

## Pedro Herzilio Ottoni VIVIANI DE CAMPOS

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### *Education*

2010 - 2015: PhD's degree in Physics, Department of Nuclear Physics, Institute of Physics of the University of Sao Paulo (IF-USP), Brazil. CAPES scholarship. Advisor: Dr Marcia de Almeida Rizzutto.

Subject: "Characterisation of paintings of the artist Anita Malfatti by non-destructive techniques";

2006 - 2010: Master's degree in Physics, Department of Nuclear Physics, Institute of Physics of the University of Sao Paulo (IF-USP), Brazil. CNPq scholarship. Advisor: Dr Marcia de Almeida Rizzutto.

Subject: "Patina Study and Characterization of Copper and Bronze with PIXE and ED-XRF Techniques";

2001 - 2005: Bachelor of Science in Physics, State University of Campinas (UNICAMP), Brazil;

2001 - 2005: Bachelor of Education in Physics (Licentiate's degree), State University of Campinas (UNICAMP), Brazil.

### *Professional experience*

2017 - Current: Freelancer photographer. Website: [pecampos.com](http://pecampos.com).

2021 - 2023: Laboratory Manager, Department of Conservation and Built Heritage, University of Malta, Malta.

2018 - 2021: Postdoctoral researcher Department of Nuclear Physics, Institute of Physics of the University of Sao Paulo (IF-USP), Brazil. FAPESP fellowship. Advisor: Dr Marcia de Almeida Rizzutto.

Subject: Study and elemental characterization by X-Ray Fluorescence, Raman spectroscopy, radiography, and multi-spectral imaging of 36 artworks of the "Independence or Death" noble hall in the Paulista Museum. The goal was to obtain information about the materiality, the artistic/creative processes, and the conservation condition of each object.

2017 - 2018: Postdoctoral researcher, Laboratory of Applied Nuclear Physics of the State University of Londrina (LFNA/UEL), Brazil. CNPq fellowship. Advisor: Dr Carlos Roberto Appoloni.

Subject: Development of a Macro X-ray Fluorescence (MA-XRF) scanner;

2016 - 2017: Professor at the Carmo's Planetarium, City of Sao Paulo, Brazil; Live presentations. Planning, studying, and production of new sessions. Programming the presentation in Zeiss planetarium software. Reception and tour with the public, schools, and visiting groups. Monthly and annual schedule planning. Workshops with the observation of the Sun and Night Sky. Interlocution with park administration and city hall. Programmers' management. Creation, production of content, and administration of social media.

2015 - 2017: Postdoctoral researcher, Institute of Physics, University of São Paulo, Brazil. Advisor: Dr Namitala Added.

Subject: Study and development of new portable equipment for physical analysis of materials (MA-XRF and confocal XRF).

### *Experience*

- Studies and Research on Cultural Heritage
- X-ray Fluorescence Spectrometry (XRF) / Macro X-ray Fluorescence mapping (MA-XRF) and PyMCA software;
- X-ray Diffraction (XRD);
- Raman spectroscopy;
- Fourier Transform Infrared spectroscopy (FTIR);
- Particle-Induced X-ray Emission (PIXE);
- Particle-Induced Gamma Emission (PIGE);
- Rutherford Backscattering Spectrometry (RBS);
- Scanning Electron Microscopy with Energy Dispersive X-ray spectroscopy (SEM-EDX);
- Imaging: Radiography; Infrared Reflectography (IRR); Thermal; Photography: UV-induced visible luminescence (UVL), Raking Light, Visible Light, False Colour;
- Colourimetry / Spectrophotometry / Fibre-Optic Reflectance Spectroscopy (FORS);
- UAV (drone);
- Weathering Chamber;
- Development of a low-cost MA-XRF device;
- Photography (and post-processing: Lightroom, Photoshop, IrfanView, Gimp).

### *Academic experience*

2016: Introduction to Physics Measures, University of Sao Paulo;  
2011: Physics Lab III for Electrical Engineering, University of Sao Paulo;  
2010: Physics Lab IV for Electrical Engineering, University of Sao Paulo;  
2007: Experimental Physics II, University of Sao Paulo.

### *Participation in dissertation committees*

2014: Master's degree by Douglas Haruki Kiryu (2014), Barro Branco Military Police Academy, Sao Paulo, Brazil.

### *Languages*

Portuguese: native;  
English: proficiency;  
French: proficiency;  
Spanish: proficiency;  
Italian: basic.

### *Subsidies, bursaries, sponsorship*

2018 - 2020: Postdoctoral fellowship at the University of Sao Paulo, Brazil. Sao Paulo Research Foundation (FAPESP). Advisor: Dr Marcia Rizzutto;

2017 - 2018: Postdoctoral fellowship at Londrina State University, Brazil. Brazilian National Council for Scientific and Technological Development (CNPq) scholarship. Advisor: Dr Carlos Appoloni;

2013: Doctoral internship at State University of New York College at Buffalo (SUNY), USA. CNPq scholarship. Advisor: Dr Patrick Ravines;

2012 - 2013: Doctoral internship at the Centre de Recherche et de Restauration des Musées de France (C2RMF), France. CAPES scholarship. Advisor: Dr Thomas Calligaro;

2010 - 2014: Doctoral scholarship at Sao Paulo University, Coordination for the Improvement of Higher Education Personnel (CAPES) scholarship, Brazil. Advisor: Dr Marcia Rizzutto;

2006 - 2008: Master's scholarship at Sao Paulo University, CNPq scholarship. Advisor: Dr Marcia Rizzutto;

2003 - 2004: Scientific initiation scholarship, National Institute for Space Research, Brazil. CNPq scholarship.

### *Extended study periods abroad*

Septembre 2012 - March 2013: Centre de Recherche et de Restauration des Musées de France (C2RMF), France. Advisor: Thomas Calligaro;

July 2013: State University of New York College at Buffalo (SUNY), Art Conservation Department, USA. CNPq fellowship. Advisor: Patrick Ravines.

### *Latest courses and training*

Dec 2022 - Basic Radiation Safety Awareness, University of Malta, Malta.

Dec 2022 - Award in Leadership and Management, MISCO & University of Malta, Malta.

Oct 2022 - Award in Basic Quality Assurance, MCAST & University of Malta, Malta.

Set 2021 - Basic Radiation Safety Awareness, University of Malta, Malta.

### *Publications*

Sofia Hennen, Pedro Campos, Valter Felix, Renato Freitas, Elizabeth Kajiya, André Pimenta, Márcia Rizzutto, Cecilia Winter. **Rediscovering the Sao Paulo Museum of Art's Memling by Technical Examination**. XXII Symposium for the Study of Underdrawing and Technology in Painting - 'Alla maniera': Technical Art History and the Meaning of Style in 15th to 17th Century Painting. (Submitted).

Sofia Hennen, Pedro Campos, Valter Felix, Renato Freitas, Elizabeth Kajiya, André Pimenta, Márcia Rizzutto. **From Da Vinci to Massys: New Insights into MASP's Unequal Marriage**. XXII Symposium for the Study of Underdrawing and Technology in Painting - 'Alla maniera': Technical Art History and the Meaning of Style in 15th to 17th Century Painting. (Submitted).

Michele Bete Petry, Márcia de Almeida Rizzutto, Pedro Herzilio Ottoni Viviani de Campos. **Engravings, Drawings by Tarsila do Amaral**. Revista VIS, v. 20 (2), p. 286-313, 2022. [doi.org/10.26512/vis.v20i2](https://doi.org/10.26512/vis.v20i2).

Schenatto, J.; Campos, P.H.O.V.; M A Rizzutto, M. A. **Non-destructive methods of analysis to characterize an easel painting by Victor Meirelles**. Journal of Physics: Conference Series, v. 2340, 2022, 012007. [doi.org/10.1088/1742-6596/2340/1/012007](https://doi.org/10.1088/1742-6596/2340/1/012007).

Magalhães, A.G.; Rizzutto, M.A.; Campos, P.H.O.V.; Kajiya, E.A.M. **The Material History of Unique Forms of Continuity in Space: Technical and Scientific Analyses, 2012-2016**. In: Magalhães, A.; Mckeever, R. (Org.). Boccioni in Brazil: Reassessing "Unique Forms of Continuity in Space" and Its Material History. 1 ed. São Paulo: EDUSP, 2022, p. 36-75. <https://www.edusp.com.br/livros/boccioni-no-brasil>.

Hennen, S.; Assumpcao, A.; De Campos, P.; Kajiya, E.M.; Rizzutto, M.A.; Santos, E.; Winter, C. **Conservation Methodology at São Paulo Museum of Art (MASP)**. In: Murray, A.; Vila, A. (Org.). Diagnosis: Before, During, After. CONSERVATION 360º. 1 ed., Valencia: ed-UPV - Editorial de la Universitat Politècnica de València, 2022, v. 2, p. 326-355. [doi.org/10.4995/360.2022.657201](https://doi.org/10.4995/360.2022.657201).

Hennen Rodriguez, S.; Assumpção, A.; de Campos, P.; Gonçalves, B; Jesus, E.S.; Kajiya, E.A.M.; Luchiari, F.; Rizzutto, M.A.; de Vera, F.W.; Winter, C.; **An interdisciplinary project of study and conservation of Candido Portinari's "Retirantes" ensemble at Sao Paulo Museum of Art**. Ge-Conservation, v. 19, p. 292-308, 2021. [doi.org/10.37558/gec.v19i1.998](https://doi.org/10.37558/gec.v19i1.998).

Hennen Rodriguez, S.; Gonçalves, B.; Winter, C.; Campos, P.H.O.V.; Kajiya, E.A.M.; Rizzutto, M.A.; Appoloni, C.R.; Molari, R. **Non-Destructive and Portable Analyses Helping the Conservation of a Saraceni Copper Plate Painting in the São Paulo Museum of Art**. Microchemical Journal, v. 155, 104787, 2020. [doi.org/10.1016/j.microc.2020.104787](https://doi.org/10.1016/j.microc.2020.104787).

Magalhaes, A. G.; Rizzutto, M. A.; Faria, D. L. A.; Campos, P.H.O.V. **Tracing the material history of MAC USP's Self-Portrait by Amedeo Modigliani**. Anais do Museu Paulista, v. 27, 2019. [doi.org/10.1590/1982-02672019v27e11d1](https://doi.org/10.1590/1982-02672019v27e11d1).

Campos, P.H.O.V.; Appoloni, C.R.; Rizzutto, M.A.; Leite, A.R.; Assis, R.F.; Santos, H.C.; Silva, T.F.; Rodrigues, C.L.; Tabacniks, M.H.; Added, N. **A low-cost portable system for elemental mapping by XRF aiming in situ analyses**. Applied Radiation and Isotopes, v. 152, p. 78-85, 2019. [doi.org/10.1016/j.apradiso.2019.06.018](https://doi.org/10.1016/j.apradiso.2019.06.018).

Santos, H.C.; Silva, T.F.; Leite, A.R.; Assis, R.F.; Campos, P.H.O.V.; Rizzutto, M.A.; Tabacniks, M.H. **Characterization of a system that combines energy dispersive X-ray diffraction with X-ray fluorescence and its potential applications in archeometry**. Journal of Applied Physics, v. 126, p. 044901, 2019. [doi.org/10.1063/1.5108746](https://doi.org/10.1063/1.5108746).

Silva, T.F.; Rodrigues, C.L.; Added, N.; Rizzutto, M.A.; Tabacniks, M.H.; Mangiarotti, A; Curado, J.F.; Aguirre, F.R.; Agüero, N.F.; Allegro, P.R.P.; Campos, P.H.O.V.; Restrepo, J.M.; Trindade, G.F.; Antonio, M.R.; Assis, R.F.; Leite, A.R. **Elemental mapping of large samples by external ion beam analysis with sub-millimeter resolution and its applications**. Nuclear Instruments & Methods in Physics Research Section B-Beam Interactions with Materials and Atoms, v. 422, p. 68-77, 2018. [doi.org/10.1016/j.nimb.2018.03.006](https://doi.org/10.1016/j.nimb.2018.03.006).

Bezur, A.; Campos, P.H.O.V.; Centeno, S.A.; Duvernois, I.; Josenhans, F.V.; Londero, P.; Magalhaes, A.G.; Rizzutto, M.A.; Schwarz, C. **Modigliani's late portraits**. The Burlington Magazine, v. 160, p. 400-407, 2018. [burlington.org.uk/archive/back-issues/201805](http://burlington.org.uk/archive/back-issues/201805).

Mori, E.K.; Del Lama, E.A.; Rizzutto, M.A.; Kajiya, E.A.M.; Campos, P.H.O.V. **An Analysis of Alfredo Volpi's Paintings by X-ray Fluorescence**, Spectrophotometry and Technical Photography. e-Conservation Journal, v. 5, p. 94, 2017. [doi.org/10.18236/econs5.201701](https://doi.org/10.18236/econs5.201701).

Campos, P.H.O.V. **Characterisation of paintings of the artist Anita Malfatti by non-destructive techniques**. Doctoral thesis, University of Sao Paulo, 2015. [doi.org/10.11606/T.43.2015.tde-06112015-143351](https://doi.org/10.11606/T.43.2015.tde-06112015-143351).

Silva, T.F.; Rodrigues, C.L.; Curado, J.F.; Allegro, P.; Moro, M.V.; Campos, P.H.O.V.; Santos, S.B.; Kajiya, E.A.M.; Rizzutto, M.A.; Added, N.; Tabacniks, M.H. **Large areas elemental mapping by ion beam analysis techniques**. Journal of Physics. Conference Series, v. 630, p. 012016, 2015. [doi.org/10.1088/1742-6596/630/1/012016](https://doi.org/10.1088/1742-6596/630/1/012016).

Rizzutto, M.A.; Curado, J.F.; Bernardes, S.; Campos, P.H.O.V.; Kajiya, E.A.M.; Silva, T.F.; Rodrigues, C.L.; Moro, M.V.; Tabacniks, M.H.; Added, N. **Analytical techniques applied to study cultural heritage objects**. In: 2015 International Nuclear Atlantic Conference - INAC 2015. São Paulo, Associação Brasileira De Energia Nuclear - ABEN, v. 47, 2015. [inis.iaea.org/collection/NCLCollectionStore/Public/47/042/47042511.pdf](http://inis.iaea.org/collection/NCLCollectionStore/Public/47/042/47042511.pdf).

Rizzutto, M.A.; Moro, M.V.; Silva, T.F.; Trindade, G.F.; Added, N.; Tabacniks, M.H.; Kajiya, E.M.; Campos, P.H.V.; Magalhães, A.G.; Barbosa, M. **External-PIXE analysis for the study of pigments from a painting from the Museum of Contemporary Art**. Nuclear Instruments & Methods in Physics Research. Section B, Beam Interactions with Materials and Atoms, v. 332, p. 411-414, 2014. [doi.org/10.1016/j.nimb.2014.02.108](https://doi.org/10.1016/j.nimb.2014.02.108).

Magalhaes, A.G.; Rizzutto, M.A.; Kajiya, E.A.M.; Campos, P.H.O.V. **Nudo Incompiuto, by Felice Casorati, at the Collection of MAC USP**. Revista de História da Arte e Arqueologia, v. 19, p. 141-158, 2013. [unicamp.br/chaa/rhaa/downloads/Revista%2019%20-%20artigo%208.pdf](http://unicamp.br/chaa/rhaa/downloads/Revista%2019%20-%20artigo%208.pdf).

Kajiya, E.A.M.; Campos, P.H.O.V.; Rizzutto, M.A.; Appoloni, C.R.; Lopes, F. **Evaluation of the veracity of one work by the artist Di Cavalcanti through non-destructive techniques: XRF, imaging and brush stroke analysis**. Radiation Physics and Chemistry, v. 95, p. 373-377, 2013. [doi.org/10.1016/j.radphyschem.2013.03.027](https://doi.org/10.1016/j.radphyschem.2013.03.027).

Campos, P.H.O.V.; Kajiya, E.A.M.; Rizzutto, M.A.; Neiva, A.C.; Pinto, H.P.F.; Almeida, P.A.D. **X-ray Fluorescence and Imaging Analyses of Paintings by the Brazilian Artist Oscar Pereira Da Silva**. Radiation Physics and Chemistry, v. 95, p. 362-367, 2013. [doi.org/10.1016/j.radphyschem.2013.05.029](https://doi.org/10.1016/j.radphyschem.2013.05.029).

Calligaro, T.; Coquinot, Y.; Pichon, L.; Pierrat-Bonnefois, G.; de Campos, P.; Re, A.; Angelici, D. **Characterization of the lapis lazuli from the Egyptian treasure of Tôd and its alteration using external  $\mu$ -PIXE and  $\mu$ -IBIL**. Nuclear Instruments & Methods in Physics Research. Section B, Beam Interactions with Materials and Atoms, v. 318, p. 139-144, 2013. [doi.org/10.1016/j.nimb.2013.06.063](https://doi.org/10.1016/j.nimb.2013.06.063).

Rizzutto, M.A.; Kajiya, E.A.M.; Campos, P.H.O.V.; Almeida, P.A.D. **Radiography and X-Ray Fluorescence Used to Analyse Cultural and Artistic Artifacts**. In: 2013 International Nuclear Atlantic Conference - INAC 2013, Recife, 2013. [doi.org/10.13140/2.1.4444.2243](https://doi.org/10.13140/2.1.4444.2243).

Thome, L.E.; Rizzutto, M.A.; Kajiya, E.A.M.; Campos, P.H.O.V.; Appoloni, C.R.; Lopes, F. **O sapo dourado do arquivo pessoal de Mário de Andrade analisado com o método não destrutivo de fluorescência de raios X**. Revista do Instituto de Estudos Brasileiros, v. 0, p. 173, 2012. [doi.org/10.11606/issn.2316-901X.v0i55p173-182](https://doi.org/10.11606/issn.2316-901X.v0i55p173-182).

Campos, P.H.O.V. **Patina Study and Characterization on Copper and Bronze with PIXE and ED-XRF Techniques**. Master dissertation, University of Sao Paulo, 2010. [doi.org/10.11606/D.43.2010.tde-01072010-143505](https://doi.org/10.11606/D.43.2010.tde-01072010-143505).

Campos, P.H.O.V.; Rizzutto, M.A.; Neiva, A.C.; Hernandez, R.P.B. **Estudo de Pátinas Artificiais pelo Método PIXE**. In: 1º Simpósio Latino-Americano sobre Métodos Físicos e Químicos em Arqueologia, Arte e Conservação do Patrimônio Cultural (LASMAC 2007). São Paulo: Sociedade Brasileira de Física, pp. 221-227, 2007.

### *Active participation in conferences, colloquia, seminars*

International Conference on Accelerators for Research and Sustainable Development: From Good Practices Towards Socioeconomic Impact, Vienna, Austria, 2022:

- "Amazon Ceramics and their Color Palette - The Use of Ion Beam Analysis to Determine the Pigments".

[https://inis.iaea.org/collection/NCLCollectionStore/\\_Public/53/084/53084582.pdf](https://inis.iaea.org/collection/NCLCollectionStore/_Public/53/084/53084582.pdf).

XXIIInd Symposium for the Study of Underdrawing and Technology in Painting. 2022. (online):

- "Rediscovering MASP's Memling by technical examination."

- "From Da Vinci to Massys: new insights thanks to recent Unequal Marriage's in-depth examination."

V Escola de Arqueometria e Ciências Aplicadas ao Patrimônio - V EARCAP & II Congresso Bial da ANTECIPA. "Fotografia multiespectral e Imagiologia aplicadas ao estudo do Patrimônio Cultural". 2020. (Oral). (online).

III Congresso Ibero-Americano Investigações em Conservação do Patrimônio ICP-2020. "Projeto de estudo e conservação interdisciplinar de Candido Portinari no MASP". 2020. (online).

Simpósio do Projeto de estudo, conservação e restauro de três obras de Candido Portinari do MASP: "Retirantes", "Enterro na Rede" e "Criança Morta". "Análises dos Pigmentos por XRF e Raman das obras "Os Retirantes", "Criança Mortas" e "Enterro na Rede" de Cândido Portinari, do acevo do MASP". 2020. (Oral).

IV Simpósio SENAI/ABER de Inovação, Desenvolvimento e Tecnologia na Preservação de Acervos. "Técnicas fotográficas multiespectrais: método de investigação em obra de arte". Sao Paulo, Brazil, 2019. (Oral).

Technart 2019, Bruges, Belgium, 2019:

- "Applications of new Brazilian portable XRF elemental 2D-maps system". (Poster);

- "Non-destructive and portable analyses helping for the restoration of a copper plate painting in the Museum of Art of Sao Paulo". (Poster);

- "Analyses of the painting Self-portrait by Amedeo Modigliani of the Museum of Contemporary Art of the University of Sao Paulo". (Poster);

- "Discovery of a ceiling painting of Friar Jesuíno of Mount Carmel in an 18th-century chapel covered under more recent paintings - An interdisciplinary work". (Poster);

- "Analysis of sculptures in weathering steel from the collection of the Pinacoteca do Estado de São Paulo". (Poster).

78° Ciclo de Seminários de Física Nuclear Aplicada. "Sistema portátil de macro mapeamento por XRF: desenvolvimento, resultados e perspectivas". Londrina, Brazil, 2018. (Oral).

77° Ciclo de Seminários de Física Nuclear Aplicada, Londrina, Brazil, 2018:

- "Caracterização de pinturas da artista Anita Malfatti por meio de técnicas não destrutivas Parte II". (Oral);
- "Caracterização de pinturas da artista Anita Malfatti por meio de técnicas não destrutivas Parte I". (Oral).

I Encontro de conservação preventiva de acervos: qualidade ambiental de área de guarda de acervo. "Os instrumentos para análise física de bens como aliados na conservação preventiva de acervos". Sao Paulo, Brazil, 2018. (Oral).

3° Encontro Internacional de Ambiente Urbano - 3° ENINTAU. "O Planetário do Carmo como equipamento cultural da Zona Leste da cidade de São Paulo". São Paulo, Brazil, 2016. (Poster).

XXI Encontro da Associação Brasileira de Planetários, Brotas, Brazil, 2016:

- "A reabertura do Planetário do Carmo: realizações e perspectivas". (Poster);
- "Funcionamento da dinâmica de atendimentos escolares no Planetário do Carmo". (Poster);
- "A chegada do inverno no Universarium do Planetário do Carmo". (Poster).

13th International Conference on Particle Induced X-Ray Emission - PIXE2013. "Characterisation of the lapis lazuli from the Egyptian treasure of Tôd and its alteration using external  $\mu$ -PIXE and  $\mu$ -IBIL". Gramado, Brazil, 2013. (Poster).

4th Latin-American Symposium on Physical and Chemical Methods in Archaeology, Art and Cultural Heritage Conservation - LASMAC 2013. "Characterisation of two paintings by artist Anita Malfatti with non-destructive XRF and imaging techniques". Bogota, Colombia, 2013. (Oral).

3rd Latin-American Symposium on Physical and Chemical Methods in Archaeology, Art and Cultural Heritage Conservation. "Análisis por Infrarojo y FRX de una Pintura del Artista Brasileño Oscar Pereira da Silva". Lima, PEru, 2011. (Oral).

1st Latin-American Symposium on Physical and Chemical Methods in Archaeology, Art and Cultural Heritage Conservation - LASMAC 2007. "Análise de Pátinas Artificiais Pelo Método PIXE". São Paulo, Brazil, 2007. (Poster).

International Nuclear Atlantic Conference. "Artificial Patinas Analyzed with PIXE Method". Santos, Brazil, 2007. (Poster).

I Semana de Arqueologia. "Estudo de Pátinas Artificiais Pelo Método PIXE". Sao Paulo, Brazil, 2007. (Oral).

International Conference on Nucleus Nucleus Collisions. "Thick Target Analysis of Reference Metals". Rio de Janeiro, Brazil, 2006. (Poster).

### *Dissemination of the work in the mainstream media*

Agência FAPESP. Museu do Ipiranga reabre com área ampliada e totalmente acessível. 2022. <https://www.youtube.com/watch?v=y1Nx-WyuUT8>.

Revista Pesquisa FAPESP. As raízes do quadro Independência ou Morte!. 2022. <https://revistapesquisa.fapesp.br/as-raizes-do-quadro-independencia-ou-morte-2>.

Revista Veja SP. Masp investe em restauração de obras de Frans Hals. 2022. <https://vejasp.abril.com.br/coluna/arte-ao-redor/masp-renovacao-frans-hals>.

Artsoul. MASP restaura três obras do pintor holandês Frans Hals, em projeto patrocinado pela AkzoNobel. 2022. <https://blog.artsoul.com.br/masp-restaura-tres-obras-do-pintor-holandes-frans-hals>.

Jornal da USP. Como a ciência pode desvendar os bastidores das obras de arte. 2022. (Interview). <https://jornal.usp.br/universidade/como-a-ciencia-pode-desvendar-os-bastidores-das-obras-de-arte>.

Jornal da USP. Ciência é protagonista na restauração do famoso quadro da independência do Brasil. 2021. (Interview). <https://jornal.usp.br/universidade/ciencia-e-protagonista-na-restauracao-do-famoso-quadro-da-independencia-do-brasil>.

Agência FAPESP. Ciência e arte se aliam na restauração do quadro Independência ou Morte. 2020. (Interview). <https://agencia.fapesp.br/ciencia-e-arte-se-aliam-na-restauracao-do-quadro-iindependencia-ou-morte-i/32557/>.

Programa Fantástico – Rede Globo. Quadro centenário e emblemático da história brasileira é restaurado; veja como funciona o processo. 2020. (TV Show / Interview). <https://g1.globo.com/fantastico/noticia/2020/02/16/quadro-centenario-e-emblematico-da-historia-brasileira-e-restaurado-veja-como-funciona-o-processo.ghtml>.

Governo do Estado de São Paulo. Restauração do quadro Independência ou Morte alia ciência e arte em SP. 2020. (Interview). <https://www.saopaulo.sp.gov.br/ultimas-noticias/restauracao-do-quadro-independencia-ou-morte-alia-ciencia-e-arte-em-sp>.

Conselho Federal de Química. A Química a serviço da arte: Profissionais em ação para restaurar quadro célebre da independência. (Interview). <http://cfq.org.br/noticia/a-quimica-a-servico-da-arte-profissionais-em-acao-para-restaurar-quadro-celebre-da-independencia>.

Folha de São Paulo. Pintura centenária do Museu Paulista passa por restauro; entenda o processo. 2020. (Interview). <https://www1.folha.uol.com.br/ilustrada/2020/02/pintura-centenaria-do-museu-paulista-passa-por-restauro-entenda-o-processo.shtml>.

Art Land. Infrared Photography: The Secrets Beneath The Surface. 2020. (Other). <https://magazine.artland.com/infrared-photography-secrets-beneath-the-surface>.

Arte Ref. Como a ciência vem solucionando os mistérios da arte. 2020. (Podcast / Interview). <https://arteref.com/podcasts/como-a-ciencia-ajuda-a-desvendar-os-misterios-da-arte>.



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## ***Volunteering***

2017 - 2020: Voluntary photographer - non-formal education (Scouting) - Escoteiros do Brasil, Brazil.

2002 - 2018: Voluntary educator - non-formal education (Scouting) - Escoteiros do Brasil, Brazil.

2013 - 2015: Chief Executive - local unit (Scout group) - 1st Scout Group "São Paulo" (with around 40 adult volunteers and 80 youth members) - Escoteiros do Brasil, Brazil.