

Jorge Alberto Lopes Gil

Date of Birth: 5th of January 1972

www.linkedin.com/pub/jorge-gil/2/17a/40a

e-mail: jorge.gil@chalmers.se

https://www.researchgate.net/profile/Jorge_Gil

ORCID: <https://orcid.org/0000-0001-6671-2578> <https://github.com/jorgegil>

Profile Researcher, urban data scientist and educator, working in the field of Urban Analytics and Informatics, developing theory, methods and solutions for planning sustainable neighbourhoods, cities and regions, to support strategic decisions on urban mobility, logistics, social inclusion, health and well-being, liveability, energy transition, among other urban challenges.

ACADEMIC QUALIFICATIONS

- 2009 – 2016 PhD in Urbanism, Faculty of Architecture, Delft University of Technology, The Netherlands
"Urban Modality: modelling and evaluating the sustainable mobility potential of urban areas in the Randstad city region" <http://dx.doi.org/10.7480/abe.2016.1>
- 1999 – 2000 MSc in Built Environment: Virtual Environments (Distinction), the Bartlett School of Graduate Studies, UCL, London
- 1991 – 1996 Bachelor in Architecture, Faculty of Architecture, Lisbon Technical University, Portugal

PROFESSIONAL HISTORY

- 01/2018 – present Assistant Professor, Division of Urban Design and Planning, Department of Architecture and Civil Engineering, Chalmers University of Technology, Gothenburg, Sweden
- 03/2017 – 07/2018 Senior Researcher, Chair of Environmental Technology and Design, Faculty of Architecture, Delft University of Technology, Netherlands
- 02/2016 – 12/2018 Researcher, Spatial Morphology Group, Department of Architecture, Chalmers University of Technology, Gothenburg, Sweden
- 08/2013 – 03/2015 Research Associate, Space Syntax Laboratory, the Bartlett, University College London
Design and implementation of the Space Syntax Toolkit for QGIS, an open source project to integrate space syntax analysis in QGIS, and add exploratory data analysis features to QGIS. <https://github.com/SpaceGroupUCL/qgisSpaceSyntaxToolkit>
- 12/2007 – 12/2011 Researcher, ICIST, Lisbon Technical University, Portugal
- 04/2009 – present Consultant, Independent
Advice and delivery of geo-database and GIS solutions for spatial data analysis, visualisation and knowledge discovery, for sustainable mobility and energy transition in urban and regional planning. Projects for private and government clients in the UK, the Netherlands, Portugal and France.

Key projects:

- Integrated Urban Model (2019) – Review and support in the implementation of a data model, database and toolkit for the Assessment of urban master planning projects.
Client: Buro Happold, London, UK. <https://www.burohappold.com/>
- Generation Energy (2016 - 2020) – Implementation of spatial data models and analysis tools for supporting the Netherlands regional energy strategy.
Client: Generation Energy, The Hague, Netherlands. <https://generation.energy/>
- Dashboard Urbanisation (2018) – Spatial analysis of urban sustainability indicators of urban development scenarios for the Amsterdam Metropolitan Region.
Client: College van Rijks Adviseurs, Netherlands
<https://www.collegevanrijksadviseurs.nl/projecten/dashboard-verstedelijking>
- TOD Information System (2017) – Implementation of geodatabase and graphical user interface for strategic planning support of regional TOD development.
Clients: Vereniging Deltametropool, Province Noord Holland, Ministry of Infrastructure and Environment, College van Rijks Adviseurs, Netherlands
<https://deltametropool.nl/projecten/informatiesysteem-knooppunten/>
- Sync multi-modal transport network (2015-16) – Implementing multi-modal public transport network model of Great Britain using open and official timetable data.
Client: Prospective, London, UK. <https://www.prospective.io/>
- Toulouse II (2012) – Pedestrian mobility, visibility and navigation analysis for university campus redevelopment competition in Toulouse, France.
Client: Valode et Pistre architects and Vinci Construction.
<http://www.v-p.com/en/news/valode-pistre-wins-competition-university-toulouse-le-mirail>
- Efficient and Convenient Primary Care (2009) – Decision support method for strategic planning of NHS health facilities location.
Client: The Princess Foundation for the Built Environment, London, UK.

04/2004 – 04/2009 Associate, R&D, Space Syntax Ltd, London, UK

10/2000 – 06/2004 Interaction Designer, London, UK

Worked for okupi, 4D Trading and CARET (Cambridge University)

04/1996 – 08/1999 Architectural assistant, Portugal

Worked for Progesto, bquadrado (Lisbon) and Paulo David (Funchal, Madeira)

PERSONAL DEVELOPMENT

Pedagogical

2018 – 2020 Diploma of Higher Education (DoHE), Chalmers University of Technology, Sweden

2019 Supervising Research Students, Chalmers University of Technology, Sweden

2004 NVQ Level 1, City and Guilds Further and Adult Teachers Certificate (7307) Stage 1, London, UK

Professional

2019 Mentors2Research, Chalmers University of Technology, Sweden

2019 FOASS Leadership Programme, Chalmers University of Technology, Sweden

ACADEMIC SUPERVISION**PhD**

- 2019 - present Vasilis Naserentin, PhD Mathematical Sciences, Department of Mathematical Sciences, Chalmers University of Technology. *"Integration of scientific data into Digital Twins of Cities for urban planning"*, co-supervisor
- 2019 - present Jonathan Cohen, PhD Architecture, Urban Design and Planning, Department of Architecture and Civil Engineering, Chalmers University of Technology. *"The role of spatial planning in the implementation of Circular Economy practices in City-Regions: Applications to Industrial Symbiosis & Solid Waste Management"*, supervisor
- 2019 - present Yuan Liao, PhD Engineering, Physical Resource Theory, Chalmers University of Technology. *"Understanding Human Mobility with Emerging Data Sources: Validation, spatiotemporal patterns, and transport modal disparity"*, co-supervisor
- 2016 - present Job van Eldijk, PhD Architecture, Urban Design and Planning, Department of Architecture and Civil Engineering, Chalmers University of Technology, *"Quantification of Barrier Effects of Transport Infrastructure Projects"*, co-supervisor
- 2016 - present Leonard Nilsson, PhD Architecture, Urban Design and Planning, Department of Architecture and Civil Engineering, Chalmers University of Technology, co-supervisor
- 2016 - 2020 (Defended) Francesco Orsi, PhD Architecture, Faculty of Architecture, University of Lisbon. *"Development Strategies of Re-urbanisation for Sustainable Extensive Territories"*, co-supervisor
- 2017 - 2018 (Defended) Claudiu Forgaci, PhD Urbanism, Faculty of Architecture, TU Delft. *"Integrated Urban River Corridors - Spatial Design for Social-Ecological Resilience in Bucharest and Beyond"*, co-supervisor
- 2017 - 2018 (Go/No-go) Rusné Sylerité, PhD Urbanism, Faculty of Architecture, TU Delft. *"A Framework to Assess Impact Significance in the Geographical Context of Resource Flow Changes"*, co-supervisor
- 2017 - 2018 (Go/No-go) Daniela Maiulari, PhD Urbanism, Faculty of Architecture, TU Delft. *"Energy and Space Reciprocity - A Morphological Approach for urban design in energy transition"*, co-supervisor
- 2017 - 2018 (Go/No-go) Ulf Hackauf, PhD Urbanism, Faculty of Architecture, TU Delft. *"Scripting Urban Metabolism - Analysing the spatial relationship between urban metabolism and urban design through a parametric design study"*, co-supervisor
- 2017 - 2018 (Go/No-go) Yan Song, PhD Urbanism, Faculty of Architecture, TU Delft. *"Sustainability-oriented Urban Metabolism Indicator Framework: Design Support for Sustainable Development in Metropolitan Areas"*, co-supervisor

MSc

- 2019 Sophia Haas, Master of Architecture, Department of Architecture and Civil Engineering, Chalmers University of Technology. *"The city-friendly car"*, supervisor
- 2018 Daniël Kersbergen, MSc Geomatics, Faculty of Architecture, TU Delft. *"Automated Building Damage Classification Using Remotely Sensed Data - Case study: Hurricane damage on St. Maarten"*, main supervisor
- 2018 Lilia Angelova, MSc Geomatics, Faculty of Architecture, TU Delft. *"Geographically Weighted Urban Heat Island Modeling Using The NETATMO Sensors - The Case of The Hague."*, co-supervisor

- 2018 Roos Teeuwen, MSc Geomatics, Faculty of Architecture, TU Delft. *“A Spatio-Temporal Method for Impact Assessment - Case study of the impact of organic waste collection system scenarios in Amsterdam”*, co-supervisor

TEACHING EXPERIENCE

Courses

- 2015 – 2017 “GEO1005 – Spatial Decision Support Systems”. *Master in Geomatics*, Department of Urbanism, Faculty of Architecture, TU Delft.
- 2016 “GEO1002 – Geographic Information Systems (GIS) and Cartography”. *Master in Geomatics*, Department of Urbanism, Faculty of Architecture, TU Delft.

Lecturer

- 10/2020 Lecturer, “Urban Form and Sustainable Mobility”, *ARK516 - Urban Landscape*, Chalmers, ACE
- 09/2020 Lecturer, “Urban Form and Multimodal Mobility”, *TEK465 - Sustainable Transportation*, Chalmers, TME
- 2019 – present Project supervision, *BOM210 - Urban Space and Functions*, Chalmers, ACE
- 2019 – 2020 Lecturer, “Introduction of GIS for Urban Design”, *ARK512/513 - Urban Space*, Chalmers, ACE
- 10/2016 Lecturer, ‘Definitions of Space II – Spatial Modelling’, *Theories in Spatial Morphology PhD course*, Department of Architecture, Chalmers University of Technology
- 12/2008 Lecturer, “Space Syntax: Theory, research and practice”; “Space Syntax: Using Depthmap”, *Urban Design Doctoral Programme*, Faculty of Architecture, TU Lisbon, Portugal

Workshops

- 10/2015 “Urban spatial analysis: QGIS and Space Syntax Toolkit”. Organiser of two day workshop at IST, Faculty of Civil Engineering, Lisbon University, Portugal
- 03/2011 “Space Syntax + GIS”. Co-organiser of three day workshop at CITTA, Faculty of Engineering, University of Porto, Portugal

Other courses

- 2004 Trainer, ‘Women in New Media’. Developing and teaching the modules in Adobe Photoshop and Illustrator, Hoxton Bibliotech, London

RESEARCH GRANTS

- 2021 - 2024 Project Lead, “A Common Data Model for Digital Twins of Cities”, awardee by the Digital Twins Centre Chalmers and Vinnova, total amount 2,600,000 SEK
- 2020 Project Lead, “Exploratory Analysis of New Data Sources to Assess the Impact of COVID-19 on Urban Mobility”, awarded by Chalmers Area of Advance Transport, total amount 175,000 SEK
- 2020 Researcher, “Exploratory Analysis of Urban Freight Data to Assess the Impact of COVID-19 on Freight Activity”, awarded by Chalmers Area of Advance Transport, total amount 242,000 SEK

- 2020 Researcher, "Urban planning for safe future mobility: evaluating the impact of e-scooters on travel patterns and traffic safety, to guide policy making and infrastructure design", awarded by Formas, total amount 298,000 SEK
- 2020 Researcher, "Future-proof urban renewal from a children perspective: Digital Interactive design support for achieving sustainable and healthy neighbourhoods", awarded by Formas, total amount 298,000 SEK
- 2020 – 2023 Researcher, "Sport and Outdoor Mistra (SPOOR)", awarded by MISTRA, Sweden, total amount 73,580,000 SEK <https://www.mistra.org/en/research/mistra-outdoors-sport/>
- 2020 Researcher, "Safe and Liveable Urban Streets: Integrating driver and the built environment perspectives for a sustainable transport system", awarded by Chalmers Area of Advance Transport, total amount 990,000 SEK
- 2019 – 2021 Advisor, "Carbon Neutral Urban Logistics", awarded. By Energimyndigheten, Sweden, total amount 5,274,460 SEK
- 2019 – 2020 Researcher, "Using data analytics for smart loading zones management in cities", awarded by VINNOVA, Sweden, ref 2019-03093, total amount 500,000 SEK <https://www.vinnova.se/en/p/using-data-analytics-for-smart-loading-zones-management-in-cities/>
- 2019 Researcher, "Aligning Ontologies for Safe and Liveable Urban Streets (OntoSLUS)", awarded by Chalmers Area of Advance Transport, total amount 122,000 SEK
- 2018 – 2019 Researcher, "Autonomous and Connected Trucks for Electric Distribution (ACTED)", awarded by Chalmers Area of Advance Transport, total amount 2,500,000 SEK <https://research.chalmers.se/en/project/?id=8500>
- 2009 – 2013 Individual Doctoral Research Grant, awarded by the Portuguese Science and Technology Foundation (Fundação para a Ciência e Tecnologia) SFRH/BD/46709/2008, total amount 134,000 EUR
- 2007 – 2011 Researcher, 'CityInduction' project, awarded by the Portuguese Science and Technology Foundation (FCT) PTDC/AUR/64384/2006, hosted at ICIST, TU Lisbon, total amount 150,000 EUR
- 2007 – 2009 Researcher, "VIBAT London - TC SIM", awarded by URBANBUZZ Building sustainable communities, project n.28. Consortium of Space Syntax Ltd, Halcrow and UCL. http://www.vibat.org/vibat_ldn/index.shtml, http://www.vibat.org/vibat_ldn/tcsim.shtml
- 2007 – 2009 Researcher, "iVALUL – The intangible Value of Urban Layout", awarded by URBANBUZZ Building sustainable communities project n.12. Consortium of Space Syntax Ltd and UCL.
- 2000 Individual research grant, awarded by British Telecom (BT) Labs, to carry out research work related to the MSc thesis, total amount 4500 GBP

PUBLICATIONS

Refereed Journals

- 2020 Gil, J. "City Information Modelling: A Conceptual Framework for Research and Practice in Digital Urban Planning". Built Environment, 46(4), pp. 501-527. <https://doi.org/10.2148/benv.46.4.501>

- 2020 Liao, Y., Gil, J., Pereira, R. H. M., Yeh, S., & Verendel, V. "Disparities in travel times between car and transit: Spatiotemporal patterns in cities". *Scientific Reports*, 10(1), pp. 1–12. <https://doi.org/10.1038/s41598-020-61077-0>
Jorge Gil: Conceptualization, Methodology, Formal analysis, Writing
- 2020 van Eldijk, J., Gil, J., Kuska, N., & Sisinty Patro, R. "Missing links – Quantifying barrier effects of transport infrastructure on local accessibility". *Transportation Research Part D: Transport and Environment*, 85, 102410. <https://doi.org/10/ggz28c>
Jorge Gil: Conceptualization, Methodology, Formal analysis, Writing, Supervision
- 2019 Berghauser Pont M, Stavroulaki G, Bobkova E, Gil J, Marcus L, Olsson J, Sun K, Serra M, Hausleitner B, Dhanani A, Legeby A. "The spatial distribution and frequency of street, plot and building types across five European cities". *Environment and Planning B: Urban Analytics and City Science* 46, pp.1226–1242 . <https://doi.org/10.1177/2399808319857450>
Jorge Gil: Conceptualization, Methodology, Formal analysis, Writing
- 2019 Manum B, Arnesen P, Nordstrom T, Gil J. "Improving GIS-based models for bicycling speed estimations". *Transportation Research Procedia* 42 pp. 85–99 . <https://doi.org/10.1016/j.trpro.2019.12.009>
Jorge Gil: Conceptualization, Methodology, Writing
- 2018 Marshall, S., Gil, J., Kropf, K., Tomko, M., Figueiredo, L. "Street Network Studies: from Networks to Models and their Representations". *Networks and Spatial Economics.*, 18 pp.735-749. <https://doi.org/10.1007/s11067-018-9427-9>
Jorge Gil: Conceptualization, Methodology, Writing
- 2017 Gil, J. "Street network analysis 'edge effects': Examining the sensitivity of centrality measures to boundary conditions". *Environment and Planning B: Urban Analytics and City Science* 44 (5), pp. 819-836. doi:10.1177/0265813516650678
- 2017 Serra, M., Gil, J. and Pinho, P. "Towards an understanding of morphogenesis in metropolitan street-networks." *Environment and Planning B: Urban Analytics and City Science* 44 (2), pp. 272-293. doi:10.1177/0265813516684136
Jorge Gil: Conceptualization, Methodology, Writing
- 2014 Gil, J. "Analyzing the Configuration of Multimodal Urban Networks". *Geographical Analysis* 46, pp. 368–391. doi:10.1111/gean.12062
- 2014 Gil, J. and Read, S., "Patterns of sustainable mobility and the structure of modality in the Randstad city-region". *AIZ ITU Journal of the Faculty of Architecture* 11 (2), pp. 231–254.
- 2013 Gil, J. and Duarte, J. P. "Tools for Evaluating the Sustainability of Urban Design: a Review." *Proceedings of the ICE - Urban Design and Planning* 166 (6), pp. 1–15. doi:10.1680/udap.11.00048.
- 2012 Gil, J., Beirão, J. N., Montenegro, N. and Duarte, J.P. "On the discovery of urban typologies: data mining the many dimensions of urban form", *Urban Morphology* 16 (1), pp. 27-40
- 2010 Beirão, J.N., Duarte, J.P., Montenegro, N., Gil, J. "Monitoring Urban Design Through Generative Design Support Tools: A Generative Grammar for Praia." *Architecture and Modern Information Technologies* 2(11): 1–25.
Jorge Gil: Conceptualization, Methodology, Writing

Edited Journals

- 2020 Gil, J. "City Information Modelling: Digital Planning for Sustainable Cities". *Built Environment*, 46(4), pp. 497-500 (*Editorial*) <https://doi.org/10.2148/benv.46.4.497>
- 2019 Gil J "Inventing future cities by Michael Batty". *Urban Morphology* 23:181–182 (*Book Review*)

Books

- 2016 Gil, J. *Urban Modality: Modelling and evaluating the sustainable mobility of urban areas in the city-region*. PhD Thesis, Delft, The Netherlands: A+BE | Architecture and the Built Environment. doi:10.7480/abe.2016.1.1138

Book Chapters

- 2019 Nilsson L, Gil J "The Signature of Organic Urban Growth - Degree distribution patterns of the city's street network structure". In: D'Acci L (ed) *The Mathematics of Urban Morphology*, 1st Edition. Birkhäuser, Cham, Basel, pp 93–121
Jorge Gil: Conceptualization, Methodology, Formal analysis, Writing
- 2018 Sileryte, R., Gil, J., Wandl, A., Timmeren, A. van. "Introducing Spatial Variability to the Impact Significance Assessment". in: *Geospatial Technologies for All*, Lecture Notes in Geoinformation and Cartography. Springer, pp. 189–209.
Jorge Gil: Conceptualization, Methodology, Writing
- 2015 Gil, J. "Building a Multimodal Urban Network Model Using OpenStreetMap Data for the Analysis of Sustainable Accessibility". In: *OpenStreetMap in GIScience: Experiences, Research, Applications*, Lecture Notes in Geoinformation and Cartography. Springer, pp. 229–251
- 2012 Duarte J.P., Beirão J.N., Montenegro N., Gil, J. "City Induction: A Model for Formulating, Generating, and Evaluating Urban Designs." In: *Arizona SM, Aschwanden G, Halatsch J, et al. (eds), Digital Urban Modeling and Simulation, Communications in Computer and Information Science*, Springer Berlin Heidelberg, pp. 73–98.
Jorge Gil: Conceptualization, Methodology, Writing

Refereed Conference Proceedings

- 2020 Cohen, J., & Gil, J. "Mapping the spatial distribution of the effects of urban traffic congestion: Methodological exploration using web based services". BEYOND 2020, Gothenburg, Sweden.
- 2020 van Eldijk, J., & Gil, J. "The social dimension of barrier effects of transport infrastructure". BEYOND 2020, Gothenburg, Sweden.
- 2020 Liao Y, Gil J, Pereira R, Yeh S, Verendel V "Private Car vs Public Transit: Spatiotemporal Variations of Travel Time in Cities Using Emerging Data Sources". in: *2020 Transportation Research Board Annual Meeting*, Washington D.C., USA
- 2019 Manum B, Nordstöm T, Arnesen P, Cooper C, Gil J, Dahl E, Chan R, Rokseth L, Green S "Using Realistic Travel-time Thresholds in Accessibility Measures of Bicycle Route Networks". In: *Proceedings of the 12th International Space Syntax Symposium*. Jiaotong University, Beijing, China, pp 238.1-238.14
- 2018 Song Y, Gil J, Wandl A, Timmeren A van "Evaluating sustainable urban development using urban metabolism indicators in urban design". *EUROPA XXI* 34:05–22 . <https://doi.org/10.7163/Eu21.2018.34.1>

- 2018 Manum, B., Arnesen, P., Nordström, T., Gil, J. "Improving GIS-based Models for Bicycling Speed Estimations", in: *European Transport Conference*, Association for European Transport, Dublin, Ireland.
- 2017 Song Y, Gil J, Wandl A, Van Timmeren A. "Improving sustainable urban development using urban metabolism indicators". Warsaw Regional Forum 2017, Warsaw, Poland
- 2017 Berghauser-Pont, M., Stavroulaki, G., Gil, J., Marcus, L., Serra, M., Hausleitner, B., Olsson, J., Abshirini, E., Dhanani, A. "Quantitative Comparison of Cities: Distribution of street and building types based on density and centrality measures", in: *Proceedings of the 11th Space Syntax Symposium*. Universidade de Lisboa, IST, Lisbon, Portugal, p. 44.1-44.18.
- 2017 Kolovou, I., Gil, J., Karimi, K., Law, S., Versluis, L., "Road Centre Line Simplification Principles for Angular Segment Analysis", in: *Proceedings of the 11th Space Syntax Symposium*. Universidade de Lisboa, IST, Lisbon, Portugal, p. 163.1-163.16.
- 2017 Manum, B., Nordström, T., Gil, J., Nilsson, L., Marcus, L.. "Modelling Bikeability: Space syntax based measures applied in examining speeds and flows of bicycling in Gothenburg", in: *Proceedings of the 11th Space Syntax Symposium*, Universidade de Lisboa, IST, Lisbon, Portugal, p. 89.1-89.16.
- 2017 Nilsson, L., Gil, J. "Finding the Secret Formula: How can we quantitatively understand cities' growth, based on their street network structure?", in: *Proceedings of the 11th Space Syntax Symposium*. Universidade de Lisboa, IST, Lisbon, Portugal, p. 97.1-97.13.
- 2017 Read, S., Gil, J. "Modality Environments: A Concept For Sustainability And Vitality In The Multi-Modal City", in: *Proceedings of the 11th Space Syntax Symposium*. Universidade de Lisboa, IST, Lisbon, Portugal, p. 105.1-105.11.
- 2015 Gil, J. "Examining 'Edge Effects': Sensitivity of Spatial Network Centrality Analysis to Boundary Conditions". In: *Proceedings of the 10th International Space Syntax Symposium*, University College London, London, UK.
- 2015 Gil J., Varoudis T, Karimi K, and Penn, A. 'The Space Syntax Toolkit: integrating depthmapX and exploratory spatial analysis workflows in QGIS.' In: *Proceedings of the 10th International Space Syntax Symposium*, University College London, London, UK.
- 2014 Serra M, Gil J and Pinho P "Unsupervised classification of evolving metropolitan street patterns." In: *New urban configurations*, Delft, The Netherlands: IOS Press, pp. 160–167.
- 2013 Gil, J. and Read, S. "Patterns of sustainable mobility and the structure of modality in the Randstad city-region." In: Kim YO, Park H-T, and Seo KW (eds), *Proceedings of the Ninth International Space Syntax Symposium*, Seoul: Sejong University, pp. 027:1–027:22.
- 2013 Read, S. and Gil, J. "Central places and modality environments: An historical architecture of urban places." In: Kim YO, Park H-T, and Seo KW (eds), *Proceedings of the Ninth International Space Syntax Symposium*, Seoul: Sejong University, pp. 051:1–051:14.
- 2013 Serra, M., Gil, J. and Pinho, P. "Unsupervised classification of evolving metropolitan street patterns." In: Kim YO, Park H-T, and Seo KW (eds), *Proceedings of the Ninth International Space Syntax Symposium*, Seoul, South Korea: Sejong University, pp. 046:1–046:13.

- 2012 Gil, J. and Read, S. "Measuring sustainable accessibility potential using the mobility infrastructure's network configuration." In: Proceedings of the 8th International Space Syntax Symposium, Santiago, Chile: Pontificia Universidad Catolica de Chile, pp. 8104:1–8104:19.
- 2012 Gil, J. "Integrating public transport networks in the axial model." In: Proceedings of the 8th International Space Syntax Symposium, Santiago, Chile: Pontificia Universidad Catolica de Chile, pp. 8103:1–8103:21.
- 2012 Read, S. and Gil, J. "Amsterdam and its region as a layering of socio-technical systems." In: Proceedings of the 8th International Space Syntax Symposium, Santiago, Chile: Pontificia Universidad Catolica de Chile, pp. 8119:1–8119:16.
- 2011 Gil, J., Almeida, J. and Duarte, J.P. "The backbone of a City Information Model (CIM): Implementing a spatial data model for urban design". In: Proceedings of the 29th eCAADe Conference 2011, Ljubljana, Slovenia, pp. 143-151
- 2011 Serra, M., Gil, J. and Pinho, P. "Challenges of Portuguese urban planning instruments and practice: Demonstrating a DSS integrating space syntax." In: Proceedings of 7VCT, Lisbon, Portugal.
- 2010 Gil, J., Beirão, J., Montenegro, N. and Duarte, J. P., "Assessing computational tools for urban design: Towards a 'City Information Model'" in *Proceedings of the 28th Conference on Education in Computer Aided Architectural Design in Europe, eCAADe 2010*, Zurich, Switzerland
- 2010 Gil, J. and Duarte, J.P. "A review of urban design sustainability evaluation tools." In: Timmermans HJP and Vries B de (eds), 10th International Conference on Design & Decision Support Systems in Architecture and Urban Planning, Eindhoven, The Netherlands: Eindhoven University of Technology.
- 2009 Gil, J., Tobari, E., Lemlij, M., Rose, A., Penn, A. "The Differentiating Behaviour of Shoppers: Clustering of Individual Movement Traces in a Supermarket". In: Proceedings of the 7th International Space Syntax Symposium, KTH Stockholm, Sweden
- 2009 Beirão, J.N., Montenegro, N., Gil, J. and Duarte, J.P. "The city as a street system: A street description for a city ontology." In: Proceedings of the 13th Congress of the Iberoamerican Society of Digital Graphics, Sao Paulo, Brazil.
- 2009 Gil, J., Montenegro, N.C., Beirão, J.N. and Duarte, J.P. "On the Discovery of Urban Typologies: Data Mining the Multi-dimensional Character of Neighbourhoods." In: *Computation: The New Realm of Architectural Design*, Istanbul, Turkey: Istanbul Technical University, pp. 269–278.
- 2008 Gil, J. and Duarte, J.P. "Towards an Urban Design Evaluation Framework", in *Architecture in Computro*, Antwerpen, Belgium, pp. 257–264
- 2008 Chiaradia, A., Schwander, C., Gil, J., Friedrich, E., Gosset, A. "Mapping the intangible value of urban layout (i-VALUL): Developing a tool kit for the socio-economic valuation of urban areas, for designers and decision makers". In Timmermans, H. and de Vries, B. (eds.) 9th International Conference on Design & Decision Support Systems in Architecture and Urban Planning, Eindhoven University of Technology, The Netherlands
- 2008 Gil, J. and Steinbach, P. "From flood risk to indirect flood impact: evaluation of street network performance for effective management, response and repair". In: *Flood Recovery, Innovation and Response*, Wessex Institute of Technology Press, London, UK, pp. 335–345

- 2007 Raford, N., Chiaradia, A., Gil, J. "Space Syntax: The Role of Urban Form in Cyclist Route Choice in Central London," Safe Transportation Research & Education Center, Institute of Transportation Studies, UC Berkeley.
- 2007 Gil, J., Stutz, C., Chiaradia A. "Confeego: Tool Set for Spatial Configuration Studies". In: Turner A (ed.), *New Developments in Space Syntax Software*, Istanbul, Turkey: Istanbul Technical University, pp. 15–22
- 2005 Raford, N., Chiaradia, A., Gil, J., "Critical Mass: Emergent cyclist route choice in central London". In: Proceedings of the 5th International Space Syntax Symposium, TU Delft, Faculty of Architecture, The Netherlands

Reports

- 2019 Gil, J. "A Blended Learning Approach to Introduce GIS in Urban Studies: Developing an On-line Knowledge Base for Acquiring Essential Skills", Chalmers University of Technology

PUBLIC LECTURES

Invited speaker

- 05/09/2019 "Merging Transport Planning with Urban Design: a theoretical proposal and some examples", with Lars Marcus. *Transport Area of Advance Transport - lunch seminar*, Chalmers University of Technology, Gothenburg, Sweden
- 29/01/2019 'Exploring disaggregate network definitions of the Randstad from functional, morphological and services perspectives', RSA Workshop - Conceptualising, identifying and analysing polycentric urban regions, TU Delft, The Netherlands
- 19/10/2018 'Understanding urban space and flows in relation to freight transport', with Ivan Sanchez-Diaz, *VREF Conference on Urban Freight*, Gothenburg, Sweden
- 25/04/2018 'Integrating public transport in the models of spatial form', *SMoG Presents - The International Spatial Morphology Lab*, Chalmers University of Technology, Gothenburg, Sweden
- 25/04/2017 'Urban modality: integrated approaches for sustainable urban mobility', *Transport Area of Advance Transport - lunch seminar*, Chalmers University of Technology, Gothenburg, Sweden
- 05/05/2016 'Performative urban design and planning', *Seminar Living Urbanism – Arena Multidisciplinare*, workshop organised by Fondazione per l'Architettura, Ordine degli Architetti, Provincia di Torino, Italy
- 26/08/2015 'Multimodal Urban Networks: Modelling approaches and challenges', *SMoG International Workshop 2015: Models and Measures*, Department of Architecture, Chalmers University of Technology, Gothenburg, Sweden
- 05/06/2015 'Urban form and multi-modal mobility patterns', *Modelling World X*, Kia Oval, London
- 17/03/2015 'City Information Modelling', *Towards an extended network-based description for BIM & Smart Cities*, workshop at Space Syntax Ltd, London
- 06/02/2014 'Universalidade e instrumentalidade das redes: infra-estruturas, estruturas, teorias e modelos', *4th Meeting - Design and Computation Group*, Faculty of Architecture, University of Lisbon, Portugal

- 25/06/2013 'The Backbone Of City Information Modelling (CIM) – Spatial data models and tools for urban design', *Pedagogy meets Big Data and BIM*, international conference by The Bartlett, UCL, London
- 10/02/2008 'Parametric and performative Urban design', *SmartGeometry Workshop 2008*, Munich, Germany

Seminars

- 11/05/2012 'Modality Environments: Measuring the multi-modal accessibility of urban areas', *Measuring urbanity: Densities, networks and urban fabrics*, seminar at CIAUD, Faculty of Architecture, TU Lisbon, Portugal
- 17/04/2012 'The ubiquity of the networks – infrastructures, structures and models', *Cities and complexity: the power of the network*, seminar at ISCTE, Lisbon, Portugal
- 10/01/2012 'Urban Form And The Multi-Modal Mobility Networks – Evaluating the sustainable mobility of the city-region', *Space Syntax Workshop* at PROPUR, Faculty of Architecture UFRGS, Porto Alegre, Brazil
- 12/05/2011 "Evaluation of Urban Designs integrating CAD and GIS Technologies", *Geomatic Technology lunch time seminar*, OTB, TU Delft, The Netherlands
- 22/11/2008 'A GIS platform for the analysis of urban configuration and performance'; 'City Induction Evaluation Module', *New methods in urban simulation*, workshop by the Chair of Information Architecture, ETH Zurich, Switzerland

Conference Communications

- 02/11/2020 Orsi, F., Soares Cavaco, C. Gil, J. "From Territorial Capital to a Decision Support Framework for Regional Design". in *Regional Design: A Transformative Approach to Planning* by AESOP Thematic Group on Regional Design, University of Florence
- 11/07/2018 'Street Networks Alternative models, measures & their merits', AESOP Annual Congress 2018, Gothenburg, Sweden
- 30/08/2017 'Exploring the relationship between urban form and freight trip generation', RGS IBG Annual International Conference 2017, London, UK
- 12/07/2014 'Evaluating The Differentiated Mobility Performance Of Vinex Neighbourhoods', AESOP Annual Congress 2014 - From Control To Co-Evolution, Utrecht, The Netherlands
- 30/08/2013 'Open Data For Big Multi-Modal Network Models: Headaches and Joys', RGS IBG Annual International Conference 2013, London, UK
- 23/08/2013 'Analysing the Configuration of Integrated Multimodal Urban Networks' ICA Workshop on Street Networks and Transport, Dresden, Germany
- 22/07/2013 'Measuring the sustainable mobility potential of TOD neighbourhoods in the city region', AESOP Annual Congress 2013 - Planning for Resilient Cities and Regions, Dublin, Ireland
- 27/06/2013 'Measuring The Sustainable Mobility Potential Of Tod Neighbourhoods In The City-Region' Applied Urban Modelling AUM2013 – Productive, liveable and sustainable city regions, CRASSH – Centre for Research in the Arts, Social Sciences and Humanities, University of Cambridge, UK

ASSIGNMENTS**PhD Committee**

- 2020 José Carpio Pinedo, Universidad Politécnica de Madrid, Programa de Doctorado en Sostenibilidad y Regeneración Urbana, "Spaces of Consumption in the Mobile Metropolis: symbolic capital, multi-accessibility and spatial conditions for social interaction."
- 2018 Diogo Pires Ferreira, Scuola di Dottorato, Università IUAV di Venezia, "City & Spoke: mass transit isotropy"
- 2018 Ljiljana Cavic, Faculty of Architecture, University of Lisbon, "UrbArch Emptiness - Lisbon Riverside. From theoretical foundation to analytical application by 3D Solid Representations of Open Public Spaces"

Research Council Panel

- 2017 Israel Ministry of Science, Technology and Space, Call for Research Proposals PER 13
- 2019 Czech Science Foundation
- 2020 Swedish Vetenskapsrådet, "IPD-NT2: Internationell postdok NT 2 2020"
- 2020 Academy of Finland, Human Geography & Development

Reviewer for Journals Applied Geography (ISSN 0143-6228); Applied Spatial Analysis and Policy (ISSN 1874-463X); Arabian Journal of Geosciences (ISSN 1866-7511); Area (ISSN 0004-0894); Asian Transport Studies (ISSN 2185-5560); Automation in Construction (ISSN 0926-5805); Behavioral Sciences (ISSN 2076-328X); Built Environment (ISSN 0263-7960); Cities (ISSN 0264-2751); Journal of Computational Science (ISSN 1877-7503); Computers Environment and Urban Systems (ISSN 0198-9715); Environment and Planning B (ISSN 0265-8135); Environment, Development and Sustainability (ISSN 1387-585X); Habitat International (ISSN 0197-3975); International Journal of Geographical Information Science (ISSN 1365-8816); ISPRS International Journal of Geo-Information (ISSN 2220-9964); Lecture Notes in Geocomputation and Cartography (ISSN 1863-2246); Planning Practice & Research (ISSN 0269-7459); Review of Regional Research (ISSN 0173-7600); Safety (ISSN 2313-576X); Science of the Total Environment (ISSN 0048-9697); Scientific Reports (ISSN 2045-2322); Smart Infrastructure and Construction (ISSN 2397-8759); Sustainability (ISSN 2071-1050); Sustainable Cities and Society (ISSN: 2210-6707); Journal of Transport Geography (ISSN 0966-6923); Journal of Transport and Land Use (ISSN 1938-7849); Transportation Research Part A: Policy and Practice (ISSN 0965-8564); Journal of Traffic and Transportation Engineering (ISSN 2095-7564); Transactions in GIS (ISSN 1467-9671); Journal of Urban Affairs (ISSN 0735-2166); ICE - Urban Design and Planning (ISSN 1755-0793); Urban Morphology (ISSN 1027-4278); Urban Planning (ISSN 2183-7635); Urban Science (ISSN 2413-8851); Urban Studies (ISSN 0042-0980); Urbe (ISSN 2175-3369)

Conference Scientific Committee International Space Syntax Symposium (2015, 2017); SimAUD 2016; NAF/NAAR Symposium 2018; 5th Symposium Formal Methods in Architecture 2020; BEYOND2020; International Conference on Computational Science and Its Applications (ICCSA 2020)