Dr Alonso Vicente Pizarro Valdebenito BSc MSc PhD

E-mail: <u>alonso.pizarro@mail.udp.cl</u>
Web: <u>www.alonsopizarro.cl</u>

After completing his BEng and MSc studies at University of Concepcion (Chile), Alonso joined the University of Basilicata, Italy, in September 2015 as a PhD student, supported by the Erasmus Mundus programme (ref. 552129-EM-1-2014-1-IT-ERA MUNDUS-EMA21). Despite his short academic career (he awarded his PhD in March 2019), Alonso has already published several scientific contributions, attracting a significant number of citations. Alonso has a broad interest in hydrology, hydraulics, sediment transport, flood prediction, extreme flood events, stochastic processes, environmental monitoring using Unmanned Aerial Systems (UASs), and remote sensing applications for fluvial monitoring. Alonso utilises advanced surveying and flow measurement techniques and laboratory experiments. He is proficient in advanced programming languages (Matlab and Python) and GIS software (QGIS), which he uses to manipulate and analyse complex datasets, regularly publishing research articles in leading international journals. In addition, he speaks four different languages: Spanish (mother tongue), Italian (fluent), English (fluent), and German (basic), and thanks to his experience in different academic environments, he has acquired the capacity to fast adapt to new situations through a proactive and flexible approach. Finally, Alonso has also received a prize for his Master Thesis, and he has already demonstrated the ability to attract funding for his researches from different sources. Currently, Alonso is Assistant Professor at Universidad Diego Portales (Chile).

Personal Information

Name: Pizarro Valdebenito, Alonso Vicente

Nationality: Chilean

Date of birth: 27/10/1989

Researcher unique identifiers: SCOPUS Author ID: 16449058000; ORCID ID: 0000-0002-7242-6559

Work Experience

07/2021 – To date Assistant Professor

Universidad Diego Portales, Department of Civil Engineering – Santiago, Chile.

10/2020 - 06/2021 Postdoctoral Researcher

University of Naples Federico II, Department of Civil, Architectural and Environmental

Engineering – Naples 80138, Italy.

10/2019 – 10/2020 **Postdoctoral Researcher**

University of Basilicata, Department of European and Mediterranean Cultures: Architecture, Environment, and Cultural Heritage (DICEM) – Matera 75100, Italy.

Education

19/09/2015 – 21/03/2019 PhD in Cities and Landscapes (Water management and hydrology)

(final mark 100/100 magna cum laude)

University of Basilicata, Department of European and Mediterranean Cultures: Architecture, Environment, and Cultural Heritage (DICEM) – Matera 75100, Italy.

Last update: 09/02/2023

03/03/2008 – 30/04/2012 **BSc in Civil Engineering (final mark 100/100 magna cum laude)**

University of Concepción, Department of Civil Engineering, Concepción 4030000, Chile.

Study/Research visits

21/06/2018 - 07/07/2018 Visiting PhD researcher

Institution: University of Concepción, Department of Civil Engineering, Concepción, Chile.

Goal of the Visit: Modelling bridge pier scour under flood waves considering field measurements and theoretical aspects.

11/09/2017 - 30/03/2018 Visiting PhD researcher

<u>Institution:</u> National Technical University of Athens, Department of Water Resources and Environmental Engineering, Athens, Greece.

Goal of the Visit: Modelling the river discharge process from a stochastic point of view:

Synthetic generation of streamflow values and applications to bridge scour.

01/08/2012 – 31/07/2013 **Visiting MSc student (DAAD Scholarship)**

Institution: Technical University of Braunschweig, Braunschweig, Germany.

Fellowships and Awards

19/09/2015 – 21/03/2019 **PhD Scholarship, Erasmus Mundus programme** (ref. 552129-EM-1-2014-1-IT-ERA MUNDUS-EMA21).

19/06/2017 – 23/06/2017 **International Summer School Scholarship:** "Geocomputation using free and open

19/06/2017 – 23/06/2017 International Summer School Scholarship: "Geocomputation using free and open source software". Three grants out of about 20 participants.

11/07/2016 – 15/07/2016 **International Summer School Scholarship:** "Applied course on UAVs for environmental monitoring". Three grants out of about 20 participants.

14/12/2015 "Edgard Pino" Award: Best thesis in the year 2015. Department of Civil Engineering, University of Concepción. One award per year out of about 70 participants.

01/08/2012 – 31/07/2013 **Deutscher Akademisher Austaush Dienst (DAAD) Scholarship** (grant ref.

A1271553). It is awarded only to the best students over the world.

They are awarded only to the best students, based on their BEng qualifications.

Teaching Activities

2022-02 (to be lectured)	Data Analysis for Geoscience (Master level). Universidad Diego Portales, Chile.
2022-02(to be lectured)	Bridge Engineering (Master level). Universidad Diego Portales, Chile.
2022-01	Hydraulics (Undergraduate level). Universidad Diego Portales, Chile.
2022-01	Hydrological Modelling (Master level). Universidad Diego Portales, Chile.
2021-02	Hydraulics (Undergraduate level). Universidad Diego Portales, Chile.
2021-02	Water Resources Modelling (Master level). Universidad Diego Portales, Chile.
2020-02	Visiting lecturer in <i>Ingegneria dei sistemi idraulici e dei trasporti</i> (Master level).
	Course: Bonifiche e Sistemazioni Idrauliche. University of Naples Federico II,
	Italy.

Projects

2022 – to date	Early warning system for drought management of ground watersurface water systems
	in Chilean Patagonia. Reference project number: FSEQ210010. Coordinator: Felipe
	Aguilar Sandoval (Aysen University, Chile).
2022 – to date	Monitoreo de Ríos en Patagonia bajo Cambio Acelerado Usando Sensores basados
	en Análisis de Imágenes, Ultrasonido y Láser. Reference project number:
	FOVI210055. Coordinator: Gerard Olivar Tost (Aysen University, Chile).
2022 - 2022	Hidráulica Online. Reference project number: Concurso Cursos
	Semipresenciales/Canvas UDP. Coordinator: Prof. Alonso Pizarro (Diego Portales
	University, Chile).
2022 - 2022	Bridge Erosion CriticAL Modelling (BE-CALM). Reference project number: Proyecto
	inserción en la investigación UDP (grant no. 1100327026). Coordinator: Prof. Alonso
	Pizarro (Diego Portales University, Chile).
2021 - 2022	INNOVAción docenTE Hidraulica (INNOVATE HIDRAULICA). Reference project
	number: INNOVATE HIDRAULICA. Coordinator: Prof. Alonso Pizarro (Diego
	Portales University, Chile).
2020 – to date	An integrative information aqueduct to close the gaps between global satellite
	observation of water cycle and local sustainable management of water resources
	(iAqueduct). Reference project number: iAqueduct. Coordinator: Prof. Zhongbo (Bob)
	Su (University of Twente, Netherlands).
2018 - 2022	Harmonisation of UAS techniques for agricultural and natural ecosystems
	monitoring (HARMONIOUS). Reference project number: CA COST Action
	CA16219. Coordinator: Prof. Salvatore Manfreda (University of Naples Federico II,
	Italy).

2015 - 2019	Euro-Latin America partnership in natural Risk mitigation and protection of the
	Cultural Heritage (ELARCH). Coordinator: Prof. Michelangelo Laterza (University
	of Basilicata, Italy).
2018	Monitoring of the infiltration state of Soils in Semiarid Environments (Cooperation
	project between Italy and Iran funded by CRUI, 2017). Visiting researcher at Ferdowsi
	University of Mashhad, Mashhad, Iran. Coordinator: Prof. Salvatore Manfreda
	(University of Naples Federico II, Italy).
2017 - 2018	Bridge Pier Scour Under Flood Waves. Reference project number: Fondecyt 1150997.
	Coordinator: Prof. Oscar Link (University of Concepcion, Chile).

Conference Organisation

- Convener of <u>EGU 2023</u> session (proposed): Advances in river monitoring and modelling for a climate emergency.
- Convener of <u>EGU 2022</u> entitled "HS1.1 Advances in river monitoring and modelling for a climate emergency: data-scarce environments, real-time approaches, inter-comparison of innovative and classical frameworks, uncertainties, harmonisation of methods and good practices".
- Convener of <u>EGU 2021</u> session entitled "HS1.1.2 Advances in river monitoring and modelling for a climate emergency: data-scarce environments, real-time approaches, inter-comparison of innovative and classical frameworks, uncertainties, harmonisation of methods and good practices".
- Primary convener of <u>EGU 2020</u> session entitled "HS1.1.4 Advances in river monitoring and modelling: data-scarce environments, real-time approaches, Inter-comparison of innovative and classical frameworks, uncertainties, Harmonisation of methods and good practices".

Invited Talks

- Keynote speaker at the international conference Gravel Bed Rivers 9, session 12: New tools for advanced studies of gravel-bed rivers. Title of the talk "The use of innovative technology for fluvial monitoring" (13th January 2023. Villarrica, Chile).
- Keynote speaker at XVI Jornadas de Hidráulica Francisco Javier Domínguez, 17-18 November 2022, Santiago, Chile.
- Presentation at webinar organised by the EU-COST *HARMONIOUS* project on "Flood ExtReme velOCity Estimations (FEROCE): Seeding metrics to image-velocimetry performances" (June 4th 2020) https://t.co/BkAMWfD5BZ?amp=1

Professional Society Memberships

- Member of the European Geophysical Union (EGU).
- Member of the International Association of Hydrological Sciences (IAHS), and friend of the Measurement and Observations in the 21st Century (MOXXI) group.
- Member of the Italian Hydrological Society (SII-IHS).
- Member of the Chilean Society of Hydraulic Engineering (SOCHID).
- Member of the International Association for Bridge Maintenance and Safety (IABMAS).

Reviewer

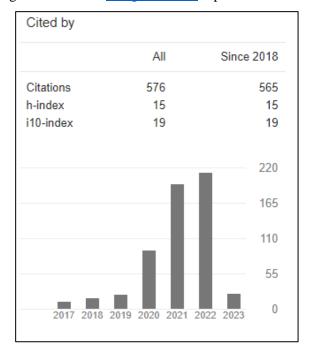
- Canadian Journal of Civil Engineering (Canadian Science Publishing).
- Engineering Structures (Elsevier).
- Environmental Fluid Mechanics (Springer).
- Hydrological Sciences Journal (Taylor and Francis).
- Hydrology (MDPI).
- Journal of Hydrology (Elsevier).
- Remote Sensing (MDPI).
- River Research and Applications (Wiley).
- Water (MDPI).

Editorial Board and Guest Editor

- Member of the Editorial Board of Frontiers in Remote Sensing (2020 to date).
- Member of the Editorial Board of Drones and Autonomous Vehicles (2022 to date).
- Guest Editor, Special issue: "The Use of Unoccupied Aerials Systems and Vehicles for Precision Agriculture": https://www.frontiersin.org/research-topics/37962/the-use-of-unoccupied-aerials-systems-and-vehicles-for-precision-agriculture?utm-source=F-
 - RTM&utm_medium=TED1&utm_campaign=PRD_TED1_T1_RT-TITLE
- Guest Editor, Special issue: "Advances in River Monitoring": https://www.mdpi.com/journal/hydrology/special_issues/61A611C18A

Last update: 09/02/2023

List of Publications (including citations from GoogleScholar - updated on 09/02/2023): h-index = 15



International Journals:

- 1. Faúndez, M., <u>Pizarro, A.</u> et al. (2022). "Sustainability of water transfer projects: A systematic review". Science of The Total Environment, 160500, https://doi.org/10.1016/j.scitotenv.2022.160500
- 2. Barraza-Moraga, F., <u>Pizarro, A.</u> et al. (2022). "Estimation of Chlorophyll-a Concentrations in Lanalhue Lake Using Sentinel-2 MSI Satellite Images". Remote Sensing, 14(22), 5647, http://dx.doi.org/10.3390/rs14225647
- 3. <u>Pizarro, A.</u>, Dimitriadis, P. et al. (2022). "Stochastic Analysis of the Marginal and Dependence Structure of Streamflows: From Fine-Scale Records to Multi-Centennial Paleoclimatic Reconstructions". Hydrology, 9(7), 126, http://dx.doi.org/10.3390/hydrology9070126
- **4.** <u>Pizarro, A.</u>, Dal Sasso, S. F., & Manfreda, S. (2022). "VISION: VIdeo StabilisatION using automatic features selection for image velocimetry analysis in rivers". SoftwareX, 19, 101173, http://dx.doi.org/10.1016/j.softx.2022.101173
- **5.** Bello, D., <u>Pizarro, A.</u> et al. (2022) "Influence of Dam Breach Parameter Statistical Definition on Resulting Rupture Maximum Discharge", Water, 14(11), 1776, https://doi.org/10.3390/w14111776
- **6.** Link, O. & <u>Pizarro, A.</u> (2022) "Discussion of "Estimation of Exceedance Probability of Scour on Bridges Using Reliability Principles"", Journal of Hydrologic Engineering (ASCE), https://doi.org/10.1061/(ASCE)HE.1943-5584.0002188
- 7. Paridad, P., <u>Pizarro, A.</u> et al. (2022) "Estimation of soil moisture from UAS platforms using RGB and thermal imaging sensors in arid and semi-arid regions". ACTA Horticulturae, 1335(42):339-348, https://doi.org/10.17660/ActaHortic.2022.1335.42
- **8.** <u>Pizarro, A.</u> et al. (2022) "Relative importance of parameters controlling scour at bridge piers using the new toolbox ScourAPP". Computers & Geosciences, 163(105117), https://doi.org/10.1016/j.cageo.2022.105117
- **9.** Tubaldi, E., <u>Pizarro, A.</u> et al. (2022) "Invited perspectives: Challenges and future directions in improving bridge flood resilience", Nat. Hazards Earth Syst. Sci., 22, 795–812, https://doi.org/10.5194/nhess-22-795-2022

- **10.** Acharya, B. S., <u>Pizarro, A.</u> et al. (2021) "Unmanned Aerial Vehicles in Hydrology and Water Management: Applications, Challenges, and Perspectives". Water Resources Research, 57(11), https://doi.org/10.1029/2021WR029925
- **11.** Ljubičić, R., <u>Pizarro, A.</u> et al. (2021) "A comparison of tools and techniques for stabilising unmanned aerial system (UAS) imagery for surface flow observations", Hydrol. Earth Syst. Sci., 25, 5105–5132, https://doi.org/10.5194/hess-25-5105-2021
- 12. Dal Sasso, S. F., <u>Pizarro, A.</u>, Manfreda, S. (2021) "Recent Advancements and Perspectives in UAS-Based Image Velocimetry". Drones, 5(3), 81, https://doi.org/10.3390/drones5030081
- **13.** Dal Sasso, <u>Pizarro, A.</u> et al. (2021) "Increasing LSPIV performances by exploiting the seeding distribution index at different spatial scales". Journal of Hydrology, 598, 126438. https://doi.org/10.1016/j.jhydrol.2021.126438
- **14.** Petermann-Rocha, F., <u>Pizarro, A.</u> et al. (2020) "Optimal cut-off points for waist circumference in the definition of metabolic syndrome in Chile". Public Health Nutrition, 23(16), http://dx.doi.org/10.1017/S1368980020001469
- **15.** Petermann-Rocha, F., <u>Pizarro, A.</u> et al. (2020) "Is waist-to-height ratio a better predictor of hypertension and type 2 diabetes than body mass index and waist circumference in the Chilean population?". Nutrition, http://dx.doi.org/10.1016/j.nut.2020.110932
- **16.** <u>Pizarro, A.</u> et al. (2020) "Identifying the optimal spatial distribution of tracers for optical sensing of stream surface flow". Hydrology and Earth System Sciences (HESS), https://doi.org/10.5194/hess-24-5173-2020
- 17. <u>Pizarro, A.</u>, Dal Sasso, S. F., Manfreda, S. (2020) "Refining image-velocimetry performances for streamflow monitoring: Seeding metrics to errors minimisation". Hydrological Processes; 1–9. https://doi.org/10.1002/hyp.13919
- 18. Dal Sasso, S. F., <u>Pizarro, A.</u> et al. (2020) "Metrics for the Quantification of Seeding Characteristics to Enhance Image Velocimetry Performance in Rivers". Remote Sensing, 12(11), 1789; https://doi.org/10.3390/rs12111789
- **19.** Perks, M., <u>Pizarro, A.</u> et al. (2020) "*Towards harmonisation of image velocimetry techniques for river surface velocity observations*". Earth Syst. Sci. Data, 12, 1545–1559, https://doi.org/10.5194/essd-12-1545-2020
- **20.** Manfreda, S., <u>Pizarro, A.</u> et al. (2020) "Potential advantages of flow-area rating curves compared to classic stage-discharge-relations". Journal of Hydrology, 124752, https://doi.org/10.1016/j.jhydrol.2020.124752
- **21.** <u>Pizarro A.</u>, Manfreda, S., Tubaldi, E. (2020) "The Science behind Scour at bridge Foundations: A Review". Water, 12(2), 374, https://doi.org/10.3390/w12020374
- 22. Pearce, S., <u>Pizarro, A.</u> et al. (2020) "An Evaluation of Image Velocimetry Techniques under Low Flow Conditions and High Seeding Densities Using Unmanned Aerial Systems". Remote Sensing, 12(2), 232, https://doi.org/10.3390/rs12020232
- 23. Link, O., <u>Pizarro, A.</u> et al. (2020) "Local Scour and Deposition at Bridge Piers during Floods". Journal of Hydraulic Engineering, 146(3), 04020003, https://doi.org/10.1061/(ASCE)HY.1943-7900.0001696
- **24.** <u>Pizarro, A.</u> & Tubaldi, E. (2019). "Quantification of modelling uncertainties in bridge scour risk assessment under multiple flood events". Geosciences, 9(10), 445, https://doi.org/10.3390/geosciences9100445
- **25.** Gheybi, F., <u>Pizarro, A.</u> et al. (2019) "Soil Moisture Monitoring in Iran by Implementing Satellite Data into the Root-Zone SMAR Model" Hydrology, https://doi.org/10.3390/hydrology6020044

- 26. Manfreda, S., Link, O., <u>Pizarro, A.</u> (2018) "A Theoretically Derived Probability Distribution of Scour Depth". Water 10.11 (2018): 1520, https://doi.org/10.3390/w10111520
- 27. Dal Sasso, S. F., <u>Pizarro, A.</u> et al. (2018) "Exploring the optimal experimental setup for surface flow velocity measurements using PTV", Environmental Monitoring and Assessment, 190(8), 460; https://doi.org/10.1007/s10661-018-6848-3
- 28. <u>Pizarro, A.</u> et al. (2017) "BRISENT: An entropy-based model for bridge-pier scour estimation under complex hydraulic scenarios". Water, 9(11), 889; https://doi.org/10.3390/w9110889
- **29.** <u>Pizarro, A.</u> et al. (2017) "Dimensionless Effective Flow Work for Estimation of Pier Scour Caused by Flood Waves". Journal of Hydraulic Engineering; https://doi.org/10.1061/(ASCE)HY.1943-7900.0001295
- **30.** Link, O., <u>Pizarro, A.</u> et al. (2017) "A model of bridge pier scour during flood waves". Journal of Hydraulic Research; https://doi.org/10.1080/00221686.2016.1252802

Book Chapters:

- 1. <u>Pizarro, A.</u> et al. "Urban river management by innovative monitoring", in Managing Urban Rivers: From planning to practice edited by Victor R. Shinde (in press)
- Strelnikova, D., <u>Pizarro, A.</u> et al. (2023) "River flow monitoring with UAS", in Unmanned Aerial Systems for Monitoring Soil, Vegetation, and Riverine Environments edited by Salvatore Manfreda & Eyal Ben-Dor; https://www.elsevier.com/books/unmanned-aerial-systems-for-monitoring-soil-vegetation-and-riverine-environments/manfreda/978-0-323-85283-8
- 3. Bertalan, L., <u>Pizarro, A.</u> et al. (2023) "Monitoring of river channel dynamics by UAS", , in Unmanned Aerial Systems for Monitoring Soil, Vegetation, and Riverine Environments edited by Salvatore Manfreda & Eyal Ben-Dor; https://www.elsevier.com/books/unmanned-aerial-systems-for-monitoring-soil-vegetation-and-riverine-environments/manfreda/978-0-323-85283-8
- 4. Manfreda, S., <u>Pizarro, A.</u> et al. (2019) "New insights offered by UAS for river monitoring", in Applications of Small Unmanned Aircraft Systems: Best Practices and Case Studies edited by J. B. Sharma; https://doi.org/10.1201/9780429244117

Datasets:

1. <u>Pizarro, A.</u> et al. (2020) "Data on spatial distribution of tracers for optical sensing of stream surface flow", https://doi.org/10.5281/zenodo.3761859

Codes:

- 1. <u>Pizarro, A.</u> et al. (2021) "ScourAPP: A Toolbox for Local Scour and Deposition at Bridges during Floods", https://doi.org/10.17605/OSF.IO/VDB9N
- 2. <u>Pizarro, A.</u> et al. (2020) "VISION: VIdeo StabilisatION using automatic features selection", https://doi.org/10.17605/OSF.IO/HBRF2
- 3. <u>Pizarro, A.</u> et al. (2020) "Identifying the Optimal Spatial Distribution of Tracers for Optical Sensing of Stream Surface Flow", https://www.doi.org/10.17605/OSF.IO/8EGQW

Conferences:

- 1. Dal Sasso, S. F., <u>Pizarro, A.</u> et al. "Techniche ottiche PTV e LSPIV per il monitoraggio fluviale: Una applicazione al fiume Basento", XXXVII Convegno Nazionale di Idraulica e Costruzioni Idrauliche, Reggio Calabria, September, 2022.
- Dal Sasso, S. F., <u>Pizarro, A.</u> et al. "VISION: un software open source di stabilizzazione delle immagini da sapr per il monitoraggio idrologico dei fiumi", XXXVII Convegno Nazionale di Idraulica e Costruzioni Idrauliche, Reggio Calabria, September, 2022.
- **3.** Pizzolla, T., <u>Pizarro, A.</u> et al. "La classificazione della copertura del suolo a supporto della stima del contenuto idrico del suolo da SAPR", XXXVII Convegno Nazionale di Idraulica e Costruzioni Idrauliche, Reggio Calabria, September, 2022.
- **4.** Dal Sasso, S., <u>Pizarro, A.</u> et al. "The impact of a multi-criteria calibration on the performances of the DREAM model", EGU General Assembly Conference: EGU 2022.
- 5. Dal Sasso, S., <u>Pizarro, A.</u> et al. "Seeding metrics for image velocimetry performances in rivers", EGU General Assembly Conference: EGU 2021.
- 6. Pizzolla, T., <u>Pizarro, A.</u> et al. "Soil moisture estimation from high-resolution UASs imagery based on machine learning approaches for land cover classification", EGU General Assembly Conference: EGU 2021.
- 7. <u>Pizarro, A.</u>, Dal Sasso, S. F., Manfreda, S. "Image-velocimetry techniques under particle aggregation for streamflow monitoring: a numerical approach", EGU General Assembly Conference: EGU 2020.
- **8.** Manfreda, S., <u>Pizarro, A.</u> et al. "*Use of Unmanned Aerial Systems for Hydrological Monitoring*", EGU General Assembly Conference: EGU 2020.
- **9.** Pearce, S., <u>Pizarro, A.</u> et al. "An evaluation of image velocimetry techniques under low flow conditions and high seeding densities using Unmanned Aerial Systems", EGU General Assembly Conference: EGU 2020.
- **10.** Dal Sasso, S. F., <u>Pizarro, A.</u>, Manfreda, S. "On the characterisation of open-flow seeding conditions for image-velocimetry techniques using UASs", EGU General Assembly Conference: EGU 2020.
- 11. Paridad, P., <u>Pizarro, A.</u> et al. "Estimation of soil moisture from UAS platforms using RGB and thermal imaging sensors in arid and semi-arid regions", IX International Symposium on Irrigation of Horticultural Crops (17 20 June, 2019, Matera, Italy).
- 12. <u>Pizarro, A.</u> & Manfreda, S. "A Theoretically Derived Probability Distribution of Scour to evaluate bridge-pier vulnerability", EGU General Assembly Conference: EGU 2019 (07 12 April, Vienna, Austria).
- 13. Dal Sasso, S., <u>Pizarro, A.</u> et al. "Accuracy of Large-Scale Particle Image Velocimetry (LSPIV) techniques applied on low seeding density flows", EGU General Assembly Conference: EGU 2019 (07 12 April, Vienna, Austria).
- **14.** <u>Pizarro, A.</u> et al. "An integrated stochastic model of the river discharge process with emphasis on floods and bridge scour", EGU General Assembly Conference: EGU 2018 (08 13 April, Vienna, Austria).
- **15.** <u>Pizarro, A.</u> et al. "Assessment of different scour models on the Markovian scour increment framework", EGU General Assembly Conference: EGU 2018 (08 13 April, Vienna, Austria).
- **16.** <u>Pizarro, A.</u> et al. "Discharge Uncertainty on Bridge Scour Process", EGU General Assembly Conference: EGU 2018 (08 13 April, Vienna, Austria).

- 17. Laguna, E., <u>Pizarro, A.</u> et al. "Natural Risk Mitigation and Cultural Heritage Protection, preliminary outcomes of the ELARCH project", EGU General Assembly Conference: EGU 2018 (08 13 April, Vienna, Austria).
- **18.** Nezi, M., <u>Pizarro, A.</u> et al. "Stochastic investigation of the streamflow process adjusted for human impact", EGU General Assembly Conference: EGU 2018 (08 13 April, Vienna, Austria).
- **19.** Samela, C., <u>Pizarro, A.</u> et al. "Geomorphic approaches for flood risk mapping", EGU General Assembly Conference: EGU 2018 (08 13 April, Vienna, Austria).
- **20.** <u>Pizarro, A.</u> et al. "Considerations on Bridge-pier design: Past versus Future practices", Anidis 2017 XVII Conference (17 21 September, Pistoia, Italy).
- **21.** Dal Sasso, S., <u>Pizarro, A.</u> et al. "Monitoring surface flow velocity using natural tracers and noncontact techniques", IAHS Scientific Assembly 2017 (10 14 July, Port Elizabeth, South Africa).
- **22.** <u>Pizarro, A.</u> et al. "Informational Entropy and Bridge Scour Estimation under Complex Hydraulic Scenarios", EGU General Assembly Conference: EGU 2017 (23 28 April, Vienna, Austria).
- **23.** Dal Sasso, S., <u>Pizarro, A.</u> et al. "Testing different tracers for stream flow monitoring with UAS", EGU General Assembly Conference: EGU 2017 (23 28 April, Vienna, Austria).
- **24.** <u>Pizarro, A.</u>, Manfreda, S., Link, O. "Socavación de puentes frente a diferentes condiciones hidráulicas", XII International conference on structural repair and rehabilitation: CINPAR 2016 (26 29 October, Porto, Portugal).
- **25.** Link, O., <u>Pizarro, A.</u> et al. "A model for scour around bridge piers caused by flood waves", 8th International Conference on Scour and Erosion: ICSE 2016 (12 15 September, Oxford, Uk).
- **26.** <u>Pizarro, A.</u> & Link, O. "Intensidad de flujo generalizada: Un parámetro adimensional que explica la socavación local bajo condiciones hidráulicas impermanentes", XXII Congreso de Ingeniería Hidráulica: SOCHID 2015 (21 23 October, Santiago de Chile, Chile).