



Workshop Proposal

We invite you to submit proposals for half-day or full-day workshops in any area related to the field of space syntax. We particularly encourage proposals for highly interactive and collaborative workshops to foster new ideas and learn new skills.

The workshops will take place on the 1st day of the conference.

Workshop proposals should be submitted via a specific template, available below.

Once the proposal is accepted, the text from the workshop proposal will be used to advertise the Workshop in the conference website.

The proposal must be submitted by September 11th, 2023, on the conference submission page.

The name of the file should be the Workshop title (abbreviated if necessary).

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Proposers' Name	Petros Koutsolampros and Fani Kostourou
Proposers' Institution (if any)	Austrian Institute of Technology
Proposers' Email	research@pklampros.net
Proposers' Short Bio (text up to 200 words)	<p>Petros Koutsolampros is software developer and data analyst with expertise in the spatial domain. He holds a PhD from UCL examining human activity in office spaces, and has worked with various companies developing software for spatial analysis, graphics and user interfaces. Petros also has experience teaching in spatial analysis and computation courses, but also maintaining open source software, such as the depthmapX, an application for spatial network analysis.</p> <p>Fani Kostourou is a senior research engineer at Austrian Institute of Technology. She holds a PhD from UCL on adaptability of urban form and her research interests focus on urban morphology, spatial data analysis, housing, informality, and public cultures in cities. Previously, she worked as an urban computation specialist in Grimshaw Architects and was an associate director at Theatrum Mundi organisation. Fani has taught at the UAL's Central Saint Martins, the UCL Bartlett, IAAC Barcelona, Cardiff University, UCA Canterbury, and the CANactions School for Urban Studies in Kyiv.</p>
Workshop Title	Space syntax analysis in R

<p><u>Aim and Objectives</u> (describe the aims and objectives of the Workshop, indicating the scope of the workshop as well as why you think that this is a good topic for the 14th SSS)</p>	<p>This workshop will present a workflow for working with spatial data common to the space syntax field in the R programming language. Participants will become familiar with 1) importing spatial data for urban and building scale, 2) running space syntax analysis with the rdepthmap R package and 3) managing and plotting these and other related datasets.</p>
<p><u>Structure</u> (describe the format of the workshop, identifying any keynote speakers, technical information, and so on)</p>	<p>The workshop will specifically focus on axial, segment and visibility (VGA) graphs and demonstrate how to import different file formats (shapefiles, mapinfo, dxf and graph files) and work with spatial dataframes (points, pixels and lines and polygons). Additionally, the workshop will show how to construct spatial networks (igraph) for further network analysis in R.</p> <p>The proposed workflow aims to replace conventional workflows that involve the use and constant switching between many different applications for the same tasks. It integrates various processes (importing, converting, analysing and exporting) into one repeatable and reproducible process. This removes the need for intermediate files and allows researchers to explore their data directly with the powerful statistical tools within R.</p> <p>The workshop is structured in two parts, the first dealing with line models (axial, segment) and the second with visibility graphs. It will take one day and the maximum number of participants will be 16. It is targeted towards researchers familiar with Space Syntax methodology and tools and ideally a basic knowledge of R. Participants that are not familiar with the R programming language are also welcome but are advised to go through an online introductory tutorial prior to the workshop.</p> <p>The demonstration includes:</p> <p>Using RStudio:</p> <ul style="list-style-type: none"> - importing spatial files (shapefiles/mapinfo) - importing CSV files - limited descriptive statistics (histograms/scatterplots) - creating networks - subsetting data by spatial location or attribute - plotting maps with different colour ramps <p>related R libraries</p> <ul style="list-style-type: none"> - rgeos - rgdal - maptools - igraph <p>Using rdepthmap:</p> <p>axial/segment</p> <ul style="list-style-type: none"> - importing axial lines and convert to axial map

	<ul style="list-style-type: none"> - running axial analysis - importing unlinks - converting axial to segment - exporting axial and segment maps and connections - running angular/topological/metric segment analysis <p>vga</p> <ul style="list-style-type: none"> - importing dxf files of floor-plans - running visibility graph analysis (visibility/isovist/metric/through vision) - importing and export links - exporting maps and connections
<p>Duration (specify the duration of the workshop- whether it is half or full day)</p>	<p>Full day</p>
<p>Specific Requirements (provide any specific requirements you may request from the organising committee for the implementation of the workshop)</p>	<p>Power points for laptops</p>