

ANTONIO J. RAMIREZ

Welding Engineering Program – Department of Materials Science and Engineering
The Ohio State University
1248 Arthur E. Adams Drive, Columbus-OH, 43221 – (614)614-9710788
ramirez.49@osu.edu

SUMMARY OF QUALIFICATIONS

- 26 years of significant engineering, scientific, and teaching accomplishments for corporations, national laboratories, and universities in three different countries. Including: 24 years teaching undergrad, grad. and specialized courses at leading universities and companies in USA, Brazil, and Colombia; 21 years leading research teams and at management positions.
- Demonstrated expertise managing multiple tasks in demanding and strategic academic, business, research, and government environments.

PROFESSIONAL EXPERIENCE**Leading, Supervising, and Management**

- IAspire Fellow 2021. Leadership development program.
- Director of NSF-IUCRC center Manufacturing & Materials Joining Innovation Center - MA²JIC (2016-date), with ~\$62 Million in research expenses over 13 years.
- Graduate Studies Chair – Welding Eng. Program – Dept. of Materials Science and Eng. – The Ohio State University (OSU) (03/2015-11/2018)
- Deputy director of the Brazilian Nanotechnology National Laboratory (LNNano) (2012-2015)
- Director and lead scientist of the Materials Characterization and Processing Group at LNNano (32 people team including scientists, engineers, technicians, trainees, and students) (2011-2015)
- Director and lead scientist of the Electron Microscopy Center at the Brazilian Synchrotron Light Laboratory (LNLS) and LNNano (35 people team including scientists, engineers, chemists, physicists, technicians, trainees, and students) (2005-2012)
- Graduate students' supervisor at M.Sc. and Ph.D. level at The Ohio State Univ., Univ. of Campinas-Brazil and Fluminense Federal Univ.-Brazil. Has completed supervision of 19 M.Sc. and 23 Ph.D. students, and nowadays supervises 2 M.Sc. and 6 Ph.D. candidates (2005-date).
- Post-doctoral researchers supervisor at LNLS, LNNano, and OSU. Has completed 13 and has 1 ongoing supervision (2005-date).
- Industrial Research Program Manager at LNLS (2004-2010).
- Scientific director of the Brazilian Welding Society (ABS) (2006-2009).

Research

- Manufacturing in Space, with a focus on materials joining.
- Studies fundamental phenomena associated with additive manufacturing to drive the development of new approaches to engineer materials and components' microstructure, performance, and functionality.
- Highly involved in both fundamental and industry-applied R&D in materials science using advanced experimental and numerical simulation tools with emphasis on welding and joining metallurgy and processes (including FSW, FSP, and friction element welding) and nano-materials characterization.
- Developed unprecedented physical thermo-mechanical simulation instrumentation associated with the Brazilian synchrotron source and is currently performing groundbreaking research, in collaboration with scientists from around the world, on the fundamentals of phase transformations and their application to materials processing and performance optimization.
- Developed industry and government-funded research projects in areas such as: The application of grain boundary engineering to overcome failure mechanisms in nickel-base alloys and stainless steels; Application of fundamental metallurgy to the optimization of welding process for low alloy high-strength steels; Brazing for high pressure fuel systems for the automotive industry; Welding fume

characterization at the nano-scale; Electronics joining research; Friction stir welding and processing technology for the energy and automotive industries; Ground-breaking nano-electronics and nano-devices development and characterization.

- Developed unique high temperature in-situ thermo-mechanical instrumentation coupled with electron microscopy, including dedicated high temperature stages and electron detectors and applied them to study the fundamentals of materials failure and phase transformations.
- Performed studies of the metallurgical phenomena associated with microstructural evolution during friction stir welding of Ti, Ni and Al alloys, as well as high strength steels and stainless steels. He has also worked on the numerical modeling of FSW process using FEM and CFD.
- Developed innovative scanning and transmission electron microscopy techniques to characterize down to the atomic scale structural and functional metallic, ceramic, and semiconductor materials. Among the studied materials can be highlighted Si-Ge and CdTe quantum dots, Ti(CN) thin films, hydroxyapatite, Sb:SnO₂, Gd:CeO₂, and metallic nanoparticles.
- Performed studies to improve the weldability of duplex stainless steels, resulting in the proposal of a novel model of secondary austenite precipitation and its relationships with chromium nitrides.

Education and Training

- Teaches Welding Metallurgy and Additive Manufacturing at Welding Eng. Program – Dept. of Materials Science and Eng. – The Ohio State University (2015-date)
- Taught welding metallurgy and advanced joining technologies at Petrobras University and Welding Engineering Program at SENAI, as invited Prof. (Brazil, 2009-2014)
- Taught graduate level electron microscopy and welding metallurgy courses at the Mechanical Eng. School of University of Campinas as invited Prof. (Brazil, 2004-2014).
- Taught fundamental and advanced topics on the Summer Advanced Electron Microscopy School hold at LNLS and LNNano (Brazil-2007, 2009, 2010, 2012, 2014).
- Taught graduate level electron microscopy courses at the Polytechnic School of University of São Paulo as invited Prof. (Brazil, 2004-2009).
- Participated on the development and implementation of the Brazilian Welding Engineer Education and Certification program within the Brazilian Welding Society (Brazil-2004-2006).
- Taught a stainless steels welding course at LNLS (Brazil-2004).
- Taught materials-related courses (Stainless Steels and Non-Ferrous Welding Metallurgy, Introduction to Welding Metallurgy, Steels Welding Metallurgy) at The Ohio State University (USA 2002-2003).
- Taught course on welding metallurgy and practices for stainless steels. ABB - Oil, Gas and Petrochemical Division (Brazil-2001).
- Taught Materials for Medical Applications course at the Engineering School of Antioquia, as Invited Prof. (Colombia-2000).
- Taught Metallurgical Fundamentals of Welding Defects course at the National University of Colombia, as invited Prof. (Colombia-1998).
- Lectured short duration courses welding, weldability, and electron microscopy on several Brazilian conferences as XI Latin-American Welding Congress (Brazil-1998), XXXIII Brazilian Welding Conference (Brazil 2007), 20th Brazilian Conf. Mater. Sci. Eng. CBECIMAT (Brazil-2012).
- Participated on the implementation of welding metallurgy, welding defects, phase transformations and diffusion in solids courses at University of Sao Paulo as graduate teaching associate (Brazil-1996-2001).

Conferences and Schools Organization

- Co-organizer for the Additive Manufacturing of Refractory Metallic Materials Symposium – TMS 2024 (USA-2024)
- Chaired the Additive Manufacturing of Refractory Metallic Materials Symposium – TMS 2023 (USA-2023)
- Chaired the Additive Manufacturing of Refractory Metallic Materials Symposium – TMS 2022 (USA-2022)

- Co-Chaired the International Workshop In-situ Studies with Photons, Neutrons and Electrons Scattering (Germany-2009; Japan-2012; USA-2016).
- Created and Organized the Summer Advanced Electron Microscopy School hold at LNLS and LNNano (Brazil-2007-2008-2010-2012).
- Co-organized the XXIII Brazilian Society for Microscopy and Microanalysis Conference - CSBMM (Brazil-2011).
- Chaired the 1st Brazilian Symposium in Friction Stir Welding and Processing - X Brazilian MRS (SBPMat) Conference (Brazil-2011).
- Co-organized 21st International Congress on X-ray Optics and Microanalysis (Brazil-2011).
- Co-Chaired IIW International Congress - 2nd Latin American Congress - XXXIV Brazilian Welding Congress (Brazil-2008).
- Chaired the Symposium in High Resolution Electron Microscopy - VII Brazilian MRS (SBPMat) Conference (2008).
- Chaired the XXXIII Brazilian Welding Congress (Brazil-2007).

Project Leading, Management and Participation – Research Funding

- Co-Leads Weld-Ed - Ma²JIC program for the involvement of students from Community Colleges from Ohio, North Dakota, and Tennessee on research activities, funded by NSF-START, \$375k (2021-date).
- IAspire Fellow, within the IAspire Leadership academy, 2021-2023
- Leads team involving NASA, AFRL, OSU, Univ. of Dayton, Nanoracks, Lincoln Electric, and Agile Ultrasonics to study laser welding in space, funded by OFRN, 1,300k (2022-2024)
- Leads team involving NASA, AFRL, and OSU to study laser welding in space, funded by AFRL Midwest Hub, 220k (2022-2025)
- Leads (PI) research projects on multi-material joining for the automotive industry funded by Honda R&D, FCA and ArcelorMittal. US\$600k (2017-date)
- Participated (Co-I) on project on the specification and acquisition of Openly-controlled and monitored, multibeam laser additive manufacturing system, funded by USAF-DURIP, \$480k (2019-2021).
- Participated (Co-I) on research project on Multiphysics integrated modeling for self-reacting friction stir welding, funded by NASA-ESI, \$600k (2019-2022).
- Led (PI) research project Advanced microstructure control in the directed energy deposition process, Co-funded by The Naval Nuclear Laboratory (NNL) and U.S. Army – GVSC, \$300k (1020-2022).
- Participated (Co-I) on research project Controlled surrogate defect generation to enable rapid qualification of LPBF, funded by National Center for Defense Manufacturing and Machining, \$800k (2020-2021).
- Led research project on the development of repair technologies for spent fuel canisters funded by DOE, US\$800k (2018-2022)
- Led (PI) research project on FeMnAl weldability funded by U.S. Army GVSC, US\$250k (2018-2022)
- Led (PI) on Microstructural evolution during friction stir welding of 2219-T87 Al-alloy for enhanced process capability in structural aerospace applications, funded by NASA, \$80k (2020-2021).
- Led (PI) the development of the OSU core-facility on metal Additive Manufacturing, US\$300k (2017-2019)
- Led (PI) project on the development of repair technologies for Coke-Drums for the O&G industry, including the development of a new low-cycle thermo-mechanical fatigue test, US\$850k. (2016-2023)
- Led (PI) and participated in research projects funded by General Electric, EWI, NASA and Sandia National Lab. on Additive Manufacturing and micro-laser welding to study defect formation, gas effect and element evaporation during processing, US\$700k (2018-2020)
- Led (PI) international project (Brazil-USA) to study the combined effect of strain/stress and temperature on phase transformations using dynamic experiments associated with synchrotron radiation. Awarded by CNPq (Federal government agency for research sponsorship) for US\$110k.
- Led (PI) several R&D projects at LNLS and LNNano on materials science and specially friction stir welding and processing of high temperature alloys including HSLAS steels, stainless steels and Ni-

base alloys for the energy and automotive industries as Petrobras, FMC, Mahle, BNDES bank, Tenaris. Some of these projects have received matching funding from Brazilian government agencies (FINEP, FAPESP and CNPq) with combined funding over US\$9,5M.

- Led (PI) research infrastructure implementation and modernization projects at LNLS and LNNano awarded by FINEP (Federal government agency for research sponsorship), FAPESP (São Paulo State government agency for research sponsorship) and Petrobras for over US\$5M.
- Led (PI) research project on intermediate temperature fracture of Ni-base alloys, awarded by FAPESP and CNPq for US\$150k.
- Managed a (US\$250k) project to study duplex stainless steel weldability.

Written and Verbal Communication

- Authored and co-authored more than 450 scientific technical papers on journals and conference proceedings from nano-science to materials science, and welding metallurgy (list of publications on journals is attached).
- Prepared and edited diverse technical and executive reports related with fabrication inspection, risk and failure analysis, research projects and other activities.
- Prepared several consulting and research proposals.
- Presented technical speeches as author and invited speaker in diverse Brazilian, Colombian and international technical meetings in USA, Europe and Asia.

Technical Consulting

- Materials Processing (Cleveland Golf, 2023)
- Additive Manufacturing (Aerojet Rockdyne, 2020-2022)
- Materials Joining (Advanced Morgan Ceramics, 2020-2023)
- Weldability and Printability of Ni-based and Precipitation Hardening SS (NASA-MSFC, 2020-2021)
- Dissimilar materials joining (Novelis, 2019)
- FSW of high temperature materials for the Brazilian oil and gas industry and its supply chain (Brazil-Petrobras, Tenaris, FMC, 2006-2018)
- Application of advanced materials and development of innovative fabrication techniques for the automotive industry (Mahle-Brazil-2011-2014).
- Implementation of FSW for Al billet processing (Brazil-Alcoa-2011).
- Optimization of brazing processes for the production of high-pressure fuel systems (Bosch-Brazil-Germany-2005-2008).
- Design and optimization of duplex stainless steels welding procedures for ultra-depth offshore oil production equipment (ABB - Oil, Gas and Petrochemical Division–Brazil-2001).
- Performed diverse reverse engineering and failure analyses for USA and Brazil based companies (Nokia – soldering; Petrobras – oil exploration and petrochemical processing equipment; COSAN - pressure vessel; TWI Brasil - oil pipes; Ferrovias do Sul - Failure of train wheels; The Brazilian Army – Aluminum welds cracking phenomena in assault ships).

Welding and Inspection Engineer

- Selected and coordinated a team of mechanical and electrical engineers to perform risk and failure analysis on a number of projects for diverse Colombian and international insurance companies. (1993-1994).
- Lead consultant engineer for large hydraulic turbine welding repairs (1993).
- Proficient interpretation and application of ASME and AWS codes and standards for piping, pressure vessels, welding and inspection for large energy projects (1993).

Mechanical Engineer

- Participated in the specification and installation of new industrial equipment; led the development and implementation of a predictive maintenance program that reduced shutdown time by 15% and maintenance costs by 20% in an animal food company.

- Assisted in the design, fabrication, inspection and startup of piping, tubing and industrial equipment such as filters and scrubbers. Conceived and launched the automation of cutting operations in a pollution control equipment fabrication company.

EDUCATION

- **Ph.D. Metallurgical and Materials Engineering** GPA (4.0/4.0) 1997- 2001
University of Sao Paulo (Brazil) – Advisor: Sérgio D. Brandi
The Ohio State University (USA) -10 months of research activities – Advisor: John C. Lippold
Thesis: Chromium nitride and secondary austenite precipitation during multipass welding of duplex stainless steels.
- **M.Sc. Metallurgical and Materials Engineering** GPA (4.0/4.0) 1995- 1997
University of Sao Paulo (Brazil) - Advisor: Sérgio D. Brandi
Dissertation: Chromium nitride and sigma phase precipitation during multipass welding of duplex stainless steels (Awarded Distinction and Honors).
- **B.S. Mechanical Engineering** GPA (4.1/5.0) 1987- 1992
National University of Colombia (Colombia)

EMPLOYMENT HISTORY

- 2015-date Professor
Welding Eng. Program Graduate Studies Chair
Director of NSF-I/UCRC - Manufacturing and Materials Joining Innovation Center (Ma²JIC)
Dept. of Materials Science and Eng. The Ohio State University
- 2011-2015 Deputy Director
Director and Lead Scientist of the Materials Processing and Characterization Group
Director and Lead Scientist at the Electron Microscopy Center
Senior Researcher Brazilian Nanotechnology National Laboratory
- 2004-2011 Director and lead scientist at the Electron Microscopy Center
Industrial Research Manager
Senior Researcher
Researcher Brazilian Synchrotron Light Laboratory - Brazil
- 2001-2003 Lecturer
Research Associate
Postdoctoral Fellow The Ohio State University - USA
- 1995-2001 Manager Welding Laboratory
Graduate Research Associate University of Sao Paulo - Brazil
- 1993-1995 Lead Eng. at the Mech. Risk Division
Welding and Inspection Eng. Integral S.A. – Colombia (engineering consulting for power generation)
- 1993 Maintenance Engineer Solla S.A. – Colombia (production of animal food)
- 1991-1993 Design Engineer D&F Ltda. – Colombia (development and fabrication of environment protection equipment)

LANGUAGE SKILLS

English (Fluent), Portuguese (Fluent), Spanish (Native Speaker).

AWARDS AND DISTINCTIONS

- American Welding Society (AWS) Fellow, 2019.
- Student Poster Award, Microscopy Society of America (MSA), M&M 2017, St. Louis , G. Lee, A. Nassiri, G. Faria-Abreu; J. Orsborn, J. Rodriguez, A.J. Ramirez. Rapid Nanometer Mapping of Nickel-Steel Friction Stir Weld Joint.
- Student Scholar Award, M&M 2017, St. Louis , MO. G. Lee, A. Nassiri, G. Faria-Abreu; J. Orsborn, J. Rodriguez, A.J. Ramirez. Rapid Nanometer Mapping of Nickel-Steel Friction Stir Weld Joint.
- First Place Prize, Best Poster Competition, 146th Annual Meeting and Exhibition (2017). The Minerals, Metals and Materials Society - TMS, San Diego, CA, USA. G. Lee, J. Orsborn, A.J. Ramirez. Efficient High Resolution Study of Dissimilar Metal Interfaces.
- IMR Yeoman Award (2016). Institute of Materials Research – IMR, The Ohio State University. Columbus-OH, USA.
- Mckay-Helm Award (2011). American Welding Society - AWS. Chicago-IL, USA.
- Best Brazilian M.Sc. Dissertation – Embraer award (2008). Brazilian Society of Mechanical Engineering and Sciences - ABCM. Graduate student E.A. Torres, under A.J. Ramirez supervision.
- Honor Distinction – Undergraduate research award (2007). CNPq (Brazilian council for research). Undergraduate student Fellipe G. Peternella, under A.J. Ramirez supervision.
- Charles H. Jennings Memorial Award – 2005. American Welding Society. 85th Annual AWS Convention, Dallas-TX, USA.
- AWS Professional Poster Competition, First Place. American Welding Society-USA-2003. Awarded to the best professional technical poster presented at the 84th Annual AWS Convention.
- AWS Poster Competition, Second Place. American Welding Society-USA-2002. Awarded to the best technical posters presented at the 83rd Annual AWS Convention.
- Post-Doctoral Fellowship. The Ohio State University–USA-2001. Awarded to young outstanding post-doctoral research scientists.
- Distinction and Honors for the Master Dissertation. University of Sao Paulo-Brazil-1997. Highest possible award for a master or Ph.D. dissertation or thesis
- Lincoln Electric Award. Brazilian Welding Association-Brazil-1997. -Brazil-1997. Awarded to the best welding metallurgy paper presented at the X Latin-America Welding Congress.
- Graduate Fellowship. Brazilian Secretary of Science-Brazil-1995. Awarded to international students with outstanding performance.
- Student of the Year. National University of Colombia-Colombia-1993. Awarded to the graduating student with the highest GPA.
- Honor Registration. National University of Colombia-Colombia - 1988-1989. Awarded to the undergraduate student with the highest GPA of the Department of Mechanical Engineering.
- Tuition exemption due to excellent academic performance. National University of Colombia-Colombia - 1987- 1992. Awarded exemption from tuition as undergraduate student for 11 academic periods between 1987 and 1992 due to his excellent academic performance and elevated GPA at the Department of Mechanical Engineering.

PROFESSIONAL MEMBERSHIPS

- American Welding Society (AWS)
- Materials Information Society (ASM)
- Brazilian Welding Society (ABS)
- American Society For Nondestructive Testing (ASNT)
- Microscopy Society of America (MSA)
- Brazilian MRS (SBPMAT)
- The Minerals, Metals and Materials Society (TMS)

PATENTS AND REGISTERED SOFTWARE

- Patent Deposited - COMPOSITIONS, METHODS, AND SYSTEMS FOR RESISTANCE SPOT WELDING OR BRAZING ALUMINUM TO STEEL, 2022, USA
- Registered Software - BR 51 2015 000077-2 INPI-Brazil – RAMIREZ, A.J.; STROPPA, D.G.; MONTORO, L.A.; RIGHETTO, R.D., MEGACELL, 2015, Brazil.
- Patent – BR 10 2015 009867 7 INPI-Brazil – RAMIREZ, A.J.; BERTONI, E.; WU, L.; ARAUJO, T.; Cooling system for thermomechanical simulators using cryogenic fluids, 2015, Brazil.
- Patent - PI07055480 INPI-Brazil - RAMIREZ, AJ; SCORZATO, C.R. ; TORRES, E. A. ; SANTOS, RG . Process and dispositive for secondary electron detection at high temperature, 2007, Brazil.

GRADUATE STUDENTS AND POSTDOCTORAL RESEARCHERS' SUPERVISION

M.Sc. (19 former, 2 actual):

1. **R.M. Seraphin** (2005-UNICAMP) Senior Eng. at Brazilian Synchrotron Light Lab.-Brazil; 2. **E.A.Torres** (2006-UNICAMP) Prof. Univ. de Antioquia-Colombia; 3. **J.D. Escobar** (2013-UNICAMP) Ph.D. student at LNNano-Brazil; 4. **E.B. Fonseca** (2013-UNICAMP) Eng. at LNNano-Brazil; 5. **M.C. Theodoro** (2013-UNICAMP) Ph.D. student at Unicamp-Brazil; 6. **N. Nascimento** (2013-UNICAMP); 7. **G. Faria** (2014-UNICAMP) Ph.D. student at OSU; 8. **A.F.F. Acuna** (2016-OSU) Eng. Petrobras; 9. **G. Lee** (2017-OSU) Fast Radius, Inc.; 10. **D. Sorensen** (2017-OSU) Eng. Medtronic; 11. **J. Berger** (2018-OSU) Sandia National Lab.; 12. **T. Patterson** (2018-OSU) INL; 13. **B. Smith** (2018-OSU) Ph.D. Student OSU; 14. **W. Evans** (2019-OSU) Eng. NASA-Marshall; 15. **H. Mendoza** (2020-OSU) Additive Manufacturing Eng. SpaceX; 16. **K. Namola** (2021-OSU) Toyota; 17. **S. Hawkes** (2021-OSU) Southern Fabrication Works-USA; 18. **P. Lyda** (2022-OSU) BlueOrigin-USA. 19. **L. Amanuel** (2023-OSU) Tenneco-USA.

Actual: 1. **K. Orsborne** (2023-OSU); 2. **E. Choi** (2023-OSU)

Ph.D. (23 former, 6 actual):

1. **J.U. Silgado** (2010-UNICAMP) Prof. Cost Univ.-Colombia; 2. **D.G. Stroppa** (2011-UNICAMP) Scientist FEI-Netherlands; 3. **T.F.A. Santos** (2012-UNICAMP) Prof. at UFPE-Brazil; 4. **E.A.Torres** (2012-UNICAMP) Prof. at Univ. de Antioquia-Colombia; 5. **T.F.C. Hermenegildo** (2012-UNICAMP) Researcher UFRN-Brazil; 6. **J. Rodriguez** (2013-UNICAMP) Prof. at Univ. Eng. School Antioquia (EIA)-Colombia; 7. **J. Avila** (2016-UNICAMP) Prof. at Univ. Politècnica de Catalunya-Spain; 8. **C.R. Rodrigues** (2016-UERJ) Sr. Eng. Petrobras. 9. **J. Escobar** (2018-UNICAMP-OSU) Reseracher at PNNL-USA. 10. **R.J. Chamorro** (2018-UNICAMP) Prof. at Univ. Uninorte-Colombia. 11. **M. Eff** (2019-OSU) Eng. EWI. 12 **G. Faria** (2019-OSU) Scientist DESY-Germany. 13. **S. Romo** (2019-OSU) U. Pascual Bravo-Colombia. 14. **S. Boeing** (2020-OSU) Cleveland Golf; 15. **B. Sutton** (2021-OSU) EPRI-USA; 16. **E. Brizes** (2022-OSU) Nasa-Glenn-USA; 17. **B. Lara** (2022-OSU) NuSpace-USA; 18. **J. Rindler** (2022-OSU) Addman-USA; 19. **K. Riffel** (2022-UFSC) OSU; 20. **S. Zhang** (2022-OSU) EPRI-USA; 21. **A.F.F. Acuna** (2023-OSU) Lincoln Electric-USA; 22. **P.B.P. Leao** (2023-UFC) ArcelorMittal-Brazil; 23. **L.F.K. Unti** (2023-ITA) Postdoctoral Researcher at UNICAMP-Brazil.

Actual: 1. **J. Berkson** (OSU), 2. **N. Daubenmier** (OSU); 3. **J. Guzman** (OSU); 4. **H. L Henao** (OSU); 5. **A. Tiley** (2022-OSU); 6. **A. Brimmer** (2024-OSU).

Postdoctoral Researchers (13 former, 1 actual):

1. **C.M. Garzon** (2006) Prof. National Univ. of Colombia; 2. **D. Biggemann** (2007); 3. **H.D. Carvajal** (2009) Prof. Sant. de Cuba Univ.; 4. **L.A. Montoro** (2011) Prof. Federal Univ. of Minas Gerais-Brazil; 5. **A.C. Issac** (2011) Prof. Federal Univ. of Minas Gerais-Brazil; 6. **C.M. Ospina** (2013) Researcher at LNNano-Brazil; 7. **J. Rodriguez** (2013) Prof. Univ. Eng. School Antioquia (EIA)-Colombia; 8. **O.M. Cintho** (2016) Prof. State Univ. of Ponta Grossa-Brazil, 9. **J. Hoyos** (2017) State Univ. of Ponta Grossa-Brazil; 10. **H.H. Bernardi** (2016) Prof. FATEC Sao Jose dos Campos-Brazil. 11. **J. Oliveira** (2017) Prof. (Portugal). 12. **A.M.S. Costa** (2014-2018). 13. **R.A.R. Giorjao** (2019-2022) EWI-USA.

Actual: K. Riffel (2023-OSU)

PUBLICATIONS

Papers on Journals (159) – h index: 41 – i10 index: 106 – 5684 citations (Google Scholar)

1. Riffel, K. C., Silva, R. H. G., Ramirez, A. J., Acuna, A. F. F., Dalpiaz, G., & Paes, M. T. P., Multiphysics Simulation of In-Service Welding and Induction Preheating: Part 1. *Welding Journal*, 103(02), 48s–61s. <https://doi.org/10.29391/2024.103.005>.
2. Riffel, K. C., Silva, R. H. G., Ramirez, A. J., Acuna, A. F. F., Dalpiaz, G., & Paes, M. T. P. (2024). Multiphysics Simulation of In-Service Welding and Induction Preheating: Part 2. *Welding Journal*, 103(3), 85s–93s. <https://doi.org/10.29391/2024.103.008>.
3. Acuna, A., Riffel, K. C., Ramirez, A.J. Sigma phase kinetics in DSS filler metals: A comparison of sigma phase formation in the as-welded microstructure of super duplex stainless steel and hyper duplex stainless steel. *Materials Characterization*, 207 (2024) 113433. <https://doi.org/10.1016/j.matchar.2023.113433>
4. Paiva Leão, P. B., Rodrigues de Barros Neto, J., Rodrigues, S. F., Goncalves Rodrigues, M. V., Barroso Xavier, J. V., Lima, T. N., Reis, G. S., Ramirez, A. J., & De Abreu, H. F. G.. In-situ and interrupted cyclic three-point bending tests in SEM of two pearlitic steel microstructures: Lamellar and partially spheroidized. *Journal of Materials Research and Technology*, 28 (2024) 2990-3012. <https://doi.org/10.1016/j.jmrt.2023.12.169>
5. Rodrigues, P. H. E., Unti, L. F. K., Mariani, F. E., Gargarella, P., Cintho, O. M., Ramirez, A. J., & Zilnyk, K. (2023). Effect of Hot Isostatic Pressing of Water Atomized AISI 316L Manufactured by Laser Powder Bed Fusion. *Materials Research*, 26. <https://doi.org/10.1590/1980-5373-MR-2023-0074>
6. Dutra, J. C., Riffel, K. C., Silva, R. H., Ramirez, A. J. (2023). A Contribution to the Analysis of the Effects of Pulsed Current in GTAW Welding of 1-mm-Thick AISI 304 Sheets. *Metals*, 13(8), 1387. <https://doi.org/10.3390/met13081387>
7. Acuna A, Ramirez A, Riffel KC. Using kinetics to avoid sigma phase formation on hyper duplex stainless weld cladding. *Sci Technol Weld Join* 2023. <https://doi.org/10.1080/13621718.2023.2246719>.
8. Paiva Leão, P. B., Barros Neto, J. R., Rodrigues, S. F., Xavier, J. V. B., Cardoso, J. L., Gaspar Herculano, L. F., ... de Abreu, H. F. G. (2023). In-situ tensile-shear test in SEM and DIC analysis of two pearlitic steel microstructures: undeformed-coarse and deformed-refined. *Journal of Materials Research and Technology*. <https://doi.org/10.1016/J.JMRT.2023.05.154>
9. Acuna, A., & Ramirez, A. J. (2023). Sigma phase formation kinetics in hyper duplex stainless steel welding filler metal. *Materials Characterization*, 200, 112832. <https://doi.org/10.1016/J.MATCHAR.2023.112832>
10. Leão, P. B. P., Zhang, S., Neto, J. R. B., Freire, S. A., Loureiro, R. de C. P., Ramirez, A. J., & de Abreu, H. F. G. (2023). Microstructure, microtexture, and crack susceptibility in pearlitic steel during lab-simulated processes aiming tensile armor application in flexible pipelines. *Journal of Materials Processing Technology*, 316, 117950. <https://doi.org/10.1016/J.JMATPROTEC.2023.117950>
11. Lara B, Giorjao R, Ghassemi-Armaki H, Ramirez A. Fe–Al intermetallic suppression of dissimilar RSW joints using stainless-steel interlayers. *Sci Technol Weld Join* 2023. <https://doi.org/10.1080/13621718.2023.2176046>.
12. Zhang S, Romo S, Giorjao RA, Riffel KC, Ramirez AJ. Investigating the impact of weld dilution and local mismatch on the low-cycle fatigue failure of Alloy 182 dissimilar weld transition under intermediate isothermal condition. *Eng Fail Anal* 2023;146:107112. <https://doi.org/10.1016/j.engfailanal.2023.107112>.
13. B. Lara, R. Giorjao, A. Ramirez (2023) Resistance spot welding of printed interlayers to join Al–Fe sheets, *Science and Technology of Welding and Joining*, 28:1, 18-26, doi: 10.1080/13621718.2022.2108999
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