

**U.** PORTO



FACULDADE DE ARQUITECTURA  
UNIVERSIDADE DO PORTO

# CURRICULUM VITAE

João Pedro Xavier

Faculty of Architecture at the University of Porto

Porto, 2019

## 1. Personal data

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Name:

**João Pedro Sampaio Xavier**

Name under which you publish:

**João Pedro Xavier**

**Xavier, J.P.**



Parents:

**Fernando Cristóvão Xavier and Maria de Lourdes da Cruz Sampaio Silva**

ID Card, validity

**06067270 6 ZX1, 2028.04.19**

Fiscal ID number

**158747534**

Birthday and birthplace:

**30<sup>th</sup> October 1961, Alcântara, Lisboa**

Marital status:

**Married with Isabel Maria Ruivo Domingos**

Children / Stepchildren

**João Cristóvão (30), Pedro Afonso (22) / Maria João (39)**

Profession

**Professor / Architect**

Home address:

**Rua Prof. Rocha Pereira, 165 – 6 D**

**4250-007 Porto**

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**Faculdade de Arquitectura da Universidade do Porto**

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**[https://sigarra.up.pt/faup/funcionarios\\_geral.formview?p\\_codigo=227447](https://sigarra.up.pt/faup/funcionarios_geral.formview?p_codigo=227447)**

## 2. Academic degrees

**Year:** 2017

**Degree:** AGREGAÇÃO

**Final grade:** Unanimously approved/Unanimously approved

**Degree granting institution:** Universidade do Porto

**School:** Faculdade de Arquitectura

**Scientific area:** Architecture

**Year:** 2005

**Degree:** DOUTORAMENTO (Ph.D.)

**Final grade:** Unanimously approved/Unanimously approved

**Degree granting institution:** Universidade do Porto

**School:** Faculdade de Arquitectura

**Thesis title:** Sobre as origens da perspectiva em Portugal

**Supervisor:** Professor Arquitecto Alexandre Alves Costa

**Scientific area:** Architecture

**Year:** 1996

**Degree:** ASSISTANT TEACHER

**Final grade:** Very Good/Very Good

**Degree granting institution:** Universidade do Porto

**School:** Faculdade de Arquitectura

**Thesis title:** Perspectiva, Perspectiva Acelerada e Contraperspectiva

**Supervisor:** Professor Arquitecto Alexandre Alves Costa

**Scientific área:** Architecture

**Number of curricular years:** 4

**Program title:** Arquitectura

**Year:** 1986

**Degree:** LICENCIATURA (BACHELOR)

**Final grade:** 16/20

**Degree granting institution:** Universidade do Porto

**School:** Faculdade de Arquitectura

**Thesis title:** A Recuperação e Reutilização do Teatro Viriato de Viseu

**Supervisor:** Professor Arquitecto Alexandre Alves Costa

**Co-supervisor:** Theater Stage Director Ricardo Pais

**Scientific area:** Architecture

**Number of curricular years:** 6

**Program title:** Arquitectura

### **3. Previous activity and current status**

#### **a) Job role at FAUP**

12.12.2018 –

Dean

28.5.2010 – 11.12.2018

Vice-Dean

26.3.2010 – 11.12.2018

Vice-President of the Scientific Council

15.9.2008 – 25.3.2010

Member of the Scientific Council

30.6.2008 – 11.12.2018

Member of the Scientific Committee, Ph.D. Program in Architecture

1.09.1994 – 31.8.1998

Secretary of the Pedagogical Council

#### **b) Teaching activity**

15.9.2014 – 31.8.2015

Responsible of the course "Geometry and Spatial Systems" in the Advanced Studies Program on Digital Architecture, ISCTE-IUL

1.9.2013 –

Responsible of the courses "Geometry and Architecture", 1st year, "Constructive Geometry 1" and "Constructive Geometry 2", 3rd year, Integrated Master in Architecture, FAUP

1.9.2009 –

Responsible of the courses "Geometry and Architecture" and "Constructive Geometry", 3rd year, Integrated Master in Architecture, FAUP

15.10.2008 –

Responsible of the course "Architecture and Mathematics", PhD Program in Architecture, FAUP

1.9.2005 – 30.8.2011

Responsible of the course "Geometry", 1st year

1.9.1996 – 31.8.1999

Responsible of the course "Geometry", 1st year (replacing Arch. Vítor Murtinho), DARQ-FCTUC

1.9.1996 – 31.8.2005

Junior Teaching Assistant, "Geometry", 1st year, FAUP

11.11.1991 – 13.5.1996

Junior Teaching Assistant (Trainee), "Geometry", 1st year, FAUP

1.9.1989 – 10.11.1991

Junior Teaching Assistant, "Geometry I" (1st year) and "Geometry II" (2nd year) of the Graduate Degree in Painting, Sculpture and Design, ESBAP

1.9.1987 – 31.8.1989

Junior Teaching Assistant (Trainee) "Geometry I" (1st year) and "Geometry II" (2nd year) of the Graduate Degree in Painting, Sculpture and Design, ESBAP

1.9.1985 – 31.8.1986

Student Assistant to "Geometry 2", 2nd year, Graduate Degree in Architecture, ESAP

### **c) Category at FAUP**

15.7.2019

Ranked 1<sup>st</sup> place in Full Professor Competition

28.9.2012 –

Associate Professor

28.1.2005 – 27.9.2012

Assistant Professor

1.9.1996 – 27.1.2005

Junior Teaching Assistant

11.11.1991 – 31.8.1996

Junior Teaching Assistant (Trainee)

### **4. Area of scientific activity**

Digital Fabrication Laboratory (DFL)

Architecture: Project, Theory, History (A:TPH)

### **5. Domain of specialization**

#### **Domain of specialization**

Architecture, Art and Science.

#### **Current research interests**

Perspective and Architecture, Geometry and Architecture and, more widely, the relationship between Architecture and Mathematics. Architecture and Music. Architecture and Digital Fabrication. Architecture and pedagogy.

#### **Other professional interests/activities**

\_Colaboration with Álvaro Siza, in the following projects: Salemi, Parco Urbano, Napoli, Interventi per il progetto, Pozzuoli; Napoli, Interventi nel quartiere Pendino; Casino Winkler, Salzburgo; Escola Superior de Educação de Setúbal; Habitação Evolutiva e Eixo Norte-Sul, Malagueira, Évora; Faculdade de Arquitectura da Universidade do Porto; Casa Bahía, Gondomar; Edifício Comercial REVIGRÉS, Águeda (1986-1999);

\_Principal architect at «João Pedro Xavier – Arquitecto» (see *Portfolio* in annex);

\_Correspondent Editor of the *Nexus Network Journal*;

\_Member of the Executive Board of *RESDOMUS*, an architectural journal published by FAUP.

\_Member of the Scientific Committees of International Conferences: *Geometria nas Faculdades de Belas Artes e de Design Gráfico – Encontro Lusófono de Faculdades Parceiras*, *Nexus: Relationships between Architecture and Mathematics*, *Geometrias*, *Congresso Luso-Brasileiro de História da Construção*;

\_Reviewer of several scientific journals.

## 6. Experience as supervisor

### a) Post-Doc

\_Isabel Clara Neves da Rocha Marques

"A Construção de uma Perspectiva Computacional na Arquitectura. O Contraponto Português".

Scholarship in Architecture, FCT SFRH/BPD/115008/2016

\_Eliana Manuel de Matos Oliveira Pinho

"Padrões geométricos em mosaicos e casas romanas de Portugal";

"A Geometria Descritiva (GD) na formação dos arquitectos em Portugal".

Scholarship in History of Science, FCT SFRH/BPD/61266/2009, scientific domain History of Mathematics/Mathematics and Architecture. FAUP, 2009-2015.

### b) Ph.D.

\_Maria Alexandra Correia de Castro, "Geometria, Desenho e Projecto na Arquitectura Contemporânea". Contributo para a revisão do ensino universitário da Geometria (ongoing).

\_Vera Lúcia Viana Lopes, "Ensinar e Aprender Geometria Descritiva" (ongoing)

\_Filipe Vasco Costa de Salis Amaral, "A relação enquanto propriedade nova da Rua Nova de São João: continuidades e rupturas na ontogénese da arquitectura da rua". FAUP, 2017.

\_João Paulo Cabeleira Marques Coelho, "Arquitecturas imaginárias: espaço real e ilusório no barroco português".

Scholarship in History of Science approved, FCT SFRH/BD/61583/2009, scientific domain drawing/Architecture. EAUM, 2016.

### c) Master

\_Maria Francisca Barbosa Guimarães Mesquita, "Saber Fazer Arquitectura – Da didáctica à prática num paralelo entre Porto e Oslo". FAUP, 2019.

\_Ana de Vasconcelos Dias Aroso, "Cruzamento e Dualidade entre Arquitectura e Música ao longo dos diferentes períodos históricos, desde a Antiguidade até aos nossos dias", FAUP, 2018.

\_Tiago Manuel Silva Azevedo, "Ilusões Espaciais - Um exercício de composição tridimensional".

\_Miguel Valido Chaves Pereira, "O Traço Divino – a geometria como instrumento de sacralização do espaço na igreja de Santa Maria Maior". FAUP, 2015.

\_Sónia Maria de Jesus Santos, "Arquitectura e Som: O Órgão de Tubos Mafra: Um Instrumento Musical Arquitectónico". FAUP, 2015.

\_Sofia Martins da Cunha, "Kalevan Kirkko (A igreja de Kalevan)". FAUP, 2014.

\_Pedro Freire Oliveira, "A questão do espaço central na obra de Louis Kahn". FAUP, 2014.

\_Mariana Marques Guardado, "Steven Holl, a Poética do Concreto". FAUP, 2013.

- \_Mariana Barbosa, “Frozen Music”. FAUP, 2012.
- \_Vasco Gomes, “Sistemas Proporcionais como metodologia de sistematização Projectual”. FAUP, 2012.
- \_David Porcher, “Arquitectura Pós-Gutenberg: Comunicação Imagem e Sociedade de Consumo”. FAUP, 2012.
- \_Ricardo Ruivo Pereira, “Boullée, A Grande Ideologia. Breve história política de 300 anos de arquitectura burguesa”, FAUP, 2011.
- \_Luísa de Fátima Gonçalves Nunes, “A intencionalidade na arquitectura vernacular – os impérios”, FAUP, 2011.
- \_Luís Jorge Peixoto de Almeida Soares, ““Ilusão” em Arquitectura. Alguns pontos sobre a manipulação da percepção”, FAUP, 2011.
- \_António Miguel Moreira Ferreira Marques, “Arquitectura e Música. Uma reflexão sobre a influência recíproca entre o espaço e o som”, FAUP, 2011.
- \_Carla Sofia Cruz da Rocha Viana, “Da ideia à concretização: o exemplo da FAUP como paradigma”. FAUP, 2010.
- \_Débora Marta Silva Moreira, “Ermida de Nossa Senhora do Monte da Quinta da Penha Verde”. FAUP, 2010.

#### **d) Graduate Degree (FAUP 6<sup>th</sup> year final dissertation)**

- \_Luís António Sá Lopes Tavares Caló, "Três fortificações militares entre as fozes dos rios Âncora e Lima". FAUP, 2009.
- \_Leonhard Raimund Richter-Trummer, "As (Novas) Tecnologias (Informáticas) no Projecto de Arquitectura: consequências da evolução tecnológica na produção da forma arquitectónica. Entre Nuvens e Cristais: uma análise centrada no atelier austríaco Coop Himmelb(l)au". FAUP, 2008.
- \_Bruno Vassalo Russo, "Geometria e concepção do espaço". FAUP, 2007.
- \_Pedro Augusto de Azambuja Varela, "Espaços de planta elíptica na arquitectura religiosa: o caso da Igreja dos Clérigos no Porto". FAUP, 2006.
- \_Edgar Marinho, "A operatividade da Geometria no processo projectual". FAUP, 2006.
- \_Marcelo José Queirós Magalhães, “A arquitectura da natureza e a natureza da arquitectura... ordem, desordem e auto-organização". FAUP, 2006.

### **7. Participation in R&D projects**

- \_Coordinator of the research area "Architecture and Mathematics" at the Centre of Studies of Architecture and Urbanism (CEAU/FAUP).
- \_Architectural Perspective: digital preservation, content access and analytics.  
Italian National Research Call PRIN 2010-2011.  
In partnership with INDACO Department's Research Unit – Politecnico di Milano (Itália), Technische Universität Kaiserslautern (Alemanha), Leibniz Zentrum für Informatik Universität Trier (Alemanha), Newcastle University (Reino Unido) and the Faculty of

Engineering-Architecture of the “Ecole Spéciale de Travaux Publique de Paris” – ESTP (França).

Principal Investigator: Professor Riccardo Migliari.

\_Research Project: Towards a history of Descriptive Geometry in Portugal. Its impact in the architectural apprenticeship: from the Beaux-Arts Academies to the Faculties of Architecture.

Principal Investigator: João Pedro Xavier

Main colaborator: Eliana Manuel Pinho, Ph.D.

\_Research project "Robotic Technologies for Non-Standard Design and Construction in Architecture" (FCT: PTDC/ATP-AQI/5124/2012).

Principal Investigator: Prof. José Pedro de Sousa.

\_Research Project: “Siza Professor”. CEAU/FAUP.

Principal Investigator: João Pedro Xavier

Co-Principal Investigator: Filipa Castro Guerreiro

## 8. Prizes and awards received

### a) Prizes

**Year:** 2018

**Name of the prize or award:** Program of Pedagogical Excellency

**Project:** “Uma janela aberta para a geometria” (An open window to geometry).

**Promoting entity:** University of Porto

**Year:** 1986

**Name of the prize or award:** Eng. António de Almeida

**Promoting entity:** Fundação Eng. António de Almeida

**Year:** 1985

**Name of the prize or award:** Florêncio de Carvalho

**Promoting entity:** Rotary Club do Porto Douro

### b) Scholarships

\_ERASMUS+ 2017/2018 Program Grant - Staff Mobility for Teaching  
Fachbereich Architektur Technische Universität Kaiserslautern. 2018.

\_LLP/ERASMUS Program Grant for the Mobility Organization.

Aalto University, Tampere University of Technology, University of Oulu, 2011.

\_LLP/ERASMUS Program Grant - 2008/2009. Teaching Staff Mobility.

Politecnico di Milano, Facoltà del Design, 2008.

\_LLP/ERASMUS Program Grant - 2007/2008. Teaching Staff Mobility.



Università degli Studi di Firenze, Facoltà di Architettura, 2008.

\_Travel grant, provided by FAUP, to visit the exhibition “Nel Segno di Masaccio” at the Gallerias Uffizi, Florence, 2002.

\_Short scholarship granted by the Rector's Office of the University of Porto to attend the “XXV Corso di Architettura” Andrea Palladio promoted by the Centro Andrea Palladio in Vicenza, 1993.

## 9. Published works

### Thesis

XAVIER, J.P., *Sobre as origens da perspectiva em Portugal: O «Liuro de Prespectiua» do Códice 3675 da Biblioteca Nacional, um «Tratado de Arquitectura do século XVI»*. FAUP, 2004. Ph.D. Dissertation, FAUP.

XAVIER, J.P., *Perspectiva, Perspectiva Acelerada e Contraperspectiva – Dos enganos e “dezenganos” da vista*. FAUP: 1995. Scientific work produced for the Exams on Pedagogical Aptitude and Scientific Capacity, FAUP.

XAVIER, J.P., *Recuperação e reutilização do Teatro Viriato de Viseu*. FAUP: 1985-86. Report of the pre-professionalization Seminar.

### Books

XAVIER, J.P., *Sobre as origens da perspectiva em Portugal: O «Liuro de Prespectiua» do Códice 3675 da Biblioteca Nacional, um «Tratado de Arquitectura do século XVI»*. Porto: FAUP Publicações, 2006.

XAVIER, J.P., *Perspectiva, Perspectiva Acelerada e Contraperspectiva – Dos enganos e “dezenganos” da vista*. Coleção Escola, série 3, nº 2. Porto: FAUP Publicações, 1997.

XAVIER, J.P., SILVA, A., TEIXEIRA, A., AFONSO, S., *O Edifício da Faculdade de Ciências do Porto - Evolução de um projecto*. Porto: FAUP Publicações, Série 3 – Manual / Escola / Divulgação, nº 1, 1994.

### Book chapters

XAVIER, J.P., “Presentazione (Preface)”. Alessandra Capanna, Giampiero Mele (Eds.), RPR. *Rilievo, Progetto, Riuso*. Lecce: Maggioli Editore, 2017, pp. 5-8.

XAVIER, J.P., CABELEIRA, J.P., “Scenography. Theoretical speculation and practical application through perspective teaching in Portuguese Jesuit colleges”. Ed. Graziano Mario Valenti, *Prospettive Architettoniche: conservazione digitale, divulgazione e studio*, Volume II, Tomo I. Roma: Sapienza Università Editrice, 2016, pp. 119-134. (Riccardo Migliari, *Prospettive Architettoniche*, Esiti del Progetto di Ricerca di Interesse Nazionale PRIN 2010-2011).

XAVIER, J.P., PINHO, E.M., "On the bias passé. The Olivier String Model and the Representation of Constructive Solutions for the Skew Arch". Ed. Giuseppe Amoroso, *Handbook of Research on Visual Computing and Emerging Geometrical Design Tools*.

Advances in Media, Entertainment, and the Arts (AMEA) series. New York: IGI Global Publisher, 2016, pp. 337-366.

XAVIER, J.P., "Perspective in António Rodrigues's Tratado de Arquitectura". K. Williams and M.J. Ostwald (eds.), *Architecture and Mathematics from Antiquity to the Future*. © Springer International Publishing Switzerland 2015, pp. 73-91. DOI 10.1007/978-3-319-00143-2\_5

XAVIER, J.P., "António Rodrigues, a Portuguese Architect with a Scientific Inclination". K. Williams and M.J. Ostwald (eds.), *Architecture and Mathematics from Antiquity to the Future*, © Springer International Publishing Switzerland, 2015, pp. 165-181. DOI 10.1007/978-3-319-00143-2\_11

XAVIER, J.P., "Gli spazi della musica e le musiche dello spazio". Ed. Antonino Margagliotta and Luigi Failla, *Musica, Composizione, Architettura*. Casa Editrice Libria Melfi (Italia), 2013, pp. 58-69.

XAVIER, J.P., "Geometria e proporção". In TAVARES, Domingos, *António Rodrigues. Renascimento em Portugal*. Porto: Dafne Editora, 2007, pp. 103-120.

#### **Papers in international journals with peer review**

XAVIER, J.P., "The Church of Clérigos in Porto as a Baroque Musical Instrument". In *Nexus Network Journal*, vol. 19, no. 2. Basel: Springer International Publishing, 2017, pp. 383-404. Web: <https://doi.org/10.1007/s00004-017-0342-z>

CABELEIRA, J.; XAVIER, J.P., "Projecting an Architectural Perspective: Euclidean Propositions and Common Practices at Gonçalves Sena's Workshop". In *Nexus Network Journal*, vol. 18, no. 3. Basel: Springer International Publishing, 2016, pp. 651-668. Web: <https://doi.org/10.1007/s00004-016-0303-y>

PINHO, E.M., XAVIER, J.P., "Grid-based design in Roman villas: a method of analysis". In *Nexus Network Journal*, vol. 15, no. 1, (Spring 2013), pp. 88-103.

SOUSA, J.P., XAVIER, J.P., "Symmetry-based generative design and fabrication: A teaching experiment". *Automation in Construction*, Volume 51, March 2015, pp. 113-123.

WILLIAMS, K., TAVARES, J.N., XAVIER, J.P., "Nexus 2010: Relationships between Architecture and Mathematics" (Conference Report). In *Nexus Network Journal*, Vol. 13, No. 1, 2011. Birkhäuser Basel. DOI 10.1007/s00004-011-0065-5

XAVIER, J.P., "The Geometry of an Art. The History of Perspective from Alberti to Monge (Kirsti Andersen's Book Review)". In *Nexus Network Journal*, Vol. 12, No. 1, April 2010. Basilea: Birkhäuser Basel, 2010, p. 153-157. Web: <http://dx.doi.org/10.1007/s00004-010-0021-9>

XAVIER, J.P., "Leonardo's Representational Technique for Centrally-Planned Temples", *Nexus Network Journal*, vol. 10 no. 1, Spring 2008, pp. 77-99. Basel, Boston, Berlin: Birkhäuser Verlag, 2008.

XAVIER, J.P., "Review of The Cambridge Companion to Piero della Francesca", *Nexus Network Journal*, vol. 7 no. 1 (Spring 2005), pp. 169-171. DOI 10.1007/s00004-005-0017-z

XAVIER, J.P., "Nel Segno di Masaccio: L'invenzione della prospettiva" (Exhibit review). *Nexus Network Journal*, vol. 5, no. 1 (Winter-Spring 2003).

Web: [http://www.nexusjournal.com/reviews\\_v5n1-Xavier.html](http://www.nexusjournal.com/reviews_v5n1-Xavier.html)

XAVIER, J.P., "Nexus 2002 Post-Conference Excursion: The Monasteries of Alcobça and Batalha", *Nexus Network Journal*, vol. 4, no. 3 (Summer 2002). Web:

<http://www.nexusjournal.com/N2002-excursion.html>"

#### **Papers in national journals with peer review**

XAVIER, J.P., "Uma regra de perspectiva inédita". In *Educação e Matemática*, 95, Novembro-Dezembro. Lisboa: Associação de Professores de Matemática, 2007, pp. 52-58.

XAVIER, J.P., Recensão de "Vitruvius. Tratado de Arquitectura". *Murphy*, 2, Julho. Coimbra: Imprensa da Universidade de Coimbra, 2007, pp. 180-183.

ALCÂNTARA, F., XAVIER, J.P., "O Mosteiro de S. Salvador da Serra como Imago Mundi" in *Revista Monumentos*, nº 9, Setembro. Lisboa: DGEMN, 1998, pp. 25-31.

#### **Papers in proceedings with peer review**

VIANA, V., XAVIER, J.P., AIRES, A.P., CAMPOS, H., "Interactive Expansion of Achiral Polyhedra". In Cocchiarella, Luigi (Ed.), *ICGG 2018 - Proceedings of the 18th International Conference on Geometry and Graphics*. Springer International Publishing, pp. 1116-1128, 2018. Web: <https://www.springer.com/gp/book/9783319955872>

XAVIER, J.P., SOUSA, J.P., CASTRO, A., "Didactic Experiences on Digital Modeling. Anamorphosis". In Cocchiarella, Luigi (Ed.), *ICGG 2018 - Proceedings of the 18th International Conference on Geometry and Graphics*. Springer International Publishing, pp. 1789-1800, 2018. Web: <https://www.springer.com/gp/book/9783319955872>

XAVIER, J.P., "Arquitectura e Matemática em Portugal no séc. XVI. Do Tratado de Arquitectura de António Rodrigues (c. 1576). In Canas, C.C., Domingues, J.C., Saraiva, L. (Eds.). *Actas/Anais do 7º Encontro Luso-Brasileiro de História da Matemática*. Lisboa: SPM, 2018, Vol. I, pp. 25-47.

XAVIER, J.P., PINHO, E.M., "Olivier string models and the teaching of descriptive geometry". In *"Dig where you stand" 4. Proceedings of the Fourth International Conference on the History of Mathematics Education*. Edited by Bjarnadóttir & al. Roma: Edizione Nuova Cultura, 2017, pp. 399-414.

SOUSA, J.P., XAVIER, J.P., "A Fabricação Robótica no Ensino da Arquitetura: Uma Experiência Sobre o Projecto e Construção de Estruturas em Tijolo" (Robotic Fabrication in Architectural Education: An Experience on the Design and Construction of Brick Structures). In *SIGraDi 2015: project information for interaction*, org. Alice T. Cybis Pereira, Regiane T. Pupo. Florianópolis, Universidade Federal de Santa Catarina, 2015, pp. 143-147.

XAVIER, J.P., "Perspectiva e Arquitectura no barroco em Portugal". In *Simposio Internacional la Práctica de la Perspectiva (2008. Granada)*. *La práctica de la perspectiva: perspectiva en los talleres artísticos europeos: actas del Simposio internacional, Granada 2008*. Granada: Universidad de Granada, Editorial Quaderna, 2013, pp. 333-374.

SOUSA, J.P., XAVIER, J.P. (2013): "Symmetry-based generative design: a teaching experiment", *Proceedings of the 18<sup>th</sup> International Conference of the Association for Computer Aided Architectural Design Research in Asia, CAADRIA 2013*, pp. 303-312. National University of Singapore, Singapore.

XAVIER, J.P., PINHO, E.M., "The Roman Villa in Rabaçal and Álvaro Siza", *Proceedings of Bridges 2011: Mathematics, Music, Art, Architecture, Culture*. Edited by Reza Sarhangi and Carlo H. Séquin. Tessellations Publishing, pp. 395-402.

XAVIER, J.P., PINHO, E.M., "The Partial Implantation, at 1:2 Scale, of Rabaçal's Roman Villa", *Proceedings of Bridges 2011: Mathematics, Music, Art, Architecture, Culture*. Edited by Reza Sarhangi and Carlo H. Séquin. Tessellations Publishing, 2011, pp. 693-694.

### **Other publications**

GUIMARÃES, C., XAVIER, J.P., CARNEIRO, L.S., RODRIGUES, J.M., CALIX, T.; ARAÚJO, S., "Faculty of Architecture – University of Porto (FAUP) – Portugal". In Bovati, Marco; Caja, Michele; Del Bo, Adalberto; Landsberger, Martina, *Architectural Education Towards 2030*. Edition 65, EAAE transactions on architectural education. Maglioli Editore, 2015, pp. 170-172.

SOUSA, J.P., XAVIER, J.P., PÓVOAS, R., *RobTech – Task 1.3 – Survey in architectural design and construction*. Report of the Research Project "Robotic Technologies for a Non-Standard Design and Construction in Architecture" supported by FCT. Porto: FAUP and INESC-Tec, 2014.

WILLIAMS, K., XAVIER, J.P., "Leonardo 2013, 3-5 June 2013, Perdizes, Portugal". In *Nexus Network Journal*, April 2014, Volume 16, Issue 1. Basel: Springer Basel, pp 239–246. Web: <https://doi.org/10.1007/s00004-014-0186-8>

XAVIER, J.P., PINHO, E.M., O modelo do 'biais passé' de Théodore Olivier. In *Geometrias'14*, nº 31. Porto: APROGED, 2014, pp. 19-27.

SOUSA, J.P., XAVIER, J.P. (eds.), *Future Traditions. Rethinking traditions and envisioning the future in architecture through the use of digital Technologies*. Proceedings of the 1st eCAADe Regional International Workshop. Porto: FAUP Publicações, 2013.

XAVIER, J.P., LOPES, V., JAKOUBKOVÁ, M., MARCELINO, A., SOARES, J., *Metas de Aprendizagem para a disciplina de Desenho A do Curso Científico-Humanístico do Ensino Secundário*. Lisboa: Direção-Geral de Inovação e Desenvolvimento Curricular, 08/11/2011.

WILLIAMS, K., TAVARES, J.N., XAVIER, J.P., "Nexus 2010: Relationships between Architecture and Mathematics". In *Nexus Network Journal*, April 2011, Volume 13, Issue 1, pp. 1–4.

XAVIER, J.P., Interview to the scientific journal "Nature", no. 7135, 29 March 2007, transcribed in the article "A leap of faith" by Jo Marchant, p. 488-491.

XAVIER, J.P., "Será possível reabilitar o 'método da diagonal' de Dürer?". In *Boletim da APROGED*, nº 24, Setembro de 2005. Porto: APROGED, pp. 19-26.

XAVIER, J.P., REBELO, J., *Programa de Geometria Descritiva. Cursos Profissionais de Nível Secundário*. Lisboa: DGFV, 07/09/2005.

XAVIER, J.P., REBELO, J., *Programa de Geometria Descritiva A do 10º e 11º ou 11º e 12º anos do Ensino Secundário Recorrente*. Lisboa: DGDIC, 20/06/2005.

XAVIER, J.P., REBELO, J., *Programa de Geometria Descritiva B do 10º e 11º ou 11º e 12º anos do Ensino Secundário Recorrente*. Lisboa: DGDIC, 20/06/2005.

XAVIER, J.P., REBELO, J., *Programa de Geometria Descritiva B do 10º e 11º anos do Ensino Secundário*. Lisboa: DGIDC, 05/03/2001.

XAVIER, J.P., REBELO, J., *Programa de Geometria Descritiva A do 10º e 11º ou 11º e 12º anos do Ensino Secundário*. Lisboa: DGIDC, 22/02/2001.

XAVIER, J.P., “A axonometria como método descritivo”. In *Boletim da APROGED*, nº 12, Abril de 2000.

XAVIER, J.P., MORAIS, J.S., REBELO, J., *Programa de Geometria Descritiva A e B do 10º e 11º anos do Ensino Secundário*. Lisboa: Departamento do Ensino Secundário, Ministério de Educação, 1999.

XAVIER, J.P., “Os inventores da perspectiva”. In *Boletim da APROGED*, nº 6, Março de 1998, Porto: APROGED, 1998, pp. 13-22.

## 10. Communications

### a) By invitation

*\_Sobre o tema a proporção em arquitectura.*

Open Conference under the "Geometria nas Faculdades de Belas Artes e de Design Gráfico" – Encontro Lusófono de Faculdades Parceiras 6– 8<sup>th</sup> May 2019. Porto, Portugal. Auditório-Cinema, Escola Secundária Alexandre Herculano, 7.5.2019.

*\_The more geometry the better.*

Keynote conference, XIV Congreso Internacional de Expresión Gráfica aplicada a la Edificación, APEGA 19 “De la línea a la nube”. ETSIE, Sevilha, 22.2.2019.

*\_Arquitectura e Matemática.*

Conference “Matemática e Património Cultural”. Academia das Ciências de Lisboa, 19.12.2018.

*\_Ruled Surfaces in Architecture. Links between Olivier string models, the arts and architecture.* Fachbereich Architektur Technische Universität Kaiserslautern, 16.5.2018.

*\_Anamorfose digital. Uma experiência didáctica.*

Conference “Cartografias do Olhar”.

With Arch. Alexandra Castro.

Faculdade de Arquitectura da Universidade de Lisboa, 17.2.2017.

*\_Geometry and Music. Is there a right space for musical performances?*

Plenary session 5, International Conference “Geometrias & Graphica 2015”. Universidade Lusíada de Lisboa, 2.10.2015.

*\_Superfícies regradas em Arquitectura.*

MAT Oeste 2015 (8<sup>th</sup> edition) – “Matemática nas Artes”.

Escola Superior de Tecnologia e Gestão do Instituto Politécnico de Leiria, 10.7.2015.

*\_Olivier String Models and the Teaching of Descriptive Geometry.*  
 PhD Programme in Design of the Politecnico di Milano.  
 Politecnico di Milano, 28.11.2014.

*\_Arquitetura e Matemática em Portugal no século XVI.*  
 7º Encontro Luso-Brasileiro de História da Matemática.  
 Óbidos, 15-19.10.2014.

*\_Os modelos de superfícies regradas do Museu do ISEP.*  
 Geometrias'13, Encontro Nacional da APROGED.  
 Faculdade de Arquitectura da U. Porto, 6-7.10.2013

*\_The Roman Villa in Rabaçal and Álvaro Siza.*  
 Bridges 2011 Conference Plenary Session,  
 Universidade de Coimbra, 31.7.2011.

*\_Geometrias e Arquitecturas.*  
 Seminário "Métodos Formais e Semiformais em Arquitectura".  
 Curso de Arquitectura, Escola Superior Artística do Porto.  
 Porto, Mercado Ferreira Borges, 16.5.2011.

*\_Gli spazi della musica; le musiche dello spazio.*  
 Seminário "Musica\_Composizione\_Architettura".  
 Facoltà di Ingegneria, Facoltà di Architettura, Conservatorio 'V. Bellini'. Palermo, 8.5.2009.

*\_Allestimenti e inganno: le anamorfofi spaziali.*  
 Seminário "Lo spazio effimero – allestimenti temporanei e simulazioni, tra innovazione e tradizione".  
 Politecnico di Milano, Facoltà del Design, 19.12.2008.

*\_Perspectiva e Arquitectura no Barroco em Portugal.*  
 Simposio Internacional "La Práctica de la Perspectiva. Perspectiva en los talleres artísticos europeos".  
 Universidad de Granada, Departamento de Dibujo Facultad de Bellas Artes, 3-5.12.2008.

*\_Uma questão de gramática...*  
 Contemporary Architectural Challenges: Conception, Production, Performance. FAUP, 22-24.9.2008.

*\_Teorema de Desargues – Aplicações gráficas. Apreciação dos resultados de um teste de Geometria (realizado na FAUP) incluindo um problema de afinidade e outro de homologia.*  
 VII Encontro Nacional da APROGED, Escola Superior de Educação de Leiria, 23.2.2008.

*\_As anamorfofos.*  
 VI Encontro Nacional da APROGED, "Pensar o Desenho e a Geometria", Fátima, 16.3.2007.

*\_A contribuição de Dürer para a história da perspectiva linear.*  
 V Encontro Nacional da APROGED. "A Geometria e o Desenho: uma afirmação",  
 Faculdade de Belas Artes da Universidade do Porto, 14.04.2005.

*\_O teorema de Desargues: aplicações gráficas.*  
 IV Encontro Nacional da APROGED. Seminário "Geometria e Desenho: perspectivas pedagógicas", Fátima, 28.11.2002.

*\_Ensinar Geometria Descritiva com recurso a programas de Geometria Dinâmica.*

Invitation: Prof. Doutora Elvira Leite, Faculdade de Psicologia e Ciências da Educação da Universidade do Porto (FPCEUP).

Seminar “Os Desenhos do Desenho nas Novas Perspectivas do Ensino Artístico”, FPCEUP, 25.1.2000.

*\_A axonometria como método descritivo.*

II Encontro Nacional da APROGED. Seminar "Saber ver a Geometria Descritiva", Fátima, 19.11.1999.

*\_Os inventores da perspectiva.*

I Encontro Nacional da Associação Nacional de Professores de Desenho e Geometria Descritiva (APROGED). Seminário "Como ensinar Geometria Descritiva", Fátima, 27.11.1997.

## **b) International conferences with peer review**

*\_Didactic Experiences on Digital Modeling. Anamorphosis.*

ICGG 2018 – The 18<sup>th</sup> International Conference on Geometry and Graphics.

Presented by Arch. Alexandra Castro.

Politecnico di Milano, 3-7.8.2018.

*\_The Church of Clérigos in Porto as a musical instrument.*

Nexus 2012: Relationships between Architecture and Mathematics International Conference.

San Sebastián, Universidad del País Vasco, 8.6.2016.

*\_A Fabricação Robótica no Ensino da Arquitectura: Uma Experiência Sobre o Projecto e Construção de Estruturas em Tijolo.*

SIGraDI 2015. Project Information for Interaction.

XIX Congresso da Sociedade Ibero-Americana de Gráfica Digital.

Universidade Federal de Santa Catarina, 26.11.2015.

*\_Olivier String Models and the Teaching of Descriptive Geometry.*

Fourth International Conference on the History of Mathematics Education (ICHME4).

Presented by Doctor Eliana Manuel Pinho.

Università di Torino, 23-26.9.2015.

*\_In search of its place. The teaching of Descriptive Geometry in Porto in the nineteenth century.*

Presented by Doctor Eliana Manuel Pinho.

International Meeting AMS-EMS-SPM.

Faculdade de Ciências da U. Porto, 10-13.9.2015.

*\_Grid-Based Design in Roman Villas: a Method of Analysis.*

Presented by Doctor Eliana Manuel Pinho.

Nexus 2012: Relationships between Architecture and Mathematics International Conference.

Milão, Politecnico di Milano, 11-14.6.2012.

*\_The partial implantation, at 1:2 Scale, of Rabaçal's Roman Villa.*

In collaboration with Doutora Eliana Manuel Pinho.

Bridges 2011 Conference Workshop.

Universidade de Coimbra, 31.7.2011.

*\_The Book of Perspective of António Rodrigues's Architectural Treatise from 1576.*

Nexus 2008: Relationships between Architecture and Mathematics International Conference.  
San Diego, Point Loma Nazarene University, 23-25.6.2008.

*\_Leonardo 2003: Architecture and Mathematics.*

Organization: Kim Williams.

Participants: Marie-Thérèse Zenner, Rinus Roelofs, Mark Reynolds, Vesna Petresin,  
Christopher Glass, Sylvie Duvernoy, Biagio Di Carlo, João Pedro Xavier, and Kim Williams.  
Vinci and Ponte a Egola (Pisa), 26-29.6.2003.

*\_António Rodrigues, a Portuguese architect with a scientific inclination...*

Nexus 2002: Relationships between Architecture and Mathematics International Conference.  
Óbidos, 15-18.6.2002.

### **c) Other interventions**

\_ Launching session of the book *S. Victor. SAAL operations. 2*, with presentation by  
Alexandre Alves Costa. Sergio Fernandez. Carlos Machado and Álvaro Siza Conference.  
*Opening speech.*

FAUP, 23.4.2019

\_ Launch of the books *'Textos 01'*, *'Textos 02'* and *'Textos 03'* by Álvaro Siza.  
Introduction to the presentation session by Dr. Teresa Ferreira, with the presence of Álvaro  
Siza, Dr. Campos Morais, Dr. Jorge RamosFAUP, 8.3.2019.

*\_A conversation with Álvaro Siza.*

In collaboration with Hugo Dworzak.

Opening session of the EAAE Annual Conference + General Assembly 2018.

FAUP, 29.8.2018.

*\_Geometria. Práticas no Ensino da Arquitectura.*

Meeting of professors from the Geometry area of the Portuguese Public Faculties of  
Architecture, organized by Alexandra Castro (FAUP), João Cabeleira (EAUM) and Teresa  
Pais (Darq FCTUC).

Moderator of Panel II.

With: Sara Eloy (ISCTE), Manuel Couceiro / Luís Mateus / Vítor Correia (FAUL).

Coimbra, 6.7.2018.

*\_Perspective and Space.*

Moderator of the session.

With: Cornélie Leopold, "The development of the geometric concept of Relief Perspective";  
Agostino De Rosa and Alessio Bortot, "Hunched curves in the Vatican: the vestibule arch of  
the Pio Clementino Museum"; João Paulo Cabeleira, "Deconstructing the imaginary space of  
a quadrature"; Giuseppe D'Acunto, "Notes on oblique space"; Snezana Lawrence, "Lost and  
found: some mathematical messages from Renaissance Tuscany to a 21st century teacher".

NEXUS 2018, 12<sup>th</sup> international, interdisciplinary conference for architecture and  
mathematics.



D.E.S.T.e.C. - University of Pisa, 11-14.6.2018.

*\_Session 04: Metabolic Architecture: Genetics, Digital Morphology, Turing, & AL.*

Moderator of the session.

With Louay Youssef, Yannis Zavoleas, Gulay Elbasdi, Sema Alacam, Ricardo Massena Gago, Mary Polites & al., Susannah Dickinson, Diana Soeiro. Keynote: Alberto T. Estévez.

*Kine[sys]tem. From Nature to Architectural Matter.*

Departamento de Arquitectura do ISCTE.

Lisboa, 20.7.2017.

*\_Geometrias'17. Thinking, Drawing, Modelling.*

Moderator of the session.

With Michael Nessel, Szymon Filipovski, Daniela Velichová, Modris Dobelis, Beniamino Polimeni, Andres Martín-Pastor, Alicia Lopez Martínez. Keynote speaker: Lino Cabezas.

Departamento de Arquitectura da FCTUC.

Coimbra, 16.6.2017.

*\_Comemorações do Centenário de Nascimento do Arquitecto Agostinho Ricca.*

Homage address to Agostinho Ricca at the presentation of the activities of the Centenary.

Porto, Quartel de Stº Ovídeo, 8.5.2015.

*\_16th century.*

Moderator of the session.

With Lionel March, "Palladio's Palazzo delle Torre, ca. 1550"; Ana López Mozo, "On the Use of Perspective in the Work by Juan de Herrera, architect of Philip II of Spain";

Antonia Redondo-Buitrago and Dirk Huylebrouck, "Nonagons in the Hagia Sophia and the Selimiye Mosque"; Sylvie Duvernoy, "Elongated Centrality and the Rise of Oval Churches in Europe in the Sixteenth Century".

*NEXUS 2014, 10th international, interdisciplinary conference for architecture and mathematics.*

Department of Architecture of Middle East Technical University. Ankara, 9-12.6.2014.

*\_Visual Imagery and Scientific Practice.*

Moderator of the session.

*Drawing in the University Today, International Meeting on Drawing, Image and Research.*

Faculdade de Belas Artes da Universidade do Porto, 31.5.2013.

*\_Descriptive Geometry and/or Computer Technology? What Mathematics is Required for Doing and Understanding Architecture?*

Nexus 2012 Round Table Discussion.

Moderators: Ivan Tafteberg Jakobsen e Jesper Matthiasen.

Participants: Federico Fallavollita, Sylvie Duvernoy, Cornelia Leopold, Michael J. Ostwald, Arzu Gonenc Sorguc and João Pedro Xavier.

*Nexus 2012: Relationships between Architecture and Mathematics International Conference.*  
Politecnico di Milano.

The transcript edited by the moderators of this Round Table is published in Tafteberg Jakobsen, I. & Matthiasen, J. *Nexus Netw J* (2014) 16: 505. doi: 10.1007 / s00004-014-0199-3

*\_The digital model: innovative methods of survey and representation. Real-world data shape*

*representation: from mathematics to visualization.*

Moderator of the session.

*Nexus Ph.D. Day, Nexus 2012: Relationships between Architecture and Mathematics International Conference.*

Politecnico di Milano, 11-14.6.2012.

*\_O Programa de Geometria Descritiva no Ensino Secundário: balanço e perspectivas de futuro.*

Moderator of the Round Table with the Team responsible for Metas de Aprendizagem de Geometria Descritiva A.

XI Encontro Nacional da APROGED, “Ainda e além da Geometria Descritiva”.

Faculdade de Arquitectura da Universidade Técnica de Lisboa, 17-18.3.2012.

## **11. Organization of scientific meetings, seminars and exhibitions**

*\_The 37<sup>th</sup> eCAADe Annual Conference + XXIII SIGraDI Conference – “Architecture in the age of the 4<sup>th</sup> Industrial Revolution”*

Conference Chair with José Pedro Sousa and Gonçalo Castro Henriques.

FAUP, 11-13.9.2019.

*\_APROGED’s 5<sup>th</sup> International Conference – “Geometrias’19: polyhedra and beyond”.*

Member of the Organizing Committee with Helena Mena Matos and Vera Viana.

FCUP, 5-7.9.2019.

*\_Diderot Mathematical Forum – “Mathematics and Architecture”.*

Co-organizer of the Portuguese participation with José Nuno Tavares (FCUP).

The forum brought together three cities: Porto, Helsinki and Prague.

FCUP, 8.6.2019.

*\_EAAE Annual Conference – “Design Studio as laboratory for interactions between architectural education and society” – and General Assembly 2018.*

Member of the Scientific Committee and Organization Commission.

FAUP, 29-31.8.2018.

URL: <http://eaae2018porto.arq.up.pt/>

*\_Leonardo. Architecture and Mathematics.*

2<sup>nd</sup> International Meeting.

With the participation of Alberto Pugnale (Itália), Biagio di Carlo (Itália), Christopher Glass (USA), Dmitri Kozlov (Russia), Eliana Manuel Pinho (Portugal), José Pedro Sousa (Portugal), Kim Williams (Itália), Luís Ruivo (Portugal), Rinus Roelofs (Holanda).

Perdizes (Terras de Bouro), 3-5.6.2013.

*\_Future Traditions. Rethinking Traditions and Envisioning the Future in Architecture Through the Use of Digital Technologies.*

1<sup>st</sup> eCAADe Regional International Workshop.

Co-organizer with José Pedro de Sousa (FAUP).

With the participation of Mark Burry (RMIT University) e Achim Menges (Stuttgart University) as keynote speakers.

FAUP, 4-5.4.2013.

*\_Nexus 2010: Relationships between Architecture and Mathematics.*

Co-organization with João Nuno Tavares (CMUP) and Kim Williams (NNJ).

Keynote speakers: Chris Williams (University of Bath), Lino Cabezas (Universidad de Barcelona) and Eduardo Souto de Moura (University of Porto).

FAUP, 12-16.6.2010.

*\_Metamorphose.*

Organization of Rinus Roelofs Conference and Workshop, at FAUP, as local coordinator of the NOMADIC.0910 project - Meetings between Art and Science promoted by the Rectory of the University of Porto.

FAUP, 10-12.03.2010.

## **11. Languages**

Native language: Portuguese

Other languages:

	<i>Reading</i>	<i>Writing</i>	<i>Conversation</i>
English	Excellent	Good	Good
Spanish	Excellent	Average	Average
French	Excellent	Good	Good
Italian	Excellent	Average	Good

## **A personal statement**

I, João Pedro Xavier, Professor at the Faculty of Architecture at the University of Porto (FAUP), and current Dean, hereby declare, within this application to the EAAE Council, to respect the EAAE Statutes, and assume the Council duties as defined in Article 17.

To be a member of the Council, on behalf of my school, is a great honor, and a considerable responsibility.

I truly believe I'm prepared to work as a member of this team, taking in consideration the different realities and sensibilities inherent to the Association member schools.

FAUP is already involved in the Education Academy, and is quite interested on the main themes in discussion: "The changing roles of the architect", "Traditions and roots of institutions", and "Pedagogy". The big question about *traditions and roots* – "How do new schools of architecture relate, react, reconnect to practices and conceptions of these roots, or take a distance of them?" – is one of our main concerns, although cannot be approached without taking in consideration the other two themes. I will favor a more permanent collaboration with this Academy, presenting ourselves also as partners for new projects.

I think our contribution might also be relevant on "Research by Design", within the Research Academy, which has always been one of our strengths in the generation and development of disciplinary knowledge, either in the field of urban design, architecture, and more recently digital design and fabrication, or in the field of theory and history of architecture, and architectural representation, which study we also link to the architectural design process.

In addition to all the initiatives that are already taking place, I also believe that EAAE should publish its own journal on architectural education and research to which we are most willing to contribute.

Personally, I reaffirm, enthusiastically, my commitment to collaborate with EAAE.

## Background and intentions

The Faculty of Architecture at the University of Porto (FAUP) is a centre of creation, transmission, dissemination of culture, art, science, technology, knowledge and skills in the fields of architecture, construction, urbanism, and related areas.

Located at UP's Polo III, the complex of buildings housing FAUP since 1992 is also one of the most emblematic creations in Álvaro Siza's career.

Benefiting from the School of Fine Arts (ESBAP) legacy, FAUP was founded in 1979 and is a worldwide reference in architectural teaching. Important names of the "School of Porto" studied and lectured at ESBAP and FAUP. Fernando Távora (1923-2005), Álvaro Siza (b. 1933), and Eduardo Souto de Moura (b. 1952), might be considered the three pillars of the school. However, their contribution cannot be considered without their predecessors, the group of people they worked with, and the Portuguese cultural context.

In Portugal, the main schools of architecture derived from a *beaux-arts* tradition and still follow a generalist approach. The increasing complexity of the architectural phenomena has led to a broader corpus of scientific and technical knowledge, mainly in the final years of the architectural program, which is, in general, a 5-year integrated master. There is a promising new generation of architects, but the fact is that most of them, although having had their main education at our schools, have also benefited from experiences in Europe, profiting from the increasing networking between European Universities, within the Erasmus program, and the new opportunities for research programs of a larger scale.

The EAAE, bringing together a steadily increasing number of Architecture Schools establishes a solid platform on which teaching, researching and more technical issues are presented and specific approaches can be discussed.

Since the year 2013, FAUP resumed its full engagement with EAAE. Nevertheless, some of its distinguished professors, like Nuno Portas (b. 1934) or Domingos Tavares (b. 1939), have

participated in previous conferences, and the school was aware of several initiatives promoted within the Association.

This involvement grew up along the years, with the participation in the Education Academy, hosting its 2<sup>nd</sup> workshop<sup>1</sup>, attending all conferences and general assemblies, and finally hosting and co-organizing the EAAE AC+GA 2018<sup>2</sup>.

We believe that a deeper relationship and commitment to EAAE is an important way to reinforce our connection to other associates, and vice-versa, and are willing to participate in the next Council of the main European organization of architecture schools.

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<sup>1</sup> <http://www.eaae.be/event/2nd-workshop-profession-architect-role-school-relation-profession/>

<sup>2</sup> <http://eaae2018porto.arq.up.pt>