



PLEA WORKSHOP 2

Design Tools for Tropical Climates

by Atmos Lab

Date: July 27-28, 2026
Location: School of Architecture, Universidad de Costa Rica
Language / Capacity: English / 30 participants

WORKSHOP LEADERS

Atmos Lab is a London-based environmental design consultancy founded in 2016 by Florencia Collo, Rafael Alonso Candau, and Olivier Dambron, bringing together expertise in architecture, sustainability, building performance, and environmental research. The practice specializes in climate-responsive architecture, thermal comfort, daylighting, natural ventilation, urban climate analysis, and low-energy design strategies, supporting architects and planners in the development of more sustainable and resilient built environments. Through a combination of advanced environmental simulation, research, and consultancy, Atmos Lab has collaborated with internationally renowned architecture firms, including serving as environmental consultants to Pritzker Prize laureates Anne Lacaton and Jean-Philippe Vassal. Their work bridges environmental science and architectural practice to create innovative, high-performance, and human-centered design solutions. The team also contributes actively to international research and education, recently publishing the book Atmos Lab | It's Nice Today, which reflects on environmental design as a creative and critical tool for shaping more comfortable, sustainable, and climate-responsive architecture and cities.



OVERVIEW

This practical workshop explores environmental design tools and digital workflows for tropical climates, focusing on climate-responsive architectural strategies. Participants will work with Rhino, Grasshopper, Ladybug Tools, Honeybee Radiance, and CFD simulations using Eddy3D/OpenFOAM to analyse solar control, daylighting, glare, and airflow in tropical environments. Through interactive sessions and site-based exercises, attendees will gain hands-on experience applying simulation tools to support passive design and climate-adaptive architecture. Ideal for architects, designers, students, and researchers interested in environmental performance and tropical design innovation.

LEARNING OBJECTIVE

Participants will develop practical skills in the use of environmental simulation and digital design tools to evaluate solar performance, daylighting, glare, thermal comfort, and airflow in tropical climates. Through hands-on exercises and site-based applications, they will learn how to interpret environmental data and integrate climate-responsive strategies into the architectural design process, supporting the development of more sustainable, resilient, and high-performance buildings.

PROGRAM SCHEDULE

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| Monday 7/27/26 Morning | 09:00 a.m.-1:00 p.m. Climate and Solar Session: Online resources, installation LBT free plugins, RH + GH recap of basics, climate analysis with Ladybug, solar control with Ladybug |
| Monday 7/27/26 | 02:00 p.m.-5:00 p.m. Daylight Session: Daylighting and glare control with Honeybee Radiance |
| Tuesday 7/28/26 | 09:00 a.m.-1:00 p.m. CFD Session: CFD modelling with Eddy3D/OpenFOAM: wind around and within |

PARTICIPANTS

This workshop is intended for advanced undergraduate and graduate students, architects, urban designers, engineers, researchers, and professionals interested in environmental simulation, building performance, and climate-responsive design. It is also suitable for practitioners and enthusiasts seeking to incorporate digital environmental analysis tools into their design workflows.

RECOMMENDED BACKGROUND

Participants should have a basic understanding of architecture, engineering, environmental design, or related disciplines. Familiarity with 3D modeling software and confidence working in digital computer environments is recommended. Previous experience with Rhino, Grasshopper, or environmental simulation tools is beneficial but not required.

MATERIALS AND REQUIREMENTS

- Laptop
- Sketching materials
- Software: Rhino 3D — <https://www.rhino3d.com/download/>
- Grasshopper 3D — <https://www.grasshopper3d.com/page/download-1>

PRACTICAL INFORMATION

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Registration:

https://www.tiquetebox.app/e/workshop_2_design_tools_for_tropical_climates_atmoslab

Plea email: pleacr2026@gmail.com

ABOUT THE TUTORS



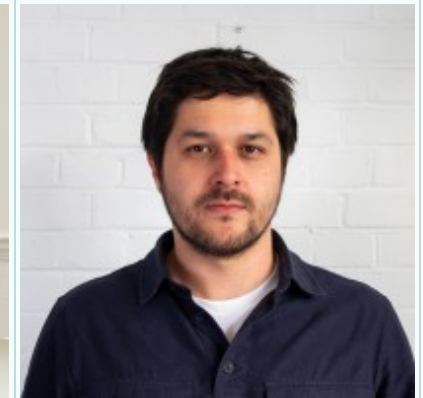
Florencia Collo

Architect from Buenos Aires, Argentina, graduated from the University of Buenos Aires (FADU-UBA) and completed the MSc in Sustainable Environmental Design at the Architectural Association (AA) in London. She co-founded Atmos Lab in 2016 and serves as the firm's principal project leader. Her work focuses on environmental architecture, urban climate, thermal comfort, and sustainable design. She is actively involved in teaching and research and has contributed to numerous international conferences and publications, including collaborations with Lacaton & Vassal. She is also involved with the PLEA network.



Rafael Alonso Candau

Architect graduated from the Polytechnic University of Valencia, Spain, with a Master's in Sustainable Environmental Design from the AA in London. Rafael specializes in building performance, carbon footprint analysis, environmental simulation, and urban climate studies. He regularly lectures at international universities and contributes to research, conferences, and peer-reviewed publications related to environmental design and sustainable architecture.



Olivier Dambron

Environmental designer and researcher specializing in climate-responsive architecture, daylighting, thermal comfort, and building performance. He has taught workshops and seminars at institutions including ETH Zürich, the Royal College of Art, and the Architectural Association. His work focuses on translating environmental data into practical design strategies that improve building quality and occupant comfort.