.
20. D Cao, N. Nicandro, **PA Barrionuevo**. A five-Primary photostimulator suitable for studying intrinsically photosensitive retinal ganglion cell functions in humans, *Journal of Vision*. 2015,15(1), 27.
21. D Cao, **PA Barrionuevo**. Estimating photoreceptor excitations from spectral outputs of a personal light exposure measurement device, *Chronobiol Int*. 2014:1-11.
22. **PA Barrionuevo**, D Cao. Contributions of rhodopsin, cone opsins, and melanopsin to postreceptoral pathways inferred from natural image statistics. *J Opt Soc Am A*. 2014;31(4):A131–A139.
23. **PA Barrionuevo**, N Nicandro, JJ McAnany, AJ Zele, P Gamlin, D Cao. Assessing Rod, Cone and Melanopsin Contributions to Human Pupil Flicker Responses. *Invest Ophthalmol Vis Sci*. 2014;55(2):719-727.
24. **PA Barrionuevo\***, EM Colombo, LA Issolio. Retinal mesopic adaptation model for brightness perception under transient glare. *J Opt Soc Am A*. 2013;30(6):1236–1247.
25. LA Issolio, **PA Barrionuevo**, SA Comastri, EM Colombo. Veiling luminance as a descriptor of brightness reduction caused by transient glare. *J Opt Soc Am A Opt Image Sci Vis*. 2012;29(10):2230–2236.
26. **PA Barrionuevo\***, EM Colombo, M Vilaseca, J Pujol, LA Issolio. Comparison between an objective and a psychophysical method for the evaluation of intraocular light scattering. *J Opt Soc Am A*. 2012;29(7):1293–1299.
27. **PA Barrionuevo\***, EM Colombo, D Corregidor, M Jaen, LA Issolio. Evaluation of the intraocular scattering through brightness reduction by glare using external diffusers to simulate cataracts. *Optica Applicata*. 2010;40(1):63–75.
28. LA Issolio, J Matranga, **PA Barrionuevo**, SA Comastri, G Martin, EM Colombo. Brightness reduction as a function of the angular position of a glare source. *Optica Pura y Aplicada*. 2009;42(1):33–39.
29. A Martin, JE Santillán, **PA Barrionuevo**. Automobile tinted films and its effects on the driver functional vision. *Oftalmología Clínica y Experimental*. 2009; 3(2):69–72.

\*Participation as Corresponding Author

## Meeting Abstracts

1. J. Fanchini, M. Sandoval Salinas, **P. Barrionuevo**. “Desarrollo de un fotoestimulador portátil de cinco primarios para evaluar la adaptación visual al color”. AIVO 2023. Córdoba – Argentina.
2. C. Tripolone, L. Issolio, **P. Barrionuevo**. “Relación entre pupilometría cromática parpadeante con parámetros retinianos funcionales y estructurales en pacientes con sospecha de glaucoma primario de ángulo abierto”. AIVO 2023. Córdoba – Argentina.
3. **P. Barrionuevo**. “Melanopsin contrasts in the wild” Rank Prize Symposium: Melanopsin-mediated responses to light. 2023. Grasmere – UK. Talk
4. **P. Barrionuevo**, A. Schutz, K. Gegenfurtner. “The role of rod and cone signals in mesopic brightness induction” ECVF 2023. Paphos – Cyprus. Talk
5. **P. Barrionuevo**, A. Schutz, K. Gegenfurtner. “The effect of isolated photoreception in mesopic brightness induction” VSS 2023. St. Pete Beach – USA. Poster
6. J. Fanchini, A. Gutierrez, B. Silva, M. Sandoval Salinas, **P. Barrionuevo**. “Comparación de parámetros de dos cámaras DSLR para la obtención de características colorimétricas de una escena visual” ArgenColor 2022. San Miguel de Tucuman – Argentina.
7. **P. Barrionuevo**, María Leonor Sandoval, D. Cao. “Testing Melanopsin and Rod Intrusion in Large-Field Cone Fundamentals: A Statistical Approach”. ICVS 2022. Heraklion – Greece. Talk
8. C. Tripolone, L. Issolio, C. Agüero, A. Lavaque, D. Perez, **P. Barrionuevo**. “Assessment of flickering chromatic pupillometry in patients with risk of glaucoma. ARVO 2022. Denver-EEUU.
9. C. Tripolone, L. Issolio, C. Agüero, A. Lavaque, **P. Barrionuevo**. “Relationship between two stimulation techniques of chromatic pupillometry”. Taller inVisionT 2021. Virtual.

10. C. Tripolone, L. Issolio, C. Agüero, A. Lavaque, **P. Barrionuevo**. "Evaluación de la concordancia entre dos técnicas de pupilometría cromática en el régimen temporal". Reunión AIVO 2021. Virtual.
11. **P. Barrionuevo**. "Pupilometría cromática: una nueva herramienta para detectar enfermedades de la retina". Congreso Anual de la Sociedad Argentina de Oftalmología (SAO 100+1). Virtual. Talk
12. **P. Barrionuevo**, I. Cormenzana, A. Martin, Dingcai Cao, B. O'Donell. "Different temporal integration of rod signals in luminance and chromatic pathways". ECVP 2021. Virtual. Talk.
13. B. Matesanz, E. Vicente, **P. Barrionuevo**, S. Mar, I. Arranz. "LED illuminants: Effect of correlated color temperature on pupil size in off-axis vision". ECVP 2021. Virtual.
14. C. Tripolone, C. Agüero, A. Lavaque, L. Issolio, **P. Barrionuevo**. "Chromatic Pupillometry: Validation of Flickering Parameters from Pulse Parameters". Oftalmocórdoba 2020. Córdoba – Argentina.
15. C. Tripolone, C. Agüero, A. Lavaque, L. Issolio, **P. Barrionuevo**. "Towards a normative database of the flickering chromatic pupillometry". inVisionT 2019. Horco Molle – Argentina.
16. I. Cormenzana, B. O'Donell, A. Martin, **P. Barrionuevo**. "Reaction Times of the Interaction of Rods with the Parvocellular Pathway". inVisionT 2019. Horco Molle – Argentina.
17. C. Tripolone, P. Romano, L. Issolio, **P. Barrionuevo**. "Desarrollo de un sistema portátil para medir el tamaño pupilar bajo estimulación monocromática dinámica". ECIFACET 2019. San Miguel de Tucumán – Argentina.
18. **P. Barrionuevo**, D. Cao. "Does melanopsin help to explain color constancy in natural environments?". AIC 2019. Buenos Aires – Argentina. Poster
19. **P. Barrionuevo**, D. Cao. "The Role of Melanopsin Activation in Peripheral Color Matching Functions". ICVS 2019. Riga – Letonia. Poster.
20. C. Tripolone, E. Lacerda, L. Issolio, **P. Barrionuevo**. "Respuesta pupilar en fumadores: un estudio preliminar". AIVO 2018. Córdoba-Argentina.
21. E. Shorter, F. Karas, A. Arteaga, **P. Barrionuevo**, D. Cao, J. McAnany, M. Cortina. "Intraocular Light Scatter in Eyes with Boston Type 1 Keratoprosthesis". Academy 2018. San Antonio – EEUU.
22. **P. Barrionuevo**, D. Cao. "Integration of melanopsin signals into visual pathways". ECVP 2018. Trieste – Italia. Talk in Symposium: "Strange Blues: Melanopsin-mediated perception of space, color and brightness".
23. M. Tan, C. Paz Filgueira, **P. Barrionuevo**, D. Cao. "Effect of Background Melanopsin Activation Levels on Contrast Sensitivity Mediated by Postreceptor Pathways". VSS 2018. St. Pete Beach – EEUU.
24. **P. Barrionuevo**, B. Matesanz, A. Gloriani, I. Arranz, L. Issolio, S. Mar, J. Aparicio. "The effect of eccentricity and light level on the time course of light adaptation mechanisms" ICVS 2017. Erlangen-Germany.
25. **P. Barrionuevo**, C. Tripolone, D. Cao. "Modulatory Effect of melanopsin activation on contrast sensitivity and pupil response" ECVP 2017. Berlin-Germany.
26. C. Tripolone, L. Issolio, B. Silva, C. Paz Filgueira, D. Perez, **P. Barrionuevo**. "Sensibilidad al contraste en pacientes con Glaucoma. Efectos del nivel de iluminación y la excentricidad". inVision-T 2017. San Miguel de Tucumán-Argentina.
27. L. Issolio, C. Tripolone, B. Silva, C. Paz Filgueira, D. Perez, **P. Barrionuevo**. "La sensibilidad al contraste en pacientes con Glaucoma, los efectos del nivel de adaptación". AFA 2016. San Miguel de Tucumán-Argentina.
28. **P. Barrionuevo**, C. Paz Filgueira, D. Cao. "Excitaciones espurias en un fotoestimulador para cinco tipos de fotorreceptores en la retina de humanos". AFA 2016. San Miguel de Tucumán-Argentina. Poster.
29. L. Issolio, C. Tripolone, B. Silva, C. Paz Filgueira, D. Perez, **P. Barrionuevo**. "Mesopic contrast sensitivity in glaucoma patients". AIVO 2016. Buenos Aires-Argentina. Talk.
30. **P. Barrionuevo**, D. Cao. "The effect of melanopsin activation on the cone temporal contrast sensitivity function". AIVO 2016. Buenos Aires-Argentina. Talk.
31. J. Soletta, J. Soria, F. Farfán, A. Martín, A. Albarracín, **P. Barrionuevo**. "Experimental procedures design for electrophysiological and behavioral assessment about the role of melanopsin in the visual pathway on rats". GRAFOB 2016. San Miguel de Tucumán-Argentina.
32. **P. Barrionuevo**, D. Cao. "Cone-driven visual sensitivity is affected by melanopsin activation". GRAFOB 2016. San Miguel de Tucumán-Argentina. Keynote.
33. D. Cao and **P. Barrionuevo**. "The impact of melanopsin activation levels on color perception". ARVO 2016. Seattle-USA.
34. M. Cortina, R. Talati, D. Cao, J. McAnany and **P. Barrionuevo**. "Evaluation of intraocular light scattering and color vision in eyes implanted with Boston Keratoprosthesis". ARVO 2016. Seattle-USA.
35. **P. Barrionuevo**, D. Cao. "Integration of luminance, chromatic signals and melanopsin activation in human ipRGC processing" Society for Neuroscience 2015. Chicago-EEUU.

36. D. Cao and **P. Barrionuevo**. "The Importance of Melanopsin Activation in Perception, Health, and Lighting Design". SID' Display Week 2015. San Jose- EEUU.
37. D. Cao and **P. Barrionuevo**. "Melanopsin-mediated light adaptation measured from human pupil flicker responses". ARVO 2015. Denver- EEUU.
38. D. Cao and **P. Barrionuevo**. "Afferent Circuitries of Intrinsically Photosensitive Ganglion Cells Inferred from Human Pupillary Responses". 16th International Congress of Photobiology 2014. Cordoba-Argentina. Talk in the "Non-visual Opsins" Symposium.
39. **P. Barrionuevo** and D. Cao. "Rod-Cone Interactions in Mesopic Spatial Vision". ARVO 2014. Orlando-USA. Poster exposition.
40. D. Cao and **P. Barrionuevo**. "Estimating photopigment excitations from color sensor outputs of a personal light exposure device". ARVO 2014. Orlando-USA.
41. B. Matesanz, A. Gloriani, I. Arranz, L. Issolio, J. Aparicio, **P. Barrionuevo** and S. Mar. "Modelo de detección de contraste umbral para iluminación fotopica: Repercusión psicofísica y neurofisiológica". OPTOM 2014. Madrid-Spain.
42. **P. Barrionuevo**, N. Nicandro, and D. Cao. "S-, M- and L-cone contributions to human pupil responses under dim illumination conditions". OSA Fall Vision Meeting 2013. Houston-USA. Poster
43. **P. Barrionuevo**, and D. Cao. "Rod contributions to postreceptoral pathways inferred from natural image statistics". ICVS 2013. Winchester-UK. Poster exposition.
44. X. Zhuang, **P. Barrionuevo**, and D. Cao. "Rod contributions to chromatic pathways alter flicker detection sensitivities". ICVS 2013. Winchester-UK.
45. A. Gloriani, B. Matesanz, **P. Barrionuevo**, I. Arranz, L. Issolio, S. Mar and J. Aparicio. "Modelling foveal and parafoveal sensitivity under steady and transient photopic adaptation fields". ICVS 2013. Winchester-UK.
46. J. Aparicio, A. Gloriani, B. Matesanz, **P. Barrionuevo**, I. Arranz, L. Issolio, and S. Mar. "Eccentricity and speed of adaptation in the mesopic range". ICVS 2013. Winchester-UK.
47. **P. Barrionuevo**, N. Nicandro, J. McAnany, A. Zele, P. Gamlin, and D. Cao. "Assessing Relative Rod, Cone and Melanopsin Contributions to Pupil Flicker Responses". ARVO 2013. Seattle-USA. Talk.
48. D. Cao, **P. Barrionuevo**, N. Nicandro, J. McAnany, A. Zele, and P. Gamlin. "Nonlinear Pupil Responses to Rod and Cone Inputs". ARVO 2013. Seattle-USA.
49. A. Martín, J. Santillán, **P. Barrionuevo**, G. Gimenez. "El problema de los 'polarizados'. El caso de San Miguel de Tucumán (The problematic of the tinting films. The case of the city of San Miguel de Tucumán)" XVIIth Argentine Congress of Road Administration and Traffic, 2012. Córdoba-Argentina. Talk.
50. E. Colombo, J. Santillán, A. Martín, **P. Barrionuevo**, G. Gimenez, M. Nano, V. Lansingh. "Visión funcional y conducción (Functional vision and driving)" Annual meeting of the Argentinean Society of Ophthalmology SAO 2012. Buenos Aires-Argentina. Talk.
51. **P. Barrionuevo**, E. Colombo and L. Issolio. "Brightness contrast and brightness assimilation in photopic and mesopic adaptations" ICVS 2011, Kongsberg-Noruega, Poster exposition.
52. **P. Barrionuevo**, E. Colombo and L. Issolio. "Evaluación de modelos computacionales en el fenómeno de inducción de claridad (Evaluation of computational models of brightness induction)". Meeting of Students of Optics and Photonics, EEOF 2011. San Miguel de Tucumán-Argentina. Poster exposition.
53. J. Santillán, **P. Barrionuevo**, A. Martín, M. E. Nano and V. Lansingh. "Hacia una normalización en el uso de los vidrios oscurecidos (Toward a normalization in the use of tinted windows)". IInd Ibero-American Road Safety Congress, 2010, Buenos Aires-Argentina. Technical paper.
54. **P. Barrionuevo**, E. Colombo and L. Issolio. "Modelling glare effects on brightness perception", ECVP 2010, Lausanne-Suiza. Poster exposition.
55. **P. Barrionuevo**, E. Colombo and L. Issolio "The role of adaptation mechanisms at the mesopic range to achieve lightness constancy under glare conditions", VSS 2010, Naples-USA. Poster exposition.
56. A. Martín, **P. Barrionuevo**, J. Santillán, V. Lansingh, M.E. Nano and E. Colombo "Modeling the interaction between blur and automobile tinting films on vision " ARVO 2010, Fort Lauderdale-USA. Poster exposition.
57. D. Corregidor Carrió, M. Jaén, E. Colombo, L. Issolio and **P. Barrionuevo** "Determination of a scattering index for filters that simulate cataracts by an integrative method. Authentication with the Compensation Comparison Method" ARVO 2010, Fort Lauderdale-USA. Poster exposition.
58. D. Lagoria, R. Yuste Fontana, G. Jimenez, J. Santillán, A. Martín and **P. Barrionuevo**. "Desarrollo y validación de un instrumento para la medición de transmitancia lumínica (Development and validation of an instrument to measure light transmittance)". VIth Meeting of Science and Technology of Engineering Schools from Argentinean Northwestern, 2010. San Salvador de Jujuy-Argentina.

59. L. Issolio, **P. Barrionuevo**, J.Aparicio, B. Matesanz, I. Arranz, S. Mar and E. Colombo. "Rod-cone interaction in the mesopic", IInd Neurosciences Joint Meeting, 2010. Cordoba-Argentina. Poster exposition.
60. **P. Barrionuevo**, E. Colombo and L. Issolio "Illusory contours in a White's display", VSS 2009, Naples-Florida-USA. Poster exposition.
61. **P. Barrionuevo**, E. Colombo, M. Villaseca, J. Pujol and L. Issolio "Validation Of A Haploscopic Brightness Comparison Method For Quantifying Cataract Degree", ARVO 2009, Fort Lauderdale-USA. Talk.
62. A. Martín, **P Barrionuevo**, J. Santillán, V. Lansingh and M.E. Nano. " Efecto de la interacción entre el desenfoque y el oscurecimiento de los vidrios en automotores sobre la visión (Effect of interaction between blur and darkening of car windows on vision)", VIth National Congress of Research in Vision and Ophthalmology, AIVO 2009. Buenos Aires-Argentina. Talk.
63. **P. Barrionuevo**, J. Santillán and A. Martín. "Efecto de la tonalización de los vidrios de automotores sobre la visión en condiciones de iluminación reducida (Effect of automotive tinting glasses on the vision in low light conditions)", IXth Pan-American Conference On Lighting, Luxamerica 2008, Rosario-Argentina.
64. **P Barrionuevo**, H Zuluaga, L Issolio, J. Pujol and E.Colombo. "Comparación de escalas de difusión intraocular (Comparison of Scales of Intraocular Scattering)", Vth National Congress of Research in Vision and Ophthalmology, AIVO 2008.Córdoba-Argentina. Talk.
65. J. Santillán, A. Martín and **P Barrionuevo**. "Vidrios oscurecidos en los automoviles: ¿Una reducción en la visión comparable a valores clínicos? (Tint windows in automotives: Is the visual reduction comparable to clinical values?)", Vth National Congress of Research in Vision and Ophthalmology, AIVO 2008.Córdoba-Argentina. Talk.
66. **P. Barrionuevo**, L. Issolio, J. Pujol and E. Colombo. "A New System to Measure Intraocular Scattering based on Brightness", ARVO 2007, Fort Lauderdale-USA. Poster exposition.
67. **P. Barrionuevo**, E. Colombo and L. Issolio. "Sensibilidad a cataratas incipientes con método haploscópico de igualación de claridad (Sensitivity to early cataracts with haploscopic method of brightness matching)", IVth National Congress of Research in Vision and Ophthalmology, AIVO 2007, Buenos Aires-Argentina. Talk.

## Revision Volunteering

Indexed Journals: *Journal of the Optical Society of America A* (7), *Journal of Vision* (2), *Investigative Ophthalmology and Visual Science* (2), *Optics Express* (1), *Scientific Reports* (1), *Frontiers in Neurology* (1), *Frontiers in Neuroscience* (1), *Anales AFA* (1), *Current Eye Research* (1), *Plos One* (1), *Journal of Imaging Science and Technology* (1).

- 2023 Specialist revision for admission to research career in CONICET.
- 2023 Peer reviewer grant proposal Agencia I+D+i.
- 2021 Peer reviewer grant proposal Agencia I+D+i.
- 2016 Member of the scientific committee of the GRAFOB III meeting "GRAFOB del Bicentenario".
- 2015 Faculty judge at UIC Student Research Forum.

## Teaching Experience

- 2020 Seminar Series: "Chromatic Pupillometry". 40Hs. UNT.
- 2019 Course: "Brightness Matching and Silent Substitution". 20Hs. UVA, Spain.
- 2017 Class at the course "Horizons in Vision Sciences". 20Hs. UNT
- 2008 - 2011 Teaching Assistant *ad honorem* to Dr. Luis Issolio in "Electronics". ILAV - UNT.

## Supervision and Advisor Experience

- 2020 - 2023 María Leonor Sandoval, CONICET. Assistant researcher.
- 2023 - 2026 Constanza Tripolone, CONICET. Postdoctoral fellow.
- 2022 - 2027 José Fanchini, UNT – CONICET. Doctoral student.
- 2019 - 2023 Constanza Tripolone, UNT. Doctoral student.
- 2014 - 2017 Alejandro Gloriani, UVA. Spain. Doctoral student.
- 2023 Agustin Gutierrez, UNT (Internship, co-advisor). Undergraduate student.
- 2017 Pablo Romano, UNT (Engineering Dissertation, advisor). Undergraduate student.

- 2010 Diego Lagoria. ILAV (Internship, advisor). Undergraduate student.  
 2010 Rubén Fontana. ILAV (Internship, advisor). Undergraduate student.  
 2021 "Universidad Nacional de Tucuman Student Chapter". OPTICA. Student Organization.

## **Additional Information**

### *Leadership*

- 2023 Organizer of the Symposium "Vision beyond cones: Uncovering the role of rods and melanopsin in perception" during the European Conference on Visual Perception held at Paphos, Cyprus.  
 2019 President of the organizing committee of the Second Latin American workshop on Vision Sciences "inVisionT 2019" held at Horco Molle, Argentina.  
 2017 President of the organizing committee of the First Latin American workshop on Vision Sciences "inVisionT 2017" held at San Miguel de Tucumán, Argentina.  
 2011 President of the "Universidad Nacional de Tucumán student chapter". OPTICA (ex OSA).

### *Participation in committees*

- 2022 - 2024 International Affairs Secretary. Argentine Association for Investigation in Vision and Ophthalmology (AIVO).  
 2023 Member of the organizing committee of the XIV National Congress of Research in Vision and Ophthalmology AIVO 2023" Cordoba - Argentina.  
 2021 Member of the organizing committee of the Third Latin American workshop on Vision Sciences "inVisionT 2021" Virtual.  
 2021 Member of the organizing committee of the XIII National Congress of Research in Vision and Ophthalmology AIVO 2021" Virtual.  
 2020 - 2022 Board member. Argentine Association for Investigation in Vision and Ophthalmology (AIVO).

### *Science dissemination*

- 2022 Light and Color Phenomena. Participation in the Instagram campaign of the Ministry of Science, Technology and Innovation of Argentina.  
 2017 - 2019 Co-Organizer of the Science Festival "Voces por la Ciencia (Voices for science)". Tucumán.  
 2011 - 2012 Member of the university outreach program: "Ciencia para todos (Science for everybody)", Tucumán-Argentina.  
 2011 Participation in INNOVAR (Innovation Contest of Argentina). Category: Applied Research, product: "Espectran: spectral transmittance meter for automobile glass".

### *Politics of science contributions*

- 2023 "¿Es factible desarrollar tecnología en un centro académico de Argentina? Un acercamiento desde la percepción de sus integrantes (Is it possible to develop technology in an argentinian academic center? An approach from their staff perception)". Manuscript in preparation.  
 2017 Welcome speech in the ceremony to receive new members of CONICET Tucumán. <https://www.facet.unt.edu.ar/luminotecnia/2017/06/14/discurso-del-dr-pablo-barrionuevo/>  
 2016 Co-Organizer of the CONICET Tucumán seminar: "Aportes y desafíos de la ciencia regional de cara al tricentenario (Contributions and Challenges of the Local Science towards the Tricentennial)".

### *Current Professional Memberships*

OPTICA. Vision Science Society, International Color Vision Society, Argentine Association for Investigation in Vision and Ophthalmology.

### *Languages*

Spanish (Native), English (Advanced), Portuguese (Intermediate) and French (Elementary).