

JOSE ALI PORRAS-SALAZAR

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CAREER SUMMARY

More than 10 years' experience as a university professor, researcher and consultant in fields like bioclimatic architecture and urbanism, climate change, and energy policy. Even though I have worked on a wide background of sustainable development topics, my main research interest is focused on the effects of the indoor environment on human comfort and performance, and how this indoor environment can be improved, through climate responsive building design. The findings of my research have been shared in two book chapters, journals, conferences, reports, and many presentations as a guest speaker.

WORK EXPERIENCE

Dec 2020	-	University of Costa Rica. San Jose (Costa Rica). Lecturer. Visiting professor.
Sept 2019	Dec 2020	Berkeley Education Alliance for Research in Singapore (Singapore). University of Berkeley. Postdoctoral Scholar.
Sep 2018	Dec 2018	University of the Bío-Bío. Concepción (Chile). Research Assistant.
Aug 2016	Aug 2017	Technical University of Denmark. Copenhagen (Denmark). International Centre of Indoor Environment and Energy. Ph.D. Guest Researcher.
Aug 2007	Mar 2016	University of Costa Rica. San Jose (Costa Rica). Lecturer.
Mar 2010	Feb 2016	University of Costa Rica. San Jose (Costa Rica). Co-coordinator of the Tropical Architecture Laboratory.
Aug 2007	Feb 2016	Ecobalance consulting firm. San Jose (Costa Rica). Co-founder.
May 2014	Feb 2016	VERITAS University. San Jose (Costa Rica). Coordinator at the Faculty of Architecture and Design.
May 2009	Jun 2015	VERITAS University. San Jose (Costa Rica). Associate Professor.
Oct 2010	May 2014	VERITAS University. San Jose (Costa Rica). Coordinator at the School of Architecture.
Apr 2007	Jun 2007	German Institute of Urban Affairs (DIFU). Berlin (Germany). Intern.
Mar 2005	Jul 2006	TAG Architects. San Jose (Costa Rica). Co-founder.
Jan 2005	Mar 2005	Fundación Ecología y Desarrollo. Zaragoza (Spain). Intern.
Oct 2002	Feb 2016	Independent consultancy.

EDUCATION

Mar 2019	Ph.D. University of the Bío-Bío (Chile) Dissertation title: Thermal environment effects on pupil's cognitive performance in warm-humid climates and their implications for educational architecture
Jul 2007	Advanced Professional Training. InWent International Leadership Training "Sustainable Energy Policy". InWent Capacity Building International and Technical University of Berlin (Germany). Emphasis: Pilot project to reduce the consumption of fossil fuels and CO ₂ emissions in the transport sector.
Aug 2006	Graduate Studies in Sustainable Development. INCAE Business School (Costa Rica).

Sep 2005 Master's Degree - Bioclimatic Architecture. Polytechnic University of Madrid (Spain)
Dissertation title: Liberia, Costa Rica: A new urban expansion base on bioclimatic and sustainable principles

Oct 2002 BA - Architecture. University of Costa Rica (Costa Rica)
Dissertation title: Master plan to reuse the old buildings of a dairy products factory in Barrio Lujan, San Jose.

PUBLICATIONS

1. Porras-Salazar J.A., Schiavon S. & Tham K.W (2022). Effects of IAQ on office work performance. In Zhang Y., Hopke P., and Mandin C., *Handbook of Indoor Air Quality*. Springer.
2. Porras-Salazar J.A. (2022). Hacia un ambiente térmico óptimo: Estrategias para el diseño de aulas en climas tropicales. In conference proceedings from III Jornadas de Investigación 2021. Revista Ingeniería 1-204.
3. Porras-Salazar J.A., Schiavon S., Wargocki P., Cheung, T. & Tham K.W. (2021). Meta-analysis of 35 studies examining the effect of indoor temperature on office work performance. *Building and Environment*, 203.
4. Porras-Chaverri M.A., Rodríguez-Jirón M.A. & Porras-Salazar J.A. (2021). Turning undergraduate research assistants into scientific researchers: A wooden-block based method. American Institute of Physics (AIP) Conference Proceedings 2348 (1), 050026.
5. Porras-Salazar J.A., Contreras-Espinoza S., Cartes I., Piggot-Navarrete, J. & Perez-Fargallo, A. (2020). Energy poverty analyzed considering the adaptive comfort of people living in social housing in the central-south of Chile. *Energy and Buildings*, 223.
6. Wargocki, P., Porras-Salazar, J. A., Contreras-Espinoza, S., & Bahnfleth, W. (2020). The relationships between classroom air quality and children's performance in school. *Building and Environment*, 173, 106749.
7. Marín-Restrepo, L., Trebilcock, M., & Porras-Salazar, J. A. (2020). Adaptation by coexistence: contrasting thermal comfort perception among individual and shared office spaces. *Architectural Science Review*, 1-13.
8. Porras-Salazar, J. A., & Contreras-Espinoza, S. (2020). Efecto de los revestimientos fríos sobre la temperatura superficial de las cubiertas en el clima cálido-húmedo. *REVISTARQUIS*, 9(1), 70-81.
9. Wargocki, P., Porras-Salazar, J. A., & Contreras-Espinoza, S. (2019). The relationship between classroom temperature and children's performance in school. *Building and Environment*, 157, 197-204.
10. Porras-Salazar, J. A., Wagoocki, P. and Piderit-Moreno, B. (2018). Reducing Classroom Temperatures in a Tropical Climate Improved the Performance of Elementary School Pupils. In conference proceedings from 15th Conference of the International Society of Indoor Air Quality & Climate (ISIAQ). Philadelphia, USA.
11. Porras-Salazar, J. A., Pulido-Arcas, and J., Piderit-Moreno, B. (2018). ¿Proporcionan las aulas escolares en el clima cálido- húmedo, un ambiente térmico óptimo para el aprendizaje? In conference proceedings from III Congreso Interdisciplinario de Investigación en Arquitectura, Diseño, Ciudad y Territorio. Santiago- Chile.
12. Porras-Salazar, J. A., Pulido-Arcas, J., Piderit-Moreno, B., and Perez-Fargallo, A. (2018) Estudio de la eficiencia de un sistema de tubos enterrados con intercambiadores tierra-aire para la reducción de la carga de refrigeración en edificios escolares situados en climas tropicales: caso de estudio en Costa Rica. In conference proceedings from XXVII Conferencia Latinoamericana de Escuelas y Facultades de Arquitectura (CLEFA). Concepcion- Chile, 2018: University of Bio-Bio.
13. Perez-Fargallo, A., Pulido-Arcas, J., Rubio-Bellido, C., and Porras-Salazar, J. A. (2018). Análisis de estándares para construcción de viviendas en chile en base a modelos de confort adaptativo ASHRAE 55-2013 y EN 15251:2007. In conference proceedings from XXVII Conferencia Latinoamericana de Escuelas y Facultades de Arquitectura (CLEFA). Concepcion- Chile, 2018: University of Bio-Bio.

14. Wagocki, P. and Porras-Salazar, J. A. (2017). Classroom carbon dioxide concentration and learning in elementary schools. In conference proceedings from Healthy Buildings Europe. Lublin- Poland.
15. Wagocki, P. and Porras-Salazar, J. A., and Bahnfleth, P. (2017). Quantitative relationships between classroom CO₂ concentration and learning in elementary schools. In conference proceedings from 38th AIVC Conference. Nottingham- UK.
16. Centro Latinoamericano para la Competitividad y el Desarrollo Sostenible (CLADS). Poma, A., Condo, A., Majano, A.M. and Murillo, J.V. (Eds.). (2013). Eficacia en programas para la lucha contra la pobreza: la experiencia en Centroamérica. San Jose, Costa Rica: INCAE, CLADS. Available at: <http://fundacionpoma.org/wp-content/uploads/2015/10/Programas-para-la-lucha-contra-la-pobreza-10-enero-14.pdf>
17. Porras-Salazar, J.A. and Valverde-Rodriguez, D. (Eds.). (2013). Proceedings of XXIV CLEFA Arquitectura y Urbanismo en Latinoamerica: Tendencias emergentes. San Jose, Costa Rica: Universidad VERITAS.
18. Porras-Salazar, J. A., & Monge, R. T. (2011). Materiales Ecológicos: Ni tan fáciles de identificar, ni tan fáciles de utilizar. *Revista Ingeniería*, 20(1-2).
19. Jimenez-Elizondo, G. and Porras-Salazar, J. A. (2010). *Electrificación rural en Guatemala: Energía esperanza para todos*. Case Study # 30376. San Jose, Costa Rica: INCAE, CLADS.
20. Castro-Salazar, R. and Porras-Salazar, J.A. (2009). Papel de la infraestructura en el desarrollo económico de Costa Rica. In Mesalles, L., & Céspedes, O. (Eds.), Obstáculos al crecimiento económico de Costa Rica (pp. 75-163). (No. E10 1463).
21. Castro-Salazar, R., Porras-Salazar, J. A., & Jiménez-Elizondo, G. Alternativas para el mejor aprovechamiento de la electricidad en Costa Rica. *Ambientales/Escuela de Ciencias Ambientales*. —No. 37 (2009) —Heredia, CR Semestral 1. Ecología, 3.

SCHOLARSHIPS

- 2016 - 2019** Office of International Affairs and External Cooperation, University of Costa Rica (Costa Rica). Fellowship for postgraduate studies. Doctoral studies.
- 2006 - 2007** Federal Ministry for Economic Cooperation and Development, Government of Federal Republic of Germany (Germany). Professional Training and Perfection Program.

TEACHING AND MENTORING EXPERIENCE

Postgraduate courses:		
2018	APUS Foundation and Polytechnic University (Spain). Master's in Environment and Bioclimatic Architecture (MAYAB- Latin-America). Effects of Classroom Temperature on Tropically Acclimatized Children's Thermal Perception and School Performance. 4 teaching hours.	Invited
2017	Central University (Chile) and Polytechnic University (Spain). Master's in Environment and Bioclimatic Architecture (MAYAB- Latin-America). Bioclimatic architecture in the tropics. 4 teaching hours.	Invited
2008 -2015	University of Costa Rica (Costa Rica). Master's in Tropical Architecture. Architectural Design Studio. 1590 teaching hours. Alternative years	Lecturer
2015	VERITAS University (Costa Rica). Postgraduate Studies in Sustainable Construction. 12 teaching hours.	Associate

2007-2015	University of Costa Rica (Costa Rica). Master's in Landscape and Master's in Urbanism. Introduction to Bioclimatic Techniques. 950 teaching hours. Alternative years	Lecturer
2015	INCAE Business School (Costa Rica). Master's in Business Administration. Corporate Social Responsibility. Estimation of the CO ₂ Emission Factor for the Main Construction Materials of Costa Rica. 2 hours.	Invited
2007	University of Costa Rica (Costa Rica). Master's in Urbanism. Design Studio. Site planning. 8 hours.	Invited
Undergraduate courses:		
2022	University of Costa Rica (Costa Rica). School of Architecture. Building Environmental Performance: An Introduction Using R. Senior students.	Lecturer
2015, 2022	University of Costa Rica (Costa Rica). School of Architecture. Architectural science. Sophomore students. 150 teaching hours.	Lecturer
2008-2015	University of Costa Rica (Costa Rica). School of Architecture. Tropical Architecture Design Studio. Senior students. 3300 teaching hours.	Lecturer
2014-2015	VERITAS University (Costa Rica). School of Architecture. Architectural Design Studio: Holcim-Costa Rica Chair for Sustainable Design and Construction. Senior students. 400 teaching hours.	Associate
2009-2014	VERITAS University (Costa Rica). School of Architecture. Architectural Design Studio. Senior students. 1200 teaching hours.	Associate
2009-2014	VERITAS University (Costa Rica). School of Architecture. Design with the Environment. Sophomore students.	Associate
2007	University of Costa Rica (Costa Rica). School of Architecture. Design Studio 1-2. Freshmen students. 200 teaching hours.	Lecturer

ADMINISTRATIVE EXPERIENCE

2010 - 2016	University of Costa Rica (Costa Rica). Co-coordinator of the Tropical Architecture Laboratory (LAT-UCR)
2014-2016	VERITAS University (Costa Rica). Coordinator at the Faculty of Architecture and Design.
2010 – 2014	VERITAS University (Costa Rica). Coordinator at the School of Architecture.
2010	VERITAS University (Costa Rica). Coordinator of the self-assessment process for the accreditation of the Architecture degree program before the Costa Rican National Higher Education Accreditation System (SINAES)
2009 - 2010	VERITAS University (Costa Rica). Coordinator of the academic curriculum renewal committee (VERITAS 2.0). Undergraduate program on architecture. Design of academic curricula for undergraduate students.

PROFESSIONAL EXPERIENCE – MAJOR PROJECTS

Ecobalance Consulting Company:

2015-2016	Analysis and bioclimatic recommendations for the Costa Rican Legislative Assembly Building Project (Building 2). San Jose, Costa Rica. Client: Salinas, Ventura, Nagel and Araya Consortium. Project Coordinator.
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- 2015** Analysis and bioclimatic recommendations for the Escazu Village Project. San Jose, Costa Rica. Client: Portafolio Inmobiliario (PIMSA). Project Coordinator.
- 2015** Analysis and bioclimatic recommendations for CONICIT's central offices, Coronado, Costa Rica. Client: Consejo Nacional para Investigaciones Científicas y Tecnológicas - National Council for Scientific and Technological Research (CONICIT). Project Coordinator.
- 2012** Design of evaluation criteria for sustainability parameters for multiple housing options in Costa Rica. 18 steps towards more ecological housing. Client: International Union for the Conservation of Nature (IUCN). San Jose, Costa Rica. Project Coordinator.
- 2012** Elaboration of chapter on basic tools for bioclimatic design for a technical Guide for Sustainable Development. Client: Foundation for Urban Development (FUDUEU). San Jose, Costa Rica. Project Coordinator.
- 2012** Environmental and transport management plans. Client: University VERITAS. San Jose, Costa Rica. Associate Consultant.
- 2009** Preliminary design of 14 projects in 7 protected wildlife areas. Client: Costa Rican National System of Conservation Areas (SINAC) and the InterAmerican Development Bank (BID). San Jose, Costa Rica. Design team coordinator and bioclimatic design.
- 2008** Master Plan for the Tourist Development of Tierra Tranquila (111 acres). Canas, Costa Rica. Client: Private. Director of the consulting team and bioclimatic design.
- 2008** Tilarán Cattle Auction Yard. Tilarán, Costa Rica. Client: Tilaran's Cattle Chamber. Team Coordinator and bioclimatic design.

TAG Architects:

- 2005 -2006** Hotel Celeste Mountain Lodge. Upala, Costa Rica. Client: Private. Coordinator of design stages, bioclimatic design and construction plans.
- 2003-2005** Mónaco Condominium. Santa Ana, Costa Rica. Client: Private. Staff architect at the design and construction plan stages.

Independent consultancy:

- 2014** Analysis and bioclimatic recommendations for the Life Style Center Project, "La Estacion", Heredia, Costa Rica. Client: Arquitectónica 3A- Avy Aviram. Consultant: Murillo + Sanabria. Associate Consultant.
- 2013** Analysis and bioclimatic recommendations for the Costa Rican Legislative Assembly Building Project (Building 1). San Jose, Costa Rica. Client: Salinas, Ventura, Nágel and Araya Consortium. Consultant: Murillo + Sanabria. Project coordinator.
- 2013** Analysis and bioclimatic recommendations for the Alajuela Courts of Justice building, Alajuela, Costa Rica. Client: Costa Rica Judiciary Service. Consultant: Murillo + Sanabria. Associate Consultant.
- 2012** Analysis and bioclimatic recommendations for the Costa Rican Central Bank's office buildings. San Jose, Costa Rica. Client: Costa Rican Central Bank (BCCR). Murillo + Sanabria Consultants. Associate Consultant.
- 2012** Physical infrastructure requirements of the maximum decentralization entities. San Jose, Costa Rica. Client: Costa Rican Central Bank (BCCR). Consultant: Murillo + Sanabria. Associate Consultant.
- 2011-2012** Planning parameters for the University of Costa Rica campus (222 acres). Client: University of Costa Rica- Investment Program Executive Office (OPEPI- UCR). San Jose, Costa Rica. Consultant: G4 Paisaje Urbano Consultants. Associate Consultant.
- 2010** Rural Electrification in Guatemala. Energy: Hope for all. Client: INCAE Business School and Poma Foundation. Consultants: Gustavo Jimenez-Elizondo and Jose Ali Porras-Salazar.
- 2009** Review of the Strategic Plan for the Regional Central American Electrical Market. San Jose, Costa Rica. Client: InterAmerican Development Bank (BID). Consultants: René Castro-Salazar, Jose Ali Porras-Salazar, Gustavo Jimenez-Elizondo, and Andrey Elizondo-Andrade.

2008-2009	Infrastructure and Economic Growth in Costa Rica. San José, Costa Rica. Client: Academia de Centroamerica. Consultants: Rene Castro-Salazar and Jose Ali Porras-Salazar.
2003	Master plan for ANDE's central office building. San José, Costa Rica. Client: National Teachers Association (ANDE). Consultants: Jose Ali Porras-Salazar, Rafael Tenorio-Monge, and Victor Carvajal. Coordinator of the design team.
2002-2003	Master plan for 4 urban developments. Client: La Constancia Constructions. San José, Costa Rica. Consultants: Jose Ali Porras-Salazar and Rafael Tenorio-Monge. Principal.

PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

2022- Present	Member of ASHRAE Technical Committee 2.1
2022- Present	Member of the university network RIPEBA (Ibero-American)
2002- Present	Association of Engineers and Architects of Costa Rica (CFIA). Member A-12058
2015-Present	Member of the university network URBENERE (Ibero-American)
2014-Present	Member of the university network RIDER-UCR (Costa Rica)
2007-2008	Member of the sustainable architectural design commission of the College of Architects of Costa Rica

ATTENDANCE AT CONFERENCES OR SEMINARS

Guest lectures:

Nov 2021	Guest speaker. Segundo ciclo de conferencias EMAT. Facultad de Arquitectura, Universidad Nacional de Colombia. Lecture title: The effects of the indoor thermal environment on work and learning performance.
Jun 2013	Guest speaker. Costa Rican Construction Chamber, Sustainable Construction Commission. Expo Construcción Sostenible 2013. San Jose, Costa Rica. Lecture title: Envelope design and its implications on thermal comfort in high-rise buildings.
Sep 2011	Guest speaker. VERITAS University. San Jose, Costa Rica. Lecture title: I do not want to be... a lawyer, a doctor or an engineer... I want to be an architect.
May 2010	Guest speaker. Central American Forum Building for Life. UICN, CASALCO y ORDECCAC. San Salvador, El Salvador. Lecture title: The importance of solar geometry in tropical architecture.
Apr 2009	Guest speaker. Colegio Federado de Ingenieros y Arquitectos. San Jose, Costa Rica. Lecture title: Consumption of resources and global warming.
Oct 2008	Guest speaker. Salvadorian Association of Engineers and Architects (ASIA) Architects Week 2008. San Salvador, El Salvador. Lecture title: Sustainable Habitat
Aug 2008	Guest speaker. Sustainable Management Program 2008 (SMP-2008). INCAE Business School. Alajuela, Costa Rica. Lecture title: Sustainable Habitat
Mar 2008	Guest speaker. School of Architecture, University of Costa Rica. San Jose, Costa Rica. Energy, transport and urban planning in developing countries: The case of Costa Rica.
Feb 2008	Guest speaker. Seminar on Transport. INCAE Business School (Costa Rica) Lecture title: Energy, Transport and Urban Planning.
Mar 2005	Guest speaker. Hispanoamericana University (Costa Rica). Lecture title: Sustainable and competitive cities.

Conference presentations:

- Aug 2021** III Jornada de Investigación en Ingeniería. San José (Costa Rica). Oral Presentation: Hacia un ambiente térmico óptimo: Estrategias para el diseño de aulas en climas tropicales.
- Dec 2018** III Congreso Interdisciplinario de Investigación en Arquitectura, Diseño, Ciudad y Territorio. Santiago (Chile). Oral Presentation: ¿Proporcionan las aulas escolares en el clima cálido- húmedo, un ambiente térmico óptimo para el aprendizaje?
- Nov 2018** XXVII Conferencia Latinoamericana de Escuelas y Facultades de Arquitectura (CLEFA). Concepción (Chile). Oral Presentation: Estudio de la eficiencia de un sistema de tubos enterrados con intercambiadores tierra-aire para la reducción de la carga de refrigeración en edificios escolares situados en climas tropicales: caso de estudio en Costa Rica.
- Jul 2018** 15th Conference of the International Society of Indoor Air Quality & Climate (ISIAQ). Philadelphia-(USA) 2018. Oral Presentation: Reducing Classroom Temperatures in a Tropical Climate Improved the Performance of Elementary School Pupils.
- Oct 2011** Jornada de Investigación en Arquitectura. San Jose (Costa Rica). Oral Presentation: Proyecto tecnológico Passive House.

COMPLEMENTARY TRAINING

Pedagogical training:

- Aug 2011** VERITAS University. San Jose (Costa Rica). Diversity in education. 18 hours.
- May 2011** VERITAS University. San Jose (Costa Rica). Didactical essentials for higher education. 12 hours.
- Mar 2011** University of Costa Rica. San Jose (Costa Rica). How to write scientific papers and academic essays. 16 hours.
- Sep 2009** VERITAS University. San Jose (Costa Rica). New teaching and evaluation systems for higher education. 12 hours.
- Aug 2009** VERITAS University. San Jose (Costa Rica). Curricula Design and Methodological Strategy. 16 hours.

Technical training:

- Jul 2011** National Renewable Energy Laboratory (NREL) and University of Costa Rica. San Jose (Costa Rica). Energy Assessment Training Course. 40 hours.
- Nov 2010** Robert McNeel & Associates and VERITAS University. San Jose (Costa Rica). Design, optimization and fabrication with Rhinoceros Grasshopper. 32 hours.
- Nov 2008** Colegio Federado de Ingenieros y de Arquitectos de Costa Rica, Ministerio de Ciencia y Tecnología (MICYT) y Programa Ciencia y Tecnología para el Desarrollo (CYTED). San Jose (Costa Rica). Innovation in Future Sustainable Construction. 16 hours.
- Oct 2008** Colegio Federado de Ingenieros y de Arquitectos de Costa Rica y Comisión de Construcción Sostenible CFIA. Sustainable Construction. San Jose (Costa Rica). 18 hours.
- Dec 2007** Green Building Council (USGBC) y Colegio de Arquitectos de Costa Rica. San Jose (Costa Rica). LEED 101: Getting Started with Green. 7 hours.
- Oct 2007** University of Costa Rica. San Jose (Costa Rica). Strategic Planning and Territorial Organization. 12 hours.
- Aug 2007** Colegio de Ingenieros Agronomos. San Jose (Costa Rica). Environmental Impact Evaluation Techniques and Methodology. 24 hours.
- Oct 2005** INCAE Business School, Tecnológico de Monterrey y Universidad Nacional. San Jose (Costa Rica). Young People - Leading in Sustainability. Seminar. 16 hours.

- Aug 2004** Centro Científico Cultural Blas Cabrera. Lanzarote (Spain). Urban Renewal and Architectonic Heritage: Some Practical-Theory Interventions. 20 hours.
- Aug 2004** Centro Científico Cultural Blas Cabrera. Lanzarote (Spain). Milestones and Myths of Contemporary Architecture. 20 hours.
- Aug 2004** Centro Científico Cultural Blas Cabrera. Lanzarote (Spain). Reality and Intelligence regarding Zubiri. 20 hours.
- May 2004** Real Academia Nacional de Medicina de Madrid. Madrid (Spain). Environment: The Atmosphere. 45 hours.
- Sep 2003** University of Costa Rica. San Jose (Costa Rica). Bioarchitecture and Sustainable City. 20 hours.
- Jun 2003** Office of Executive Education- GSD- Harvard University. Boston (USA). Architecture and Sustainability. 16 hours.
- Jun 2003** Office of Executive Education- GSD- Harvard University. Boston (USA). Adapting your practice for Green Design. 16 hours.
- Apr 2003** Instituto Tecnológico de Costa Rica. San Jose (Costa Rica). Modern Valuation Techniques. 20 hours.

OTHER SKILLS AND QUALIFICATIONS

Languages

- Spanish** Mother tongue
- English** Advanced level
- German** Basic level