

Jamilla Teixeira

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Personal Information

Full Name **Jamilla Emi Sudo Lutf Teixeira**
Citizenship **Brazilian**
Profession **Assistant Professor**
Address **Department of Civil and Environmental Engineering
College of Engineering, University of Nebraska- Lincoln
W181 Nebraska Hall, 900 N 16th St, 68588
Lincoln, NE, United States**
Homepage **Web of Science Researcher ID AAT-3709-2021**

Research Interests

Experimental characterization of infrastructure materials, such as asphalt concrete and chemically stabilized soils. Multiscale microstructure modeling of bituminous composites, considering viscoelasticity and fracture damage. Discrete fracture modeling of rate-dependent bituminous materials based on nonlinear viscoelastic cohesive zone model. Development of sustainable infrastructure solutions and use of industrial by-products as infrastructure materials.

Education

- 2007–2011 **Ph.D. in Engineering.**
University of Nebraska-Lincoln (EUA)
Thesis Title: Computational micromechanics modeling of damage-dependent bituminous composites based on two-way coupled multiscale approach
Advisor: Dr. Yong Rak Kim
- 2005–2007 **MSc. in Civil Engineering.**
University of Nebraska-Lincoln (EUA)
Dissertation Title: The use of fundamental properties of mixture constituents to evaluate moisture susceptibility of asphalt concrete mixtures
Advisor: Dr. Yong Rak Kim
- 2000–2004 **Bachelor in Civil Engineering.**
Federal University of Ceara (Brazil)
Final Project: Use of asphalt emulsion in cold mix asphalt and applicability criteria (in portuguese)
Advisor: Dr. Jorge Barbosa Soares

Languages

Portuguese **Native Speaker**
English **Excellent**
Spanish **Intermediate**

*excellent command
good working knowledge*

Honors and Awards

- 2021 **National Council for Scientific and Technological Development (CNPq) Research Productivity Scholarship** .
CNPQ, Brazil
- 2021 **Espirito Santo Scientific Governmental Agency (FAPES) Research Fees Scholarship** .
FAPES, Brazil
- 2018 **Coordination for the Improvement of Higher Education Personnel (CAPES) postdoctoral scholarship.**
CAPES, Brazil
- 2018 **National Council for Scientific and Technological Development (CNPq) Research Productivity Scholarship** .
CNPQ, Brazil
- 2009 **Outstanding Graduate Teaching Assistant Award.**
College of Engineering, University of Nebraska
- 2009 **Vice-President Engineering Graduate Student Advisory Board.**
College of Engineering, University of Nebraska
- 2007 **Tau Beta Pi -The National Engineering Honor Society.**
Nebraska Chapter, University of Nebraska
- 2004 **CAPES/FIPSE Higher Education Exchange Program Scholarship** .
Scholarship for Undergraduate Exchange Program between Brazilian and USA Institutions
- 2004 **B.S Degree with Magna Cum Lauda.**
Federal University of Ceara

Academic Experience

- 2022–date **Assistant Professor**, *Department of Civil and Environmental Engineering*, University of Nebraska-Lincoln.
 - Teaching Undergraduate Courses:
 - Bituminous Materials
 - Pavement Design and Evaluation
 - Multiscale Characterization and Modeling of Materials
 - Materials of Construction
 - Teaching Graduate Courses:
 - Bituminous Materials
 - Pavement Design and Evaluation
 - Multiscale Characterization and Modeling of Materials
 - Geomaterials Seminar
 - Academic Committees and Coordinations:
 - Outreach and Communications Committee, Department of Civil and Environmental Engineering (CEE/CoE/UNL) (2022-2024)
 - Diversity, Equity, and Inclusion Committee, College of Engineering (Coe/UNL) (2022-2024)

- 2021–2022 **Collaborating Professor**, *Transportation Engineering Graduate Program - Universidade de Sao Paulo/São Carlos, USP/EESC (Brazil)*.
- Teaching Graduate Courses:
 - Rheology of Bituminous Materials (Invited lecturer)
- 2011–2022 **Associate Professor**, *Department of Civil Engineering, Civil Engineering Graduate Program, Federal University of Espirito Santo (Brazil)*.
- Teaching Undergraduate Courses:
 - Introduction to Civil Engineering
 - Material Science for Civil Engineering
 - Materials of Construction
 - Laboratory of Construction Materials
 - Pavement Design and Evaluation
 - Bituminous Materials
 - Senior Project I and II
 - Teaching Graduate Courses:
 - Principles of Material Science applied to Civil Engineering
 - Bituminous Materials
 - Pavement Design and Evaluation
 - Academic Committees and Coordinations:
 - Civil Engineering Graduate Program - Adjunct Coordinator (2020-2022)
 - Civil Engineering Graduate Program - Scholarship Committee Chair (2020-2022)
 - Civil Engineering Graduate Program - New student's Application Process Committee Chair (2020-2022)
 - Civil Engineering Undergraduate Program - Coordinator (2017-2018)
 - Civil Engineering Department - Area: Materials of Construction - Coordinator (2020-2022); (2014-2016)
- 2005–2007 **Teaching Assistant**, *Department of Civil Engineering, University of Nebraska (USA)*.
- Assist Undergraduate Course:
 - Laboratory of Construction Materials

Research Experience

- 2021–date **Collaborating Professor/Researcher - Transportation Engineering Graduate Program - Universidade de Sao Paulo/São Carlos (Brazil)** .
- Advise graduate students
 - Develop research on numerical modeling of bituminous materials using nonlinear viscoelastic cohesive zone models
 - Participate in group meetings for research collaboration
- 2018–2019 **Visiting Scholar - Colege of Engineering - Nebraska Transportation Center - University of Nebraska-Lincoln (USA)**.
- Conduct research related to advanced experimental chacterization of geomaterials
 - Perform numerical simulations of asphalt materials and chemically stabilized soils subjected to fracture tests
 - Perform nanoindentation tests in natural and recycled aggregates
 - Perform laser scanning microscopy tests in in natural and recycled aggregates
 - Participate in research meetings with Dr. Yong Rak Kim's Infrastructure Research Group
 - Participate in scientific conferences
 - Write journal papers and project proposals

2012–2022 **Permanent Professor/Researcher - Civil Engineering Graduate Program - Federal University of Espirito Santo (Brazil).**

Conduct research related to characterization and field application of geomaterials (soils and bituminous materials)

Perform numerical simulations of asphalt materials subjected to fracture tests

Perform indirect tensile strength tests

Implement Superpave Mix Design Procedure in the laboratory

Implement fracture tests in the laboratory such as Semi-Circular Bending Tests

Evaluate asphalt mixtures mechanical behaviour subjected to moisture damage and aging

Evaluate aggregate's chemical (FRX), morphological (AIMS), mineralogical (DRX) characterization

Evaluate binder-aggregate adhesion considering thermodynamical properties (based on AFM and Surface Free Energy Testing Protocols)

Set-up and maintained asphalt related laboratory equipments (DSR Rheometer, Superpave Giratory Compactor, Marshall compactor and testing machine, bituminous binder characterization equipments)

Write journal papers and research proposals

2005–2011 **Research Assistant - Nebraska Transportation Institute - University of Nebraska (USA).**

Work on the Nebraska Department of Transportation project P564 "Material Selection and Design Consideration for Moisture Damage of Asphalt Pavement"

Work on the Nebraska Department of Transportation project P556 "Restricted-Zone Requirements for Superpave Mixes Made with Local Aggregate Sources"

Work on projects financed by the National Science Foundation - Dr. Yong Rak Kim Faculty Early Career Development Award (CAREER) - Multiscale Modeling and Characterization of Bituminous Materials

Develop laboratory experiments

Write papers and project reports

2010–2010 **Research Consultant - Geotechnical Laboratory - Federal University of Bahia (Brazil).**

Advise undergraduate students

Set up Superpave Giratory Compactor

Write paper for scientific conferences

Work in project financed by Local Department of Transportation

Research Projects

2023–date **(PI)**, *The Use of Recycled Plastic in Asphalt Pavements: Feasibility Study*, Funded by Federal Highway Administration (FHWA)/ Nebraska Department of Transportation - NDOT, 148,484.00 USD.

USA

2023–date **(co-PI)**, *Local Characterization of Unbound Materials (Soils/Aggregates) for AASHTOWare Pavement ME Design in Nebraska*, Funded by Federal Highway Administration (FHWA)/ Nebraska Department of Transportation - NDOT, 159,036.00 USD.

USA

2021–date **(PI)**, *Study of Fatigue Characteristics and Self-healing of Fine Aggregate Matrix*, Funded by Espirito Santo Scientific Governmental Agency - FAPES, 51,054.00 BRL.

(Brazil)

2021–date **(CO-PI)**, *Use of Different Steelmaking Co-Products for Hot Mix Asphalt, Microsurfacing Production, and Soil Stabilization for Paving Purposes*, Funded by ArcelorMittal Tubarão Steel Industry - FASE II, 189,974.03 BRL.

(Brazil)

- 2019–date **(PI)**, *Evaluation of Rheological Properties of Sand Asphalt Mortar (SAM)*, independent research. (Brazil)
- 2018–2019 **(PI)**, *Advanced Characterization of Road Infrastructure Materials*, Coordination for the Improvement of Higher Education Personnel - CAPES, 28,380.00 USD. (Brazil)
- 2018–2021 **(PI)**, *Multiscale Evaluation of Asphalt Mixtures Produced with Industrial Waste*, Funded by Brazilian National Council for Scientific and Technological Development - CNPQ, 39,600.00 BRL. (Brazil)
- 2018–2021 **(CO-PI)**, *Use of Different Steelmaking Co-Products for Hot Mix Asphalt, Microsurfacing Production, and Soil Stabilization for Paving Purposes*, Funded by ArcelorMittal Tubarão Steel Industry - FASE I, 478,000.00 BRL. (Brazil)
- 2017–2020 **(CO-PI)**, *Soil Stabilization with Chemical Additives, Hydrated Lime and Portland Cement*, Funded by ECO101 Highway Concessionaire, 2,632,550.16 BRL. (Brazil)
- 2016–2018 **(PI)**, *Experimental Evaluation of Use of Steel Slag as Aggregate in Asphalt Concrete*, Funded by ArcelorMittal Tubarão Steel Industry, 133,636.36 BRL. (Brazil)
- 2016–2018 **(CO-PI)**, *Re-Use of Flue Gas Desulphurization (FGD) Residue in Portland Concrete Applications*, Funded by ArcelorMittal Tubarão Steel Industry, 18,700.00 BRL. (Brazil)
- 2015–2018 **(PI)**, *Numerical and Experimental Evaluation of the Properties of Concretes produced with Industrial By-Products*, Funded by Espirito Santo Scientific Governmental Agency - FAPES, 24,400.00 BRL. (Brazil)
- 2015–2018 **(PI)**, *Multiscale Numerical Modeling to Evaluate the Mechanical Behavior of Asphalt Concretes considering Cumulative Damage associated to Viscoelasticity and Fracture*, Funded by Brazilian National Council for Scientific and Technological Development - CNPQ, 29.820,00 BRL. (Brazil)
- 2011–date **(PI)**, *Rheological Analysis of Cementitious Materials*, independent research. (Brazil)
- 2007–2011 **(Research Assistant)**, *Research and Education on Advanced Multiscale Modeling-Analysis of Roadway Materials, Mixtures, and Infrastructure Systems*, National Science Foundation - NSF. (USA)
- 2005–2007 **(Research Assistant)**, *Material Selection and Design Consideration for Moisture Damage of Asphalt Pavement - Project Number 564*, Nebraska Department of Roads - NDOR. (USA)
- 2004–2005 **(Research Assistant)**, *Restricted-Zone Requirements for Superpave Mixes Made with Local Aggregate Sources - Project Number P556*, Nebraska Department of Roads - NDOR. (USA)

Technical Service

Scientific Committees

TRB AKM40 Standing Committee on Asphalt Mixture Evaluation and Performance, *Member*, 2022-date.

TRB AKM40(1) Standing Subcommittee on Adv. Models to Understand Behavior and Performance of Asphalt Mixtures, *Chair*, 2023-date.

EMI/ASCE Mechanics of Pavements Committee, *Member*, 2018-date.

Journal Reviewer

Road Materials and Pavement Design, *Reviewer*.

Construction and Building Materials, *Reviewer*.

Journal of Testing and Evaluation, *Reviewer*.

Revista Transportes (in portuguese), *Reviewer*.

Journal of Materials in Civil Engineering, *Reviewer*.

Journal of Transportation Engineering: Part B, Pavements, *Reviewer*.

KSCE Journal of Civil Engineering, *Reviewer*.

Advising Experience

Ph.D. Committee Chair

1. Nitish R. Bastola; Multiscale Modeling of Asphalt Mixtures Using Nonlinear Cohesive Zone Model; University of Nebraska- Lincoln; 2023-date.
2. Farzad Yazdipناه; Mechanical Characterization and Modeling of Asphalt Mixtures Fatigue Tests; University of Nebraska- Lincoln; 2023-date.

Master Thesis Committee Chair

1. Isabella Bueno; Use of Waste Plastic as Asphalt Mixture Component ; University of Nebraska- Lincoln; 2021-date.
2. Luiz Henrique Almeida Veras; Experimental-Numerical Approach to Model Asphalt Mixtures Fatigue Cracking Response Considering Viscoelasticity and Discrete Fracture; Universidade de Sao Paulo (EESC/USP); 2021-date.
3. Luiz Henrique Almeida Veras; Micromechanical Modeling of Asphalt Mixtures Using Nonlinear Cohesive Zone Model; Universidade de Sao Paulo (EESC/USP); 2021-date.
4. Henrique Martins; Effects of Humidity and Temperature on the Long Term Expansion Mechanisms of Asphalt Concrete containing Steel Slag Aggregates; Federal University of Espirito Santo;2021-date.
5. Miguel Fae Linhares; Effects of Aggregate's Characteristics on the Self-Healing behavior of Fine Aggregate Matrices; Federal University of Espirito Santo; 2020-2022.

6. Rodolpho Medeiros Frossard; Influence of Binder-Aggregate Adhesiveness on Fracture Properties of Asphalt Mixtures Subject to Moisture Damage; Federal University of Espirito Santo; 2019-2021.
7. Carlos Martins Amaencing Junior; Study of Fatigue of Asphalt Mixtures with two Different Aggregates Through Semi-Circular Bending tests; Federal University of Goias; 2019-2021.
8. Bárbara Luiza Riz de Moura; Evaluation of Adhesive Fracture in Asphalt Concrete using Iron Slag; Federal University of Espirito Santo;2018-2020.
9. Lucas Bridi; Study of Mechanisms of Soil Stabilization with Dessulfurization Slag based on Physical, Mechanical, and Chemical Properties; Federal University of Espirito Santo;2018-2020.
10. Sidineidy Izoton; Effects of Steel Slag Expansion in the Long-term Performance of Asphalt Concrete; Federal University of Espirito Santo;2018-2020.
11. Daiana Valt Nepomuceno; Verification and Validation of Soil Stabilization Solution using Steel Slag for Pavement Application based on the New Brazilian Mechanistic-Empirical Design Guide; Federal University of Espirito Santo;2017-2019.
12. Julia Amaral Rodrigues; Crack Modeling of Asphalt Mixtures using Nonlinear Viscoelastic Cohesive Zone (NVCZ) to Assess the influence of Different Fillers in the Materials´ Fracture Resistance; Federal University of Espirito Santo; 2016-2018.
13. Leidyanne de Bortoli Azeredo; Use of Steel Slag as Aggregate in SMA Asphalt Mixtures; Federal University of Espirito Santo; 2016-2018.
14. Aecio Guilherme Schumacher; Effects of Steel Slag Expansion in the Material´s characteristics and in the Performance of Asphalt Concrete; Federal University of Espirito Santo; 2016-2018.
15. João Paulo Costa Meneses; Study of Permeability and Mechanical Behaviour of Porous Asphalt Concrete with Addition of Sugarcane Bagesse Fibers (in portuguese); Federal University of Espirito Santo; 2015-2017.
16. Jessica Freire Fonseca; Experimental Study of Fine Aggregate Matrix using Ornamental Stone Residues and Steel Slag as Filler to Reduce Mixture Permanent Deformation and Cracking Susceptibility (in portuguese); Federal University of Espirito Santo; 2014-2016.
17. Renne Lauret Cosme; Rheological Study of Asphalt Mastics using Ornamental Stone Residues and Steel Slag as Fillers (in portuguese); Federal University of Espirito Santo; 2013-2015.
18. Vanessa Yumi Sato; Contribution to the Rheological Study of Cementitious Pastes Produced with Different Percentages of Ornamental Stone Residues (in portuguese); Federal University of Espirito Santo; 2013-2015.
19. Eduardo Valadares Gottardi. The use of Ornamental Rocks Residue and Steel Slag as filler in Asphalt Mixtures(in portuguese); Federal University of Espirito Santo; 2012-2015.

Undergraduate Senior Projects Advisor

1. Marcelly Pires de Sousa Ramos. The Influence of Crushed Aggregates Properties on the Fatigue Resistance of Fine Aggregate Matrices: A Bibliometric and Experimental Analysis. (in portuguese); Federal University of Espirito Santo; 2021.
2. Ana Carolina Pereira Motta e Isabella Madeira Bueno. Evaluation of Soil Stabilized with Kr Slag and Performance Prediction using the New Brazilian Mechanistical-Empirical Design Method. (in portuguese); Federal University of Espirito Santo; 2018.
3. Izabela de Souza Oliveira e Pollyana Rosa Daniel. Use of HVS Traffic Simulator for Field Evaluation of Pavements made with Chemically Stabilized Soils using Desulfurization Slag and Portland Cement. (in portuguese); Federal University of Espirito Santo; 2018.
4. Janaina Sagrillo Pimassoni. Effect of Mineralogy of Ornamental Rock Residues on the Performance of Asphalt Mixtures (in portuguese); Federal University of Espirito Santo; 2017.
5. Angelo Cassaro Altoé e Gabriela Callegario Santolin. Evaluation of the Effects of Fine Aggregate Matrices Air Voids in the S-VECD Damage Parameters (in portuguese); Federal University of Espirito Santo; 2017.
6. Janaina Sagrillo Pimassoni. Effect of Mineralogy of Ornamental Rock Residues in the Performance of Asphalt Mixtures (in portuguese); Federal University of Espirito Santo; 2017.
7. Queli Cristina Bernardo Xavier. Comparison between the Empirical Method (DNER Method) and The New Mechanistic-Empirical Brazilian Pavement Design Guide (in portuguese); Federal University of Espirito Santo; 2015.
8. Daiana Valt Nepomuceno e Rodolpho Medeiros Frossard. A Comparative Study of IRI and Laser Profilers Indexes to Evaluate Pavement Distress Measured in Espirito Santo Roadways (in portuguese); Federal University of Espirito Santo; 2014.
9. Pedro H. W. D. M. C. Fidelis e Thieres Pedro Q. Aboumrad. Study of Management Plan for Drainage Works in Vitoria-ES (in portuguese); Federal University of Espirito Santo; 2014.
10. Luiz Fernando Silva de Oliveira e Vitor Rocha Poltronieri. Verification of Quality Control of Materials and Asphalt Mixture Fabrication Process used in Local Asphalt Mix Plants (in portuguese); Federal University of Espirito Santo; 2014.
11. Natalia C. Nogueira Dias e Rayane S. De Oliveira Silva. Use of Soil Mixes, Portland cement, Ornamental Stone Sludge and Hydrated Lime for Stabilization of Base and Sub-base Pavement Layers (in portuguese); Federal University of Espirito Santo; 2014.
12. Fernando de Almeida Felix e Keila Rodrigues de Almeida. Potential of Ornamental Stone Residues as Filler in Asphalt Concrete (in portuguese); Federal University of Espirito Santo; 2014.

13. Jessica Freire Fonseca e Rodrigo Augusto de Carvalho Leite. Case Study on the Technical and Economic Feasibility of the Use of Horizontal Sliding Systems in Concrete Slab Production of a Commercial Building (in portuguese); Federal University of Espirito Santo; 2013.
14. Joao Paulo Costa Meneses. State of the Art on the Use of Porous Asphalt Concrete in Roadways (in portuguese); Federal University of Espirito Santo; 2012.
15. Thais de Souza Gois. Waste Management of Construction Residues: A Comparative Analysis Between the Management Systems of Brazil and France (in portuguese); Federal University of Espirito Santo; 2012.
16. Kizye Tavares da Conceicao e Vanessa Yumi Sato. Study of the Rheological Properties of Cement Pastes used in Pumped Concrete (in portuguese); Federal University of Espirito Santo; 2011.

Undergraduate Scientific Research Projects Advisor

1. Joseph Tighi. The use of polypropylene to enhance asphalt mixture performance through the dry method; Undergraduate Creative Activities and Research Experience (UCARE) program, University of Nebraska; 2023.
2. Braden Olson. Use of Waste Plastics to Enhance Adhesion Mechanisms on High-RAP mixtures recycled with crude soybean oil; NSF Research Experiences for Undergraduates (REU) Program - Sustainability of Horizontal Civil Networks in Rural Areas, University of Nebraska; 2023.
3. Marcelly Pires de Sousa Ramos. Rheology of Bituminous Materials; Federal University of Espirito Santo; 2021.
4. Julia Rodrigues Barbosa de Sousa Paula. Adhesiveness Improvement Study of Asphalt Mixtures Produced with 25 Percent Blast Furnace Slag Using Different Additives; Federal University of Espirito Santo; 2021.
5. Amanda Cassioli Dutra. Evaluation of Asphalt Mixtures produced with Different Steel Slag Aggregates and subjected to Aging; Federal University of Espirito Santo; 2019.
6. Thalya Fortuna Vieira. Mix Design of Asphalt Mixtures with Partial Replacement of Natural Aggregate by Air-Cooled Blast Furnace Slag; Federal University of Espirito Santo; 2019.
7. Viviane dos Santos Dias. Effects of Aging Process on the Asphalt Mixtures Behaviour produced with LD slag Aggregates with Different Levels of Expansion; Federal University of Espirito Santo; 2019.
8. Henrique Martins Barbosa. Characterization of Asphalt Mixtures with the Incorporation of Steel Slag Aggregates; Federal University of Espirito Santo; 2018.
9. Pollyana Rosa Daniel. Study of the Use of Ground Tire Rubber as a Binder Modifier; Federal University of Espirito Santo; 2018.
10. Izabela de Souza Oliveira. Study of the Use of Marble and Granite Waste as Filler for Asphalt Concrete; Federal University of Espirito Santo; 2017.

11. Gabriela Callegario Santolin. Effects of Air Voids on the Performance of the Fine Aggregate Matrix (FAM); Federal University of Espirito Santo; 2017.
12. Angelo Cassaro Altoé. Study of Rheological Properties of Asphalt Binders; Federal University of Espirito Santo; 2013.
13. Anna Paula Lacorte Galina. Study of the Rheology of Cement Materials; Federal University of Espirito Santo; 2013.
14. Luiza Gagno Azolin. Study of Rheological Properties of Portland Cement Pastes; Federal University of Espirito Santo; 2013.

Publications and Presentations

Peer-Reviewed Journal Publications: Published/Accepted

1. R. M., Frossard, **J. E. S. L. Teixeira**, Y. Kim. (2022). "Effects of Aggregate's and Filler's Characteristics on the SCB Fracture Parameters Obtained from Asphalt Concrete Subject to Moisture Damage." *Transportation Research Record*, DOI: 10.1177/03611981221093329.
2. Y. Kim, **J. E. S. L. Teixeira**, S. R. Kommid, D. N. Little, F. T. S. Arago, L. M. Sanchez, and F. V. Souza. (2021). "Rate-dependent Fracture Modeling of Bituminous Media Using Nonlinear Viscoelastic Cohesive Zone with Gaussian Damage Function." *Computer-Aided Civil and Infrastructure Engineering*, DOI: 10.1111/mice.12754.
3. P. J. M. Pires, **J. E. S. L. Teixeira**. (2021). "Closure to -Laboratory and Field Evaluation of KR Slag-Stabilized Soil for Paving Applications." *Journal of Materials in Civil Engineering*, DOI: 10.1061/(ASCE)MT.1943-5533.0003577
4. J. P. C. Meneses, **J. E. S. L. Teixeira**, A. E. Alvarez, F. T. S. Arago, M. A. Fritzen. (2021) "Exploratory Study on the Addition of Sugarcane Bagasse Fibers to Permeable Friction Course Mixtures." *Journal of Materials in Civil Engineering*, v. 33, p. 04021241, DOI:10.1061/(ASCE)MT.1943-5533.0003849
5. S. Izoton, **J. E. S. L. Teixeira**, P. J. M. Pires, V. S. Dias. (2021). "Avaliação dos efeitos da expansão da escória LD no comportamento mecânico de misturas asfálticas sujeitas ao envelhecimento e dano por umidade."(in portuguese). *Transportes (Rio de Janeiro)*, v. 29, DOI: 10.14295/transportes.v29i2.2442
6. J.Zhang, **J. E. S. L. Teixeira**, D. N. Little, Y. Kim. (2020). "Prediction of fatigue crack growth behavior of chemically stabilized materials using simple monotonic fracture test integrated with computational cohesive zone modeling." *COMPOSITES PART B-ENGINEERING*, p. 108367, DOI: 10.1016/j.compositesb.2020.108367
7. B. L. R. Moura, **J. E. S. L. Teixeira**, R. A. Simao, M. Khedmati, Y. Kim, P. J. M. Pires. (2020). "Adhesion between steel slag aggregates and bituminous binder based on surface characteristics and mixture moisture resistance." *Construction and Building Materials*, v. 264, p. 120685, DOI: 10.1016/j.conbuildmat.2020.120685
8. T. F. Alves, P. A. M. Pereira, R. Mota, K. Vasconcelos, **J. E. S. L. Teixeira**, L. Bernucci. (2020). "Three-

dimensional numerical modelling of railway track with varying air voids content bituminous subballast." *Road Materials and Pavement Design*, p. 1-19, DOI: 10.1080/14680629.2020.1828150

9. J. A. Rodrigues, **J. E. S. L. Teixeira**, Y. Kim, D. N. Little, F. V. Souza. (2019). "Crack modeling of bituminous materials using extrinsic nonlinear viscoelastic cohesive zone (NVCZ) model." *Construction and Building Materials*, v. 204, p. 520-529, DOI: 10.1016/j.conbuildmat.2019.01.215
10. **J. E. S. L. Teixeira**, A. G. Schumacher, P. J. M. Pires, V. T. F. Castelo Branco, H. B. Martins. (2019). "Expansion Level of Steel Slag Aggregate Effects on Both Material Properties and Asphalt Mixture Performance." *Transportation Research Record*, Vol. 2673, Issue 3, DOI: 10.1177/0361198119835513
11. P. J. M. Pires, **J. E. S. L. Teixeira**, D. V. Nepomuceno, E. C. Furieri. (2019). "Laboratory and Field Evaluation of KR Slag-Stabilized Soil for Paving Applications." *Journal of Materials in Civil Engineering*, v. 31, Issue 9, DOI: 10.1061/(ASCE)MT.1943-5533.0002811
12. J. F. Fonseca, **J. E. S. L. Teixeira**, V. T. F. Castelo Branco, Y. Kim. (2019). "Evaluation of Effects of Filler By-Products on Fine Aggregate Matrix Viscoelasticity and Fatigue-Fracture Characteristics." *Journal of Materials in Civil Engineering*, v. 31, Issue 10, DOI: 10.1061/(ASCE)MT.1943-5533.0002891
13. C. F. Oliveira, P. J. M. Pires, **J. E. S. L. Teixeira**. (2019). "Physical, mechanical, and microstructure investigation of tropical clayey soils stabilised with desulfurisation slag for pavement application." *Road Materials and Pavement Design*, p. 1-12, DOI:10.1080/14680629.2019.1686052
14. V. Y. Sato, A. P. Lacorte, **Teixeira, J. E. S. L.** (2018). "Contribution to the rheological study of cementitious pastes with addition of residues from the processing of ornamental rocks." *IBRACON Structures and Materials Journal*, v. 11, p. 1284-1307, DOI:10.1590/S1983-41952018000600007
15. J. L. Calmon, F. A. Tristao, P. F. Fialho, G. L. Vieira, **Teixeira, J. E. S. L.** (2017). "Characterization of pre-treated drill cutting waste and its use as fine aggregate in concrete." *African Journal of Environmental Science and Technology*, v. 11, p. 461-470, DOI: 10.5897/AJEST2015.1910
16. R. L. Cosme, **Teixeira, J. E. S. L.**, J. L. Calmon. (2016). "Use of frequency sweep and MSCR tests to characterize asphalt mastics containing ornamental stone residues and LD steel slag.:" *Construction and Building Materials*, v.122, p. 556-566, DOI: 10.1016/j.conbuildmat.2016.06.126
17. J. G. Uliana, J. L. Calmon, G. L. Vieira, **J. E. S. L. Teixeira**, E. Nunes. (2015). "Heat treatment of processing sludge of ornamental rocks: application as pozzolan in cement matrices." *IBRACON Structures and Materials Journal*, v. 8, p. 100-123, DOI: 10.1590/S1983-41952015000200004
18. A. G. Schumacher, J. A. Rodrigues, **J. E. S. L. Teixeira**. (2015). "Preliminary diagnosis on the use of red ceramic residue in paving." (in portuguese). (2015). *Revista Cientifica Semana Academica*, v. 01, p. 1.
19. E. V. Gottardi, J. L. Calmon, **J. E. S. L. Teixeira**. (2015). "The use of ornamental rocks residue and steel slag as filler in asphalt mixtures." (in portuguese). *Revista Pavimentacao*, v., p.60-73.

20. J. L. Calmon, A. S. Sauer, G. L. Vieira, **J. E. S. L. Teixeira**. (2014). "Effects of windshield waste glass on properties of repair mortars." *Cement and Concrete Composites*, v.53, p. 88-96, DOI: 10.1016/j.cemconcomp.2014.04.008
21. **J. E. S. L. Teixeira**, Y. Kim, F. V. Souza, D. H. Alen, D. N. Little. (2014). "A Multiscale Model for Asphalt Mixtures Subjected to Cracking and Viscoelastic Deformation." *Transportation Research Record*, v. 2447, p. 136-145, DOI: 10.3141/2447-15
22. **J. E. S. L. Teixeira**, V. Y. Sato, L. G. Azolin, F. A. Tristão, G. L. Vieira, J. L. Calmon. (2014). "Study of cement pastes rheological behavior using dynamic shear rheometer." *IBRACON Structures and Materials Journal*, v. 7, p. 922-939, DOI: 10.1590/S1983-41952014000600003
23. J. L. Calmon, F. A. Tristao, M. Giacometti, M. Meneguelli, M. Moratti, **J. E. S. L. Teixeira**. (2013). "Effects of BOF steel slag and other cementitious materials on the rheological properties of self-compacting cement pastes." *Construction and Building Materials*, v. 40, p. 1046-1053, DOI: 10.1016/j.conbuildmat.2012.11.039
24. Y. Kim; F. V. Souza, **J. E. S. L. Teixeira**. (2013). "A two-way coupled multiscale model for predicting damage-associated performance of asphaltic roadways." *Computational Mechanics* , v. 51, p.187-201, DOI:10.1007/s00466-012-0716-8
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27. Y. Kim; H. M. Park, F. T. S. Aragao, **J. E. S. Lutif**. (2009). "Effects of aggregate structure on hot-mix asphalt rutting performance in low traffic volume local pavements." *Construction and Building Materials*, v. 23, p. 2177-2182, DOI: 10.1016/j.conbuildmat.2008.12.007
28. Y. Kim, **J. E. S. Lutif**, D. H. Allen. (2009). "Determining Representative Volume Elements of Asphalt Concrete Mixtures Without Damage." *Transportation Research Record*, v. 2127, p. 52-59, DOI: 10.3141/2127-07
29. Y. Kim, **J. E. S. Lutif**, A. Bhasin, D. N. Little. (2008). "Evaluation of Moisture Damage Mechanisms and Effects of Hydrated Lime in Asphalt Mixtures through Measurements of Mixture Component Properties and Performance Testing." *Journal of Materials in Civil Engineering*, v. 20, p. 659, DOI: 10.1061/(ASCE)0899-1561(2008)20:10(659)

Peer-Reviewed Conference Publications: Proceedings or Abstract

1. Amaecing Junior, C. M.; Rezende, L.; **Teixeira, J. E. S. L.**; Castelo Branco, V. T. F.; Kim, Y. R.; Semi-Circular Bending Fatigue Testing of Asphalt Concrete Mixtures. *Transportation Research Board 2023 Annual Meeting* , Washington, DC, USA, 2023.

2. Veras, L. H.; **Teixeira, J. E. S. L.**; Kim, Y. R.; Modeling of Fracture in Viscoelastic Bituminous Mixtures Using an Extrinsic Nonlinear Viscoelastic Cohesive Zone Model . *2022 Society of Engineering Science Annual Technical Meeting* , Texas AM University, College Station, TX, USA, 2022.
3. Pioli, J.; Faxina, A.; **Teixeira, J. E. S. L.**; Kim, Y. R.; Application of the Simplified Viscoelastic Continuum Damage Approach to Investigate the Fatigue Performance of Asphalt Binders at the SAM (Sand Asphalt Mortar) Scale. *2022 Society of Engineering Science Annual Technical Meeting* , Texas AM University, College Station, TX, USA, 2022.
4. Frossard, R.; Rodrigues, J.; **Teixeira, J. E. S. L.**; Pires, P. J.; R.; Evaluation Of Moisture-Damage Resistance Of Asphalt Mixtures Containing Blast Furnace Slag and Fillers of Different Chemical Compositions. *EMECCR - International Conference on Energy and Material Efficiency and CO2 Reduction in the Steel Industry 2022*, Sao Paulo, SP, Brazil, 2022.
5. Bastos, F. C.; Pires, P. J.; R.; **Teixeira, J. E. S. L.**; Kim, Y. R.; Laboratory Evaluation of the Mechanical Behavior of Soil Stabilized with Kr Slag and Performance Prediction using Medina. *EMECCR - International Conference on Energy and Material Efficiency and CO2 Reduction in the Steel Industry 2022*, Sao Paulo, SP, Brazil, 2022.
6. Frossard, R.; **Teixeira, J. E. S. L.**; Kim, Y. R.; Effects of Aggregate/Filler Characteristics on SCB Fracture Parameters of Asphalt Concrete Mixtures Subject to Moisture Damage. *Transportation Research Board 2022 Annual Meeting* , Washington, DC, USA, 2022.
7. **Teixeira, J. E. S. L.**; Kim, Y. R.; Sanchez, L. M.; Souza, F. V.; Little, D. N.; Modeling of Rate-dependent Cracking in Bituminous Materials Using Nonlinear Viscoelastic Cohesive Zone Incorporated with the Gaussian Damage Evolution. *Transportation Research Board 2021 Annual Meeting* Washington, DC, USA, 2021.
8. Rodrigues, J. A.; **Teixeira, J. E. S. L.**; Kim, Y. R.; Little, D. N.; Souza, F. V.; Crack Modeling of Bituminous Materials Using Extrinsic Nonlinear Viscoelastic Cohesive Zone (NVCZ) Model. *Transportation Research Board 2019 Annual Meeting* , Washington, DC, USA, 2019.
9. **Teixeira, J. E. S. L.**; Schumacher, A. G.; Pires, P. M.; Castelo Branco, V. T.; Martins, H. B.; Expansion level of steel slag aggregate effect's on both material properties and asphalt mixture performance. *Transportation Research Board 2019 Annual Meeting* , Washington, DC, USA, 2019.
10. Moura, J. S. P. ; Oliveira, I. ;**Teixeira, J. E. S. L.**; Effect of mineralogy of ornamental rock residues in the performance of asphalt mixtures. *XXXI ANPET*, Recife, PE, Brazil, 2017.
11. Azeredo ; L. B. ;**Teixeira, J. E. S. L.**; Use of steel slag as aggregate in SMA asphalt mixtures. *XXXI ANPET*, Recife, PE, Brazil, 2017.
12. M, J. P. C.;**Teixeira, J. E. S. L.**; Study of permeability mechanical behaviour of porous asphalt concrete with addition of different types of fibers. *XXX ANPET*, Rio de Janeiro, RJ, Brazil, 2017.

13. Gois, T. S.; **Teixeira, J. E. S. L.**; Management of Waste from civil engineering construction: Comparative analysis between Brazil and France Systems. *57o. Congresso Brasileiro do Concreto - IBRACON*, Recife, PE, Brazil, 2015.
14. Kim, Y.; **Teixeira, J. E. S. L.**; Souza, F. V.; You, T.; Allen, D. H.; Multiscale Modeling of Heterogeneous Infrastructure Materials Subjected to Viscoelastic Deformation and Rate-Dependent Fracture. *13th US National Congress on Computational Mechanics*, San Diego, CA, USA, 2015.
15. Kim, Y.; **Teixeira, J. E. S. L.**; Souza, F. V.; Allen, D. H.; Multiscale Computational Modeling of Multiphase Infrastructure Materials Subjected to Viscoelastic Deformation and Fracture. *2014 ASCE-EMI Annual Conference*, SMcMaster University, Canada, 2014.
16. **Teixeira, J. E. S. L.**; Kim, Y. R.; Souza, F. V.; Allen, D. H.; Multiscale modeling of asphaltic media considering heterogeneity, viscoelasticity, and nonlinear fracture damage. *International Society for Asphalt Pavements - ISAP, Conference on Asphalt Pavements*, Raleigh, NC., USA, 2014.
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18. Cosme, R. L.; Altoe, A.; Gottardi, E. V.; **Teixeira, J. E. S. L.**; Calmon, J. L.; Prediction of the mechanical behavior of asphalt concrete based on the analysis of the rheological properties of mastics produced with filler of ornamental rocks residue and steel slag fines (in portuguese). *XXVIII Congresso de Ensino e Pesquisa em Transportes ANPET*, Curitiba, PR, Brazil, 2014.
19. Freire, J.; Gois, T. S.; Dominicini, W. K.; **Teixeira, J. E. S. L.**; The state of the art on the use of reclaimed asphalt as pavement material (in portuguese). *XXVIII Congresso de Ensino e Pesquisa em Transportes ANPET*, Curitiba, PR, Brazil, 2014.
20. Gottardi, E. V.; Calmon, J. L.; **Teixeira, J. E. S. L.**; Use of ornamental rocks residues and steel slag as filler in hot mix asphalts (in portuguese). *19a. RPU - Reunião de Pavimentação Urbana*, Cuiabá, MT, Brazil, 2013.
21. Sato, V. Y.; Azolin, L. G.; **Teixeira, J. E. S. L.**; Vieira, G. L.; Tristao, F. A.; Dietrich, Y. P.; Application of rheology concepts in the study of cement pastes (in portuguese). *55o Congresso Brasileiro do Concreto*, Gramado, RS, Brazil, 2013.
22. Gottardi, E. V.; Calmon, J. L.; **Teixeira, J. E. S. L.**; The use of ornamental stone wastes and steel slag as fillers in asphalt mixtures (in portuguese). *42ª Reunião Anual de Pavimentação*, Gramado, RS, Brazil, 2013.
23. Degen, M. K.; Vieira, G. L.; Calmon, J. L.; **Teixeira, J. E. S. L.**; Evaluation of mechanical properties and the percentage of free chlorides in concrete produced with waste of ornamental stone cutting process (in portuguese). *XII Congreso Latinoamericano de Patología de la Construcción y XIV Congreso de Control de Calidad en la Construcción*, Cartagena de Indias, Colombia, 2013.
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25. Kim, Y. R.; Souza, F. V.; **Teixeira, J. E. S. L.**; Rhee, S.; A multiscale computational model as a mechanistic pavement design-analysis method. *1st International Pavement Engineering Conference*, Pusan; 2012.
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28. Campos, L. E. P.; Costa, A. C.; Burgos, P. C.; **Teixeira, J. E. S. L.**; Study to propose a pavement recovery solution for a roadway section located at BR 101 -BA (in portuguese). *COBRAMSEG2010 (XVI Congresso Brasileiro de Mecânica dos Solos e Engenharia Geotécnica)*, Gramado; 2010.
29. Burgos, P. C.; Campos, L. E. P.; Fernandes, P.; **Teixeira, J. E. S. L.**; Evaluation of the potential use of copper slag as an alternative aggregate for road purposes mixtures (in portuguese). *40 RAPV Reunião Anual de Pavimentação*, Rio de Janeiro; 2010.
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32. Kim, Y. R.; **Lutif, J. E. S.**; Allen, D. H.; Determination of representative volume elements of asphalt concrete mixtures and their numerical investigation through finite element method. *Transportation Research Board 2009 Annual Meeting*, Washington; 2009.
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34. Kim, Y. R.; **Lutif, J. E. S.**; A model for predicting damage-dependent mechanical responses of asphalt mixtures in flexible pavements. *2008 NSF Engineering Research and Innovation Conference*, Knoxville; 2008.
35. Kim, Y. R.; **Lutif, J. E. S.**; Computational micromechanics modeling for damage-induced behavior of asphalt mixtures considering viscoelasticity and cohesive zone fracture. *Symposium on Pavement Mechanics and Materials at the Inaugural International Conference of the Engineering Mechanics Institute*, Minneapolis; 2008.
36. Aragao, F. T. S.; **Lutif, J. E. S.**; Kim, Y. R.; Soares, J. B.; Restricted zone as limiting criteria for asphalt mixtures used in low volume traffic roads. *XXI Congresso de Ensino e Pesquisa em Transportes ANPET*, Rio de Janeiro; 2007.

Oral Presentations in events without proceedings

1. Use of Steel By-products for Geotechnical Applications *Oral presentation at ArcelorMittal Brazil Workshop, Webinar, Brazil, 2021.*
2. Use of By-products in Asphalt Mixtures *Oral presentation at Asphalt Research Network (RTA) - Petrobras Workshop , Webinar, Brazil, 2020.*
3. Pavement Research Group at the Federal University of Espírito Santo-Brazil and Current Collaboration with UNL/MATC. *Oral presentation at MATC Webinar Series, Lincoln, NE, USA, 2019.*
4. Desulfurization Slag as Soil Stabilizer for Roadway Application: Laboratory and Field Evaluation Using Accelerated Pavement Testing. *Oral presentation at the National Slag Association Centennial Anniversary Meeting, Maryland, DC, USA, 2018.*
5. Use of Solid Residues in Asphalt Concrete. *Oral presentation at the Espirito Santo Department of Roads, Vitória, ES, Brazil, 2017.*
6. Multiscale modeling of Asphalt Concrete subjected to Viscoelastic Deformation and Damage due to Cracks. *Transportation Graduate Program at the Federal University of Ceara, Fortaleza, CE, Brazil, 2013.*