ERDEM COLERI

Associate Professor

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Education and Employment Information

Education

2011	Ph.D., Civil and Environmental Engineering University of California, Davis
2007	M.S., Civil Engineering Middle East Technical University
2005	B.S., Civil Engineering Middle East Technical University

Professional Experience

Sept. 2020-present	Associate Professor School of Civil and Construction Engineering Oregon State University
June 2021-present	Director of OSU Asphalt Materials and Pavements (AMaP) Laboratory
Sept. 2014-Sept. 2020	Assistant Professor School of Civil and Construction Engineering Oregon State University
Sept. 2015–Sept. 2017	Assistant Professor and Loosley Faculty Fellow School of Civil and Construction Engineering Oregon State University
March 2013-September 2014	Assistant Project Scientist (Step III) Department of Civil and Environmental Engineering University of California, Davis • Development of viscoelastic pavement vehicle interaction models to evaluate the effects of pavement type (asphalt, concrete or composite) on fuel consumption **(Project Manager)**. • Development of a micromechanical viscoelastic finite element model from X-Ray computed tomography images for Hamburg Wheel Tracking Test (HWTT).

- Investigation of consistency, repeatability and reproducibility of Asphalt Mixture Performance Tester (AMPT) laboratory test results between different laboratories (NCHRP 9-52 project).
- Development of a standard procedure and test section for the operation, calibration and operator certification of inertial road profilers in California **(Project Manager)**.
- Test and include additional regional materials in the Caltrans mechanistic-empirical (ME) standard materials library.

October 2011-March 2013

Postdoctoral Scholar
Department of Civil and Environmental Engineering
University of California, Davis

- Development of a micromechanical viscoelastic finite element model from X-Ray computed tomography images for full-scale accelerated pavement testing.
- Investigation of open-graded asphalt concrete rutting failure mechanisms by comparing X-Ray CT images taken before and after accelerated pavement testing.
- Evaluation of pavement friction courses clogging susceptibility by X-Ray CT imaging and rainfall simulations.
- Performing Automatic Pavement Condition Surveys (APCS) on the Caltrans pavement network.
- Life-cycle cost and environmental life-cycle analysis for composite pavements.

February 2012-June 2013

Independent Technical Consultant
Sensys Networks, Inc.

- Development, testing, and commercialization of a Wireless Weigh-in-Motion (W-WIM) system to measure truck loads on pavements and bridges.
- Provide recommendations for the improvement of wireless automatic vehicle classification (AVC) systems.

Research Interests

- Characterization of asphalt pavements
- Recycled asphalt concrete mixtures at high replacement contents
- Sustainable strategies for pavement design and rehabilitation
- Pavement LCA
- Network level pavement sustainability
- Modeling the effect of pavement roughness and stiffness on fuel consumption
- Multiscale finite element modeling of pavement materials and structures
- Wireless sensor networks (WSN) for infrastructure health monitoring
- Data mining, analysis and performance modeling from laboratory, accelerated pavement, and field tests

Awards

National and International Awards

- Outstanding Reviewer Award, Journal of Computing in Civil Engineering, American Society of Civil Engineers, 2014.
- Award for the best paper in 2012 in the 4th International Conference on Accelerated Pavement Testing for the paper entitled "*Calibration of Incremental-Recursive Rutting Prediction Models in CalME Using Heavy Vehicle Simulator Experiment"*.

University or Community Awards

- Award for Teaching Excellence and Resilience, School of Civil and Construction Engineering, 2020, Oregon State University.
- Award for Research Excellence, School of Civil and Construction Engineering, 2019, Oregon State University.
- John and Jean Loosley Faculty Fellow, 2015, Oregon State University

Editorial Board for Technical Journals

2019-present –Editorial Board, Handling Editor, Transportation Research Record

Teaching, Advising, and Other Assignments

Instructional Summary

Credit Courses

Number	Course Title	Term/Year	Credits	Enrollment
CCE321	Civil and Construction Engineering Materials	Fall 2014	4	53
CCE520	Pavement Design and Sustainability	Spring 2015	3	9
CCE321	Civil and Construction Engineering Materials	Fall 2015	4	62
CCE520	Advanced Pavement Materials	Winter 2016	3	7
CE492/592	Pavement Structures	Spring 2016	3	13
CCE321	Civil and Construction Engineering Materials	Fall 2016	4	57

CCE520	Advanced Pavement Materials	Spring 2017	3	5
CE492/592	Pavement Structures	Spring 2017	3	12
CCE321	Civil and Construction Engineering Materials	Fall 2017	4	57
CE492/592	Pavement Structures	Spring 2018	3	13
CE596	Pavement Evaluation and Management	Spring 2018	3	6
CCE321	Civil and Construction Engineering Materials	Fall 2018	4	50
CE492/592	Pavement Structures	Spring 2019	3	13
CCE424/524	Asphalt Fundamentals	Spring 2019	3	16
CCE321	Civil and Construction Engineering Materials	Fall 2019	4	65
CE492/592	Pavement Structures	Spring 2020	3	15
CE596	Pavement Evaluation and Management	Spring 2020	3	6
CCE321	Civil and Construction Engineering Materials	Fall 2020	4	62
CE492/592	Pavement Structures	Winter 2021	3	5
CE596	Pavement Evaluation and Management	Winter 2021	3	4
CCE424/524	Asphalt Fundamentals	Spring 2021	3	19
CCE321	Civil and Construction Engineering Materials	Fall 2021	4	39
CE492/592	Pavement Structures	Spring 2022	3	9
CE596	Pavement Evaluation and Management	Winter 2022	3	5
CCE424/524	Asphalt Fundamentals	Spring 2022	3	8
CCE321	Civil and Construction Engineering Materials	Fall 2022	4	58
CE596	Pavement Evaluation and Management	Winter 2022	3	3

Course and Curriculum Development

CCE 321 – Civil and Construction Engineering Materials –This undergraduate course provides information on aggregate, concrete, asphalt, steel/aluminum, and wood materials for construction.

CCE520 – Pavement Design and Sustainability
Changed to CE492/492 – Pavement Structures - It is becoming increasingly apparent that in order to achieve a sustainable transportation network, pavements should be designed by considering not only long-term performance, but also energy efficiency and environmental impacts. This brand-new course teaches students how to use methods and software to design pavement structures that are more cost-effective, socially beneficial, and does less damage to the environment. The course explores innovative design methods that were developed to investigate distress mechanisms of pavements including alternatives intended to address environmental performance goals. In addition, this course teaches students how to implement pavement design strategies that can have a considerable impact on fuel consumption, recycled asphalt use, vehicle maintenance costs, greenhouse gas (GHG) emissions, and life-cycle costs.

CCE520 – Advanced Pavement Materials – This brand new course teaches students how to design asphalt-aggregate mixtures (Superpave mix design method) to meet performance requirements. Recycling processes for asphalt mixtures and applications of other sustainable asphalt pavement technologies, such as rubberized asphalt, permeable pavements, and warm-mix asphalt, are also discussed. Characteristics of concrete pavement mixture types and concrete pavement construction and durability are also discussed. Environmental impacts of concrete and asphalt pavements' production, construction, and use phases are also compared towards the end of the term. These comparisons are intended to provide an understanding of the importance of considering the complete pavement life cycle to evaluate environmental impacts.

CCE424/524 – Asphalt Fundamentals – I have prepared and supervised a Category II curriculum proposal to define the content of this new course, which included Superpave mix design, asphalt recycling, laboratory test methods, asphalt construction, and recent developments in asphalt technology. 70% of the content for CCE424/524 is taken from CCE520 – Advanced Pavement Materials (given above). Content related to asphalt recycling procedures, asphalt plant production, asphalt surfaced pavement construction (field compaction), intelligent compaction technologies, and non-destructive testing and backcalculation methods to evaluate long-term performance of pavement structures were included to the content of CCE520 while the content related to concrete pavements was excluded. I also included three laboratory sessions in which we prepared and tested asphalt concrete mixtures and binders in the OSU Asphalt Materials Performance Laboratory. We also had one speaker from the asphalt industry and one from ODOT who talked about asphalt mixture design and the challenges faced by ODOT and the industry during asphalt mix production, construction, and quality control.

CE596 – Pavement Evaluation and Management – This course was developed by myself and focuses on pavement distress mechanisms, pavement distress surveys, pavement maintenance and rehabilitation strategies, non-destructive pavement testing and performance backcalculation procedures, automated pavement condition survey (APCS) technologies and their integration with pavement management systems (PMS), the use of PMS to develop the most sustainable strategies for pavement maintenance and rehabilitation, and the use of life cycle cost analysis, life cycle assessment, and environmental criteria in the pavement maintenance and rehabilitation decision-making procedures.

Student and Participant Evaluations

Course No.	Term	Enroll-ment	# Re-spond-ing	Coleri score (#1/#2)	College Median* (#1/#2)	Required /Elective
CCE 321	Fall 2014	53	45	4.9/5.0	4.7/4.9	Required
CCE520	Spring 2015	9	9	5.9/5.9	5.3/5.4	Elective
CCE 321	Fall 2015	62	53	5.2/5.6	4.7/4.9	Required
CCE520	Winter 2016	7	5	5.3/5.9	5.3/5.5	Elective
CE 492/592	Spring 2016	13	9	5.8/5.9 (492) 5.8/5.9 (592)	4.9/5.0 (492) 5.3/5.4 (592)	Elective
CCE 321	Fall 2016	57	45	5.6/5.6	4.7/4.9	Required
CCE520	Spring 2017	5	-	-	-	Elective
CE 492/592	Spring 2017	12	9	5.8/5.9 (492) 5.8/5.9 (592)	4.9/5.1 (492) 5.1/5.3 (592)	Elective
CCE 321	Fall 2017	57	38	5.0/5.2	4.8/5.0	Required
CE 492/592	Spring 2018	13	9	5.5/5.8 (492) 5.5/5.8 (592)	5.0/5.3 (492) 5.2/5.5 (592)	Elective
CE596	Spring 2018	6	5	5.3/5.7	5.2/5.5	Elective
CCE 321	Fall 2018	50	34	5.3/5.4	4.8/5.0	Required
CE 492/592	Spring 2019	13	9	5.3/5.3 (492) 5.3/5.3 (592)	5.2/5.5 (492) 5.5/5.6 (592)	Elective
CCE 424/524	Spring 2019	16	8	5.7/5.8 (424) 5.7/5.8 (524)	5.2/5.5 (424) 5.5/5.6 (524)	Elective
CCE 321	Fall 2019	65	28	5.6/5.7	5.1/5.4	Required
CE 492/592**	Spring 2020	15	8	-	-	Elective
CE596**	Spring 2020	6	5	-	-	Elective
CCE 321	Fall 2020	62	13	5.3/5.3	4.8/5.0	Required
CE 492/592	Winter 2021	5	-	-	-	Elective
CE596	Winter 2021	4	-	-	-	Elective
CCE 424/524	Spring 2021	19	4	5.7/5.5 (424) 5.7/5.5 (524)	5.5/5.5 (424) 5.5/5.5 (524)	Elective
CCE 321	Fall 2021	39	10	5.1/5.3	4.8/5.0	Required
CE596	Winter 2022	5	-	-	-	Elective
CE 492/592	Spring 2022	9	6	5.8/5.9 (492) 5.8/5.9 (592)	5.0/5.3 (492) 5.2/5.5 (592)	Elective
CCE 424/524	Spring 2022	8	1	5.0/6.0 (424) 5.0/6.0 (524)	5.2/5.5 (424) 5.5/5.6 (524)	Elective
CCE 321	Fall 2022	58	16	5.4/5.4	TBD	Required

* College median scores are shown separately for each level (e.g., 400, 500) taught.

**Although very positive comments from students were received for the Spring 2020 courses, student scores were not able to be collected due to the removal of the evaluation questions (due to Covid-19 pandemic) according to the faculty senate decision.

Advising

Postdoctoral Scholars

Scholar	Start	End
1. Mayank Sukhija	Fall 2022	Present

Graduate Advisees – Completed

Student	Degree	Thesis	Graduated
1. Shashwath Sreedhar **(Engineer at GeoDesign)**	PhD	*Developing Performance-Based Specifications to Improve the Fatigue Life of Asphalt Pavements in Oregon*	Spring 2019
2. Mostafa Estaji **(Engineer at County of Santa Barbara)**	PhD	*Field and Numerical Investigation of Pavement Vehicle Interaction Related Excess Fuel Consumption and Delamination*	Spring 2019
3. Ihsan Ali Obaid **(Lecturer at University of Al-Qadisiyah)**	PhD	*Improving Fatigue Cracking and Moisture Resistance of Asphalt Mixtures.*	Summer 2021
4. Vikas Kumar	PhD	*Strategies to Improve Density and Moisture Resistance of Asphalt Mixtures in Oregon*	Winter 2023
5. Joshua Weaver **(Engineer at ODOT)**	MS	*Reducing Centerline Rumble Strips Effects on Pavement Performance*	Spring 2021
6. Richard C. Villarreal **(Engineer at ODOT)**	MS	*Improving Long-Term Interlayer Bond Performance by Developing Quality Control Technologies and Certification Procedures for Tack Coats*	Spring 2020
7. Matthew Haynes **(Engineer at GRI)**	MS	*Innovative Strategies to Protect Concrete Bridge Decks and Cross-Laminated Timber Structures through the Use of Impermeable Overlays*	Spring 2019
8. Blaine Wruck **(Engineer at Deschutes County Road Department)**	MS	*Improving Interlayer Bond Quality with Engineered Tack Coats under Adverse Construction Conditions: A Laboratory and Field Investigation*	Fall 2018
9. Sunny Lewis **(Sr. Project Engineer at Skanska)**	MS	*Quantification of Recycled Asphalt Pavement Blending and Tack Coat Performance to Develop Strategies to Improve Pavement Longevity*	Spring 2018
10. Sogol Sadat Haddadi **(Senior Data Scientist - Walmart Global Tech)**	MS	*Moving Towards Sustainability and Increasing User Safety by Improving Performance of RAP Mixtures and Developing a Network-Level Decision-Making Tool for Pavement Maintenance*	Spring 2017

11. Aiman Mahmoud **(Engineer at ODOT)**	MS	*Development of Technologies to Evaluate Hot Mix Asphalt Layer Adhesion through Tack Coat*	Summer 2016
12. David James Covey **(Engineering Designer at Murrysmith)**	MS	*Evaluation of Oregon Tack Coat Performance to Reduce Tracking and Increase Interlayer Shear Strength of Asphalt Pavements*	Summer 2016

Graduate Advisees – Current

Student	Degree	Expected Graduation
1. Vipul Chitnis	PhD	Spring 2024
2. Servan Baran	PhD	Spring 2025

Graduate Thesis or Project Committees

MEng Advisor:

Graduated

1. Yuqi Zhang, 2018

Minor Professor or Committee Member:

Graduated

1. James Darnell, MS, 2015
2. Neil Schweitzer, MEng, 2016
3. Jason Anderson, MS, 2016
4. Luca Montanari, MS, 2017
5. Nabeel Saleem Saad Al-Bdairi, PhD, 2018
6. Jason Anderson, PhD, 2018
7. Anika Sarkar Tabassum, MS, 2019
8. Jon Huffman, PhD, 2020
9. Krishna Siva Teja Chopperla, PhD, 2022
10. Anda Ligia Belc (IOSUD-Romania), PhD, 2022
11. Lamiya Noor, MEng, 2022

Current

1. Lamiya Noor, PhD

Current – Graduate Council Representative

1. Subash Timilsina, PhD
2. Krishna, Ajay, PhD
3. Margaret Wade, PhD
4. Dimitri Gatzios, PhD

Undergraduate Research Assistants

1. Caleb Lennon (Winter 2015 - Summer 2015)
2. Blaine Wruck (Winter 2015 - Winter 2017)
3. Dylan Kreiger (Winter 2016 - Fall 2016)
4. Jawad Qassem (Winter 2017 – Spring 2017)
5. Matthew Haynes (Winter 2016 – Spring 2017)
6. Nicholas Giles (Fall 2016 – Spring 2017)
7. Natasha Anisimova (Winter 2016 – Fall 2017) (EECS)
8. Nicholas Kolstad (Winter 2017 – Winter 2018)
9. Timothy Flowerday (Fall 2016 – Spring 2018)
10. Andrew Johnson (Winter 2017 – Spring 2019)
11. John Paul Morton (Winter 2017 – Spring 2018)
12. Erick Daniel Moreno Rangel (Winter 2018- Spring 2019)
13. Scott Jacob Anderson (Winter 2018- Spring 2018)
14. Eduardo Ramirez (Winter 2018-present)
15. Lincoln Earl Chapman (Winter 2018- Spring 2018)
16. Kirk Annekken Downer (Winter 2018- Spring 2018)
17. Alec Nikunen Adams (Winter 2018- Spring 2018)
18. Jacob Virell (Summer 2018- Spring 2020)
19. Amanda Michelle Riley (Summer 2018- Spring 2020)
20. Jonathon Robert Schwartz (Summer 2018- Spring 2020)
21. Diane Fankhanel (Fall 2018 – Spring 2020)
22. Douglas Keys (Fall 2018 – Fall 2019)
23. Joshua Deaver (Winter 2019 – Winter 2020)
24. Alex James Sutherland (Winter 2019 – Spring 2020)
25. Taylor Michael Van Gordon (Winter 2019 – Spring 2020)
26. Jon Weinberg (Winter 2019 – Spring 2020)
27. Nicole Nickerson (Winter 2019 – Winter 2020)
28. Connor Joseph Hull (Spring 2019 – Fall 2019)
29. Joseph Neils (Spring 2019 – Winter 2020)
30. Meagan Nakamoto (Fall 2019-Winter 2022)
31. Nathan Boechler (Fall 2019-Spring 2021)
32. Luis Gonzalez (Fall 2019- Spring 2021)
33. Skyler Lindner (Fall 2019- Spring 2021)
34. Roland Perez (Fall 2019- Spring 2021)
35. Mitch Sundstrom (Fall 2019- Spring 2021)
36. Joshua Weaver (Fall 2019- Spring 2021)
37. Will Muraviov (Fall 2019- Spring 2021)
38. Zach Newton (Fall 2019- Spring 2021)
39. Rachael K. Oster (Summer 2019-present)
40. Tongnoma Aime Jean De Dieu Nacoulma (Fall 2020-present)
41. Zharita Zurita (Spring 2021-present)
42. Keely Creel (Fall 2021-present)

43. Prescott Benner (Winter 2022-present)
44. Quentin Beers (Spring 2022-present)
45. Caleb Morris (Spring 2022-present)
46. Jonathan Stark (Fall 2022-present)
47. Miles Barnes (Fall 2022-present)
48. Tim Degener (Spring 2022-present)
49. Allyson Burket (Fall 2022-present)
50. Valentino Lim (Fall 2022-present)
51. Sarah Ambrozio Turini (Winter 2023-present)
52. Tyler McCleskey (Winter 2023-present)
53. Michael J. Schumacher (Winter 2023-present)

Other Advising

OSU STEM Leaders Undergraduate Researcher

1. Erick Moreno Rangel, "Improving Cracking Resistance of Asphalt Mixtures" 2018-2019

Research Credits (3 credits for undergraduate research)

1. Lincoln Earl Chapman, "Balanced Mix Design for Asphalt Mixtures", Spring 2018
1. Taylor Van Gordon, "Improving Asphalt Density", Winter 2019
2. Alex James Sutherland "Life Cycle Assessment for Asphalt-Surfaced Pavement Structures" Spring 2019

OSU Coleri Research Group Member Awards

1. Vikas Kumar: received the 2022 ***Asphalt Pavement Association of Oregon Education Foundation (APAOEF) scholarship***.
2. Jonathan Stark: received the 2022 ***Asphalt Pavement Association of Oregon Education Foundation (APAOEF) scholarship***.
3. Keely Creel: received 2021 ***Asphalt Pavement Association of Oregon Education Foundation (APAOEF) scholarship***.
4. Joshua Weaver, M.S.: received 2020 ***Asphalt Pavement Association of Oregon Education Foundation (APAOEF) scholarship***.
5. Shashwath Sreedhar, PhD: received 2019 ***PhD Student of the Year Award*** from the School of Civil and Construction Engineering at OSU.
6. Matthew Haynes, M.S.: received 2017 and 2018 ***Asphalt Pavement Association of Oregon Education Foundation (APAOEF) scholarship***.
7. Sunny Lewis, M.S.: received 2017 ***Asphalt Pavement Association of Oregon Education Foundation (APAOEF) scholarship***.
8. Blaine Wruck, M.S.: received 2016 and 2018 ***Asphalt Pavement Association of Oregon Education Foundation (APAOEF) scholarship***.
9. David Covey, M.S.: received 2015 The ***Pacific Northwest Transportation Consortium (PACTRANS) scholarship.***

Scholarship and Creative Activity

Publications

Graduate students are shown in bold font.

Refereed Journal Publications

1. **Weaver, J., V. Chitnis,** E. Coleri. (2023). *Developing Methods and Strategies to Reduce the Impact of Rumble Strips (RS) on Pavement Performance.* International Journal of Pavement Engineering, accepted for publication.

2. **Wruck, B.M.,** E. Coleri**, S. Sreedhar, V. Kumar**. (2022). *Impact of Emulsion Type, Application Rate, and Adverse Construction Conditions on Tack Coat Performance.* Transportation Research Record: Journal of the Transportation Research Board, https://doi.org/10.1177/03611981221115733 .

3. **Kumar, V.,** E. Coleri**, I. Obaid, A.L. Belc, A. Sutherland**. (2022). *Selection of Durable, Environmentally Friendly, and Cost-Effective Asphalt Mixtures.* MDPI Materials Journal, https://doi.org/10.3390/ma15144873

4. **Wruck, B.M.,** E. Coleri**, R. Villarreal, V. Kumar,** J. Batti. (2022). *Quantifying In-Situ Tack Coat Performance Using the TackBond Tester for Quality Control.* Transportation Research Record: Journal of the Transportation Research Board, https://doi.org/10.1177/03611981211058134 .

5. **Sreedhar, S.,** E. Coleri, **I.A. Obaid, V. Kumar.** (2021). *Development of a Balanced Mix Design Method in Oregon to Improve Long-Term Pavement Performance.* Transportation Research Record: Journal of the Transportation Research Board, https://doi.org/10.1177/03611981211032222

6. **Belc, A.L.,** E. Coleri**,** F. Belc, C. Costescu. (2021). *Influence of Different Warm Mix Additives on Characteristics of Warm Mix Asphalt.* MDPI Materials Journal, https://doi.org/10.3390/ma14133534.

7. **Haynes, M.,** E. Coleri, **I. Obaid.** (2021). *Performance of Waterproofing Membranes to Protect Concrete Bridge Decks.* Transportation Research Record: Journal of the Transportation Research Board, accepted for publication.

8. Coleri, E., **R.C. Villarreal**, and **B.M. Wruck**. (2020). *Developing Technologies and Procedures to Reduce Tracking and Achieve Uniform and Accurate Tack Coat Application.* Transportation Research Record: Journal of the Transportation Research Board, https://doi.org/10.1177/0361198120919115 .

9. **Sreedhar, S.** and E. Coleri. (2020). *The Effect of Long-Term Aging on Fatigue Cracking Resistance of Asphalt Mixtures.* International Journal of Pavement Engineering, https://doi.org/10.1080/10298436.2020.1745206 .

10. Bajwa, R., E. Coleri, R. Rajagopal, P. Varaiya, and C. Flores. (2020). *Pavement Performance Assessment Using a Cost-Effective Wireless Accelerometer System.* Computer-Aided Civil and Infrastructure Engineering, https://doi.org/10.1111/mice.12544.

11. **Estaji, M.**, E. Coleri, **B.M. Wruck**. (2020). *Investigation of Tack Coat Bond Damage Mechanism in Asphalt Surfaced Pavements under Dynamic Truck Loads*. Transportation Research Record: Journal of the Transportation Research Board, https://doi.org/10.1177/0361198120909838 .

12. **Estaji, M.**, E. Coleri, J. Harvey, A. Butt (2019). *Predicting Excess Vehicle Fuel Use Due to Pavement Structural Response Using Field Test Results and Finite Element Modeling*. International Journal of Pavement Engineering, doi.org/10.1080/10298436.2019.1655563.

13. **Haynes, M.,** E. Coleri, **M. Estaji.** (2019). *Selection of the Most Effective Pavement Surfacing Strategy for the Glenwood Cross Laminated Timber Parking Garage.* Journal of Construction and Building Materials, 226, p.162-172, doi.org/10.1016/j.conbuildmat.2019.07.220 .

14. **Haddadi, S.,** E. Coleri**, S. Sreedhar. (2019).** *Strategies to Improve Performance of Reclaimed Asphalt Pavement-Recycled Asphalt Shingle Mixtures.* International Journal of Pavement Engineering, https://doi.org/10.1080/10298436.2019.1593411 .

15. **Haynes, M. A.**, E. Coleri, **S. Sreedhar.** (2019). *Impermeable Asphalt Concrete Layer to Protect and Seal Concrete Bridge Decks.* Transportation Research Record: Journal of the Transportation Research Board, doi.org/10.1177/0361198119841041 .

16. Coleri, E., J.T. Harvey (2018) *The Use of Laboratory Measured and Strain Gauge Backcalculated Asphalt Stiffness for Rutting Performance Prediction.* Transportation Research Record: Journal of the Transportation Research Board, doi.org/10.1177/0361198119825644 .

17. **Sreedhar, S.**, E. Coleri, **S.S. Haddadi**. (2018) *Selection of a Performance Test to Assess the Cracking Resistance of Asphalt Concrete Materials.* Journal of Construction and Building Materials, 179, p.285-293, doi.org/10.1016/j.conbuildmat.2018.05.258.

18. **Sreedhar, S.,** E. Coleri (2018). *Effects of Binder Content, Density, Gradation, and Polymer Modification on Cracking and Rutting Resistance of Asphalt Mixtures Used in Oregon.* ASCE - Journal of Materials in Civil Engineering, 30 (11), doi.org/10.1061/(ASCE)MT.1943-5533.0002506.

19. Coleri, E., **Y. Zhang, B. M. Wruck** (2018). *Mechanistic-Empirical Simulations and Life-Cycle Cost Analysis to Determine the Cost and Performance Effectiveness of Asphalt Mixtures Containing Recycled Materials*. Transportation Research Record: Journal of the Transportation Research Board, DOI: 10.1177/0361198118776479.

20. **Covey, D.,** E. Coleri, **A. Mahmoud**, **N. Anisimova** (2018). *Development of a Smartphone App and Device to Reduce Tack Coat Tracking.* Journal of Road Materials and Pavement Design, doi.org/10.1080/14680629.2018.1438916.

21. **Covey, D.,** E. Coleri, **A. Mahmoud**, (2017). *Tack Coat Rheological Properties and the Effects on Interlayer Shear Strength.* ASCE - Journal of Materials in Civil Engineering, 29 (11), p.1-11, doi.org/10.1061/(ASCE)MT.1943-5533.0002054.

22. **Mahmoud, A.**, E. Coleri, J. Batti, and **D. Covey**. (2017). *Development of a Wireless Field Tack Coat Tester to Evaluate In-Situ Tack Coat Performance.* Journal of Road Materials and Pavement Design, p.1-19, doi: 10.1080/14680629.2017.1354775.

23. Bajwa, R., E. Coleri, R. Rajagopal, P. Varaiya, and C. Flores. (2017). *Development of a Cost-Effective Wireless Vibration Weigh-In-Motion System to Estimate Axle Weights of Trucks.* Computer-Aided Civil and Infrastructure Engineering, 32, No.6, p.443-457, DOI: 10.1111/mice.12269.

24. Coleri E. and J.T. Harvey. (2017). *Impact of Pavement Structural Response on Vehicle Fuel Consumption.* ASCE's Journal of Transportation Engineering, Part B: Pavements, 143, No.1, https://doi.org/10.1061/JPEODX.0000004.

25. **Mahmoud, A.**, E. Coleri, J. Batti, **D. Covey**. (2017) *Development of A Field Torque Test to Evaluate In-Situ Tack Coat Performance.* Journal of Construction and Building Materials, 135, p.377-385, doi.org/10.1016/j.conbuildmat.2017.01.013.

26. Zak, J., C.L. Monismith, E. Coleri, J.T. Harvey (2016). *Uniaxial Shear Tester – New Test Method to Determine Shear Properties of Asphalt Mixtures*. Journal of Road Materials and Pavement Design, 18, p.87-103, doi: 10.1080/14680629.2016.1266747.

27. Tsai, B.W., E. Coleri, J.T. Harvey, C. L. Monismith (2016). *Evaluation of AASHTO T 324 Hamburg Wheel Track Device Test.* Elsevier - Construction and Building Materials, 114, p.248-260, doi:10.1016/j.conbuildmat.2016.03.171.

28. Coleri, E., J.T. Harvey, I. Zaabar, A. Louhghalam, K. Chatti (2015). *Model Development, Field Section Characterization and Model Comparison for Excess Vehicle Fuel Use Due to Pavement Structural Response.* Transportation Research Record: Journal of the Transportation Research Board, 2589, p.40-50.

29. Coleri, E., M. Kayhanian, J.T. Harvey (2014). *Permeability of Porous Friction Course Pavements: Before and After Accelerated Pavement Tests*. Transportation Research Record: Journal of the Transportation Research Board, p.21-29, DOI:10.3141/2456-03.

30. Coleri E., M. Kayhanian, J.T. Harvey, K. Yang, J.M. Boone (2013). *Clogging Evaluation of Open Graded Friction Course Pavements Tested under Rainfall and Heavy Vehicle Simulators*. Journal of Environmental Management, 129, p.164-172, DOI: 10.1016/j.jenvman.2013.07.005.

31. Coleri, E. and J.T. Harvey (2013). *Investigation of Layered Elastic Theory Prediction Accuracy for Asphalt Concrete Pavement Design Using Micromechanical Viscoelastic Finite Element Modeling.* Journal of Materials and Structures, p.1-22, DOI: 10.1617/s11527-013-0069-6.

32. Coleri, E. and J.T. Harvey (2013). *A Fully Heterogeneous Viscoelastic Finite Element Model for Full-Scale Accelerated Pavement Testing.* Journal of Construction and Building Materials, 43, p.14-30, DOI.org/10.1016/j.conbuildmat.2013.01.022.

33. Coleri, E., J.T. Harvey, K. Yang, J.M. Boone (2013). *Micromechanical Investigation of Open-graded Asphalt Friction Courses' Rutting Mechanisms.* Journal of Construction and Building Materials, 44, p.25-34, DOI.org/10.1016/j.conbuildmat.2013.03.027.

34. Khazanovich, L., D. Tompkins, P. Saxena, R. Wu, E. Coleri, J.T. Harvey (2014). *Mechanistic-Empirical Pavement Design to Mitigate Rutting in Asphalt Overlays of Concrete Pavements Using MEPDG and CalME.* Transportation Research Record: Journal of the Transportation Research Board, 2368, p.36-44, 10.3141/2368-04.

35. Coleri, E., J.T. Harvey, K.Yang, J.M. Boone (2012). *Investigation of Asphalt Concrete Rutting Mechanisms by X-Ray Computed Tomography Imaging and Micromechanical Finite Element Modeling.* Journal of Materials and Structures, 46, p.1027-1043, DOI: 10.1617/s11527-012-9951.

36. Coleri, E., J.T. Harvey, K.Yang, J.M. Boone (2012). *A Micromechanical Approach to Investigate Asphalt Concrete Rutting Mechanisms.* Journal of Construction and Building Materials, 30, p.36-49 DOI:10.1016/j.conbuildmat.2011.11.041.

37. Coleri, E., J.T. Harvey, K.Yang, J.M. Boone (2012). *Development of A Micromechanical Finite Element Model from Computed Tomography Images for Shear Modulus Simulation of Asphalt Mixtures.* Journal of Construction and Building Materials, 30, p.783-793, DOI:10.1016/j.conbuildmat.2011.12.071.

38. Coleri E., R. Wu, J.M. Signore, J.T. Harvey (2012). *Rutting of Rubberized Gap-Graded and Polymer-Modified Dense-Graded Asphalt Overlays in Composite Pavements.* Transportation Research Record: Journal of the Transportation Research Board, 2304, p.195-204, 10.3141/2304-22.

39. Coleri, E., J.T. Harvey (2011). *Evaluation of Laboratory, Construction and Performance Variability by Bootstrapping and Monte Carlo Methods for Rutting Performance Prediction of Heavy Vehicle Simulator Test Sections.* ASCE's Journal of Transportation Engineering, 137, No.12, p.897-906, DOI: 10.1061/(ASCE)TE.1943-5436.0000292.

40. Coleri, E., J.T. Harvey (2011). *Analysis of Representative Volume Element for Asphalt Concrete Laboratory Shear Testing.* ASCE's Journal of Materials in Civil Engineering, 23, No.12, p.1642-1653, DOI: 1061/(ASCE)MT.1943-5533.0000344.

41. Coleri, E., M. Guler, A.G. Gungor, John T. Harvey (2010). *Prediction of Subgrade Resilient Modulus Using Genetic Algorithm and Curve-Shifting Methodology - Alternative to Nonlinear Constitutive Models.* In Transportation Research Record: Journal of the Transportation Research Board, 2170, p.64-73, DOI: 10.3141/2170-08.

42. Coleri, E., B.W. Tsai, C.L. Monismith (2008). *Pavement Rutting Performance Prediction by Integrated Weibull Approach*. In Transportation Research Record: Journal of the Transportation Research Board, 2087, p. 120-130 DOI: 10.3141/2087-13.

Peer-Reviewed Archival Conference Publications

1. Butt, A.A., J.T. Harvey, D.T. Fitch, D. Reger, D. Balzarini, I. Zaabar, K. Chatti, **M. Estaji**, E. Coleri, A. Louhghalam. (2020) *Effect of Pavement Structural Response on Vehicle Fuel Consumption: Lessons Learned from Data Collection, Processing and Analysis.* Proceedings of the International Symposium on Pavement. Roadway, and Bridge Life Cycle Assessment 2020 (LCA 2020, Sacramento, CA, 3-6 June 2020).

2. **Estaji, M.**, J.T. Harvey, E. Coleri. (2020) *Evaluation of Different Machine Learning Tools in End-to-End Prediction of Vehicle Fuel Consumption in California.* ASCE International Conference on Transportation and Development 2020, Austin, Texas, U.S.A.

3. Zak J., E. Coleri, J. Harvey. (2019) *Incremental Rutting Prediction with Asphalt Mixture Shear Properties*. In: Hossain Z., Zhang J., Chen C. (eds) Solving Pavement and Construction Materials Problems with Innovative and Cutting-edge Technologies. GeoChina 2018. Sustainable Civil Infrastructures. Springer.

4. Coleri E., R. Wu, J.T. Harvey, J.M. Signore (2012). *Calibration of Incremental-Recursive Rutting Prediction Models in CalME Using HVS Experiments*. In proceedings of the 4th International Conference on Accelerated Pavement Testing, p471-481.

5. Bajwa, R., R. Rajagopal, E. Coleri, P. Varaiya, C. Flores. (2013). *In-Pavement Wireless Weigh-In-Motion.* In Proceedings of the 12th International Conference on Information Processing in Sensor Networks, ACM, New York, USA, 2013, p. 103-114 (25% acceptance rate).

6. Bajwa, R., E. Coleri, C. Flores, R. Rajagopal, R. Kavaler, P. Varaiya, B. Wild. (2012). *An Experimental Wireless Accelerometer-Based Sensor System for Applications to WIM and Vehicle Classification.* In Proceedings of the 6th International Conference on Weigh-in-motion - ICWIM6, Dallas, Texas, p.3-12.

7. Coleri, E., J.T. Harvey (2013). *Effects of Asphalt Concrete Anisotropy on Predicted Pavement Response at High Temperatures.* In Proceedings of the 92nd Annual Meeting of the Transportation Research Board, Washington D.C., p.22.

8. Coleri E., L. Popescu, J.M. Signore*, R. Wu, J.T. Harvey (2012). *PCC Slab Temperature Gradients as a Function of Structure and Environment; Experience from the SHRP II R21 Composite Pavement Test Track*. In Proceedings of the 10th International Conference on Concrete Pavements, p.339-356.

9. Wu R., J.M. Signore, J.T. Harvey, E. Coleri (2012). *Assessment of JPCP Slab and Joint Movement under Multiple Structural and Environmental Conditions.* In Proceedings of the 10th International Conference on Concrete Pavements, p.408-421.

10. Coleri E. (2012). *Genetic Algorithm for Finite Horizon Pavement Resurfacing Planning Problem*. In Proceedings of the 91st Annual Meeting of the Transportation Research Board, Washington D.C., p.22.

Other Peer-Reviewed Publications

The following papers appeared in proceedings that were distributed primarily to attendees (as CDs, printed volumes, availability through a public website, etc.).

1. Harvey, J.T., A. Rezaei, R. Wu, I. Guada, E. Coleri, M. Kayhanian (2015). *Summary of Evaluations of Open-Graded Asphalt Mixes for Noise, Permeability and Durability.* International Airfield and Highway Pavements Conference, Miami, FL.

2. He, Y., J.T. Harvey, E. Coleri, F. Farshidi, H. Li (2013). *Effects of Specimen Preparation Variables and Testing Temperature on Asphalt Mixture Performance Tester Repeated-Load Triaxial Test for Hot-Mix Asphalt.* Presented at the 93rd Annual Meeting of the Transportation Research Board, Washington D.C.

3. Rajagopal, R., R. Bajwa, E. Coleri, P. Varaiya, C. Flores. (2013). *Sensor Network for Pavement Performance Monitoring.* Presented at the ASCE International Workshop on Computing in Civil Engineering, June 23-25, 2013. Los Angeles, CA.

4. Coleri, E., A.G. Gungor, M. Guler (2008). *Correlation between Light Falling Weight Deflectometer Test Results and Laboratory Measured Elastic Response of Unbound Materials.* IS-Atlanta, In Proceedings of the 4th International Symposium on Deformation Characteristics of Geomaterials, No. 0133.

Other Publications

Transportation Research Circular E-C209 (*Integrating Asphalt Mixture Design, Structural Design, and Construction Quality Control*) prepared for Standing Committee on Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements by H. Von Quintus and K.D. Hall in collaboration with F. Fee, E. Coleri, M. Heitzman, R. May, N. Morian, and E. Y. Hajj (2016). Helped write and review the circular.

RESEARCH REPORTS TO SPONSORS

1. **Weaver, J.,** Coleri, E., and **V. Chitnis.** (2022). *Centerline Rumble Strip Effects on Pavement Performance.* SPR 838, Research report for Oregon Department of Transportation, Salem, Oregon, (under review).

2. Coleri, E., **V. Kumar, I. Obaid, V. Chitnis, and Z.A. Newton.** (2022). *Implementation of Laboratory Conditioning and Testing Protocol to Evaluate Moisture Susceptibility of Asphalt Mixtures.* SPR 835, Research report for Oregon Department of Transportation, Salem, Oregon, (under review).

3. **Kumar, V.**, E. Coleri, and **I. Obaid.** (2021). *Constructing High Performance Asphalt Pavements by Improving In-Place Pavement Density.* SPR 826, Research report for Oregon Department of Transportation, Salem, Oregon, FHWA-OR-RD-22-04.

4. Coleri, E., **S. Sreedhar,** and **I. Obaid.** (2020). *Development of A Balanced Mix Design Method in Oregon.* SPR 801, Research report for Oregon Department of Transportation, Salem, Oregon, FHWA-OR-RD-21-03.

5. Coleri, E.**, B. Wruck, S. Sreedhar, R. Villarreal, S. Lewis,** and **V. Kumar** (2020). *Implementation of ODOT Tack Coat Technologies and Procedures to Improve Long-Term Pavement Performance.* SPR 818, Research report for Oregon Department of Transportation, Salem, Oregon, FHWA-OR-RD-20-03.

6. **Haynes, M. A.,** E. Coleri, **S. Sreedhar,** and **I. Obaid.** (2020). *Bridge Deck Asphalt Concrete Pavement Armoring.* SPR 815, Research report for Oregon Department of Transportation, Salem, Oregon, FHWA-OR-RD-20-04.

7. **Haynes, M. A.,** E. Coleri, and **M. Estaji.** (2018). *Selection of Most Effective Pavement Surfacing Strategy for the Glenwood Cross Laminated Timber Parking Garage.* Research report for TallWood Design Institute, Oregon State University, Corvallis, Oregon.

8. Coleri, E., **B. Wruck, S. Sreedhar,** and **I. Obaid.** (2017). *Quantifying the Effects of Aramid Fibers on Rutting and Cracking Performance of Asphalt Mixtures.* Research report for Surface Tech LLC, Portland, Oregon.

9. **Haddadi, S.,** Coleri, E., and **B. Wruck**. (2017). *A Network-Level Decision Making Tool for Pavement Maintenance and User Safety.* SPR 785, Draft report for Pacific Northwest Transportation Consortium (PacTrans) USDOT University Transportation Center for Federal Region 10.

10. Coleri, E., **S. Sreedhar, S. Haddadi**, and **B. Wruck**. (2017). *Adjusting Asphalt Mixes for Increased Durability and Implementation of a Performance Tester to Evaluate Fatigue Cracking of Asphalt Concrete.* SPR 785, Research report for Oregon Department of Transportation, Salem, Oregon, FHWA-OR-18-06.

11. Coleri, E., **S. Haddadi, S. Sreedhar, S. Lewis, Y. Zhang**, and **B. Wruck**. (2018). *Binder-Grade Bumping and High Binder Content to Improve Performance of RAP-RAS Mixtures.* SPR 797, Research report for Oregon Department of Transportation, Salem, Oregon, FHWA-OR-18-05.

12. Coleri, E., **D. Covey, A. Mahmoud**, J. Batti, N. Anisimova. (2017). *HMAC Layer Adhesion through Tack Coat.* Research Report for Oregon Department of Transportation, FHWA-OR-RD-17-05.

13. Harvey, J.T., Lea, J.D., Kim, C., Coleri, E., Zaabar, I., Louhghalam, A., Chatti, K., Buscheck, J., Butt, A. (2016). *Simulation of Cumulative Annual Impact of Pavement Structural Response on Vehicle Fuel Economy for California Test Sections.* Davis and Berkeley, CA: University of California Pavement Research Center. (UCPRC-RR-2015-05).

14. Newcomb, D., A. E. Martin, F. Yin, E. Arambula, E. S. Park, A. Chowdhury, R. Brown, C. Rodezno, N. Tram, E. Coleri, D. Jones, J.T. Harvey, J.M. Signore (2015). *NCHRP Report 815: Short-Term Laboratory Conditioning of Asphalt Mixtures.* Washington DC: National Cooperative Highway Research Program, Transportation Research Board, National Research Council.

15. Harvey, J.T., Liu, A., Zhou, J., Signore, J.M., Coleri, E., He, Y. (2014). *Superpave Implementation Phase II: Comparison of Performance-Related Test Results.* Davis and Berkeley, CA: University of California Pavement Research Center. (UCPRC-RR-2015-01).

16. Wu, R., I. Guada, E. Coleri, A.Rezaei, M. Kayhanian, J.T. Harvey (2013). *Implementation of New Quieter Pavement Research: Accelerated Pavement Testing and Laboratory Evaluation of Different Open-Graded Hot-Mix Asphalt Materials.* Davis and Berkeley, CA: University of California Pavement Research Center (UCD-ITS-RR-13-29).

17. Rao, S., M. Darter, D. Tompkins, M. Vancura, L. Khazanovich, E. Coleri, J.M. Signore, R. Wu, J.T. Harvey, J. Vandenbossche (2012). *Composite Pavement Systems Volume 1: HMA/PCC Pavements.* Technical Report Prepared for Strategic Highway Research Program 2, Transportation Research Board, Washington D.C., National Research Council, National Academy of Sciences.

18. Rao, S., M. Darter, D. Tompkins, M. Vancura, L. Khazanovich, E. Coleri, J.M. Signore, R. Wu, J.T. Harvey, J. Vandenbossche (2012). *Composite Pavement Systems Volume 2: PCC/PCC Pavements.* Technical Report Prepared for Strategic Highway Research Program 2, Transportation Research Board, Washington D.C., National Research Council, National Academy of Sciences.

19. Signore, J.M., E. Coleri, R. Wu, J.T. Harvey (2012). *Integrating Pavement Preservation into the ME Design Process.* Davis and Berkeley, CA: University of California Pavement Research Center. (UCPRC-RR-2012-01).

20. Signore, J.M., R. Wu, E. Coleri, J.T. Harvey, R. Cheng, J. Zhou, L. Popescu (2012). *Performance Monitoring of Field Sections for Extended Life Benefits of Pavement Preservation Treatments.* Davis and Berkeley, CA: University of California Pavement Research Center. (UCPRC-RR-2012-05).

21. Signore, J.M., J.T. Harvey V. Kannekanti, B.D. Steven, B.W. Tsai, E. Coleri (2010). *Evaluation and Calibration of RadiCAL for Prediction of Longitudinal Cracking in Rigid Pavements.* Davis and Berkeley, CA: University of California Pavement Research Center. (TM-2008-10).

22. Guler, M., A.G. Gungor, E. Coleri, C. Avsar, O. Ozay (2007). *Adaptation of Resilient Modulus to Mechanistic-Empirical Design Specifications of Flexible Pavements.* Turkish General Directorate of Highways, Ankara, Turkey. (In Turkish).

Professional Meetings, Symposia, and Conferences

Presentations to Professional Groups

1. Invited Talk (2022). - *Oregon State University's Asphalt Pavement Research Program.* Asphalt Pavement Association of Oregon 50th Annual Meeting, Bend, Oregon, Dec 2022.

2. Invited Talk (2021). - *Innovate to Build a More Sustainable Future for the Pavement Infrastructure.* Asphalt Pavement Association of Oregon 49th Annual Meeting, Bend, Oregon, Dec 2021.

3. Invited Talk (2020). *Asphalt Materials Research at Oregon State University.* ODOT Annual Pavement Forum, Zoom, Oregon, November 2020.

4. Invited Talk (2020). *OSU's Research on Asphalt Pavement.* 26th Annual Oregon Asphalt Conference. Eugene, Oregon, Feb 2020.

5. Conference presentation (2020). *Developing Performance-Based Specifications for Asphalt Mixture Design in Oregon.* Presented at the 99th Annual Meeting of the Transportation Research Board, Washington D.C.

6. Conference presentation (2019). *A Field Torque Test System for Tack Coat Performance Evaluation.* Presented at the 98th Annual Meeting of the Transportation Research Board, Washington D.C.

7. Invited Talk (2018). - *Oregon State University Asphalt Research.* Asphalt Pavement Association of Oregon 48th Annual Meeting, Portland, Oregon, Dec 2018.

8. Invited Talk (2018). *Pavement Preservation Research at Oregon State University.* Rocky Mountain West Pavement Preservation Partnership (RMWPPP) Conference. Portland, Oregon, September 2018.

9. Invited Talk (2018). *OSU's Research on Recycled Materials and Improving Durability in Oregon Asphalt Pavements.* 24th Annual Oregon Asphalt Conference. Eugene, Oregon, March 2018.

10. Invited Talk (2018). *Pavement and Sustainability Research at Oregon State University.* Istanbul Technical University. Istanbul, Turkey, Feb 2018.

11. Invited Talk (2018). *Pavement and Sustainability Research at Oregon State University.* Bosphorus University. Istanbul, Turkey, Feb 2018.

12. Conference presentation (2018). *Development of Technologies to Reduce Tack Coat Tracking.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

13. Conference presentation (2018). *Tack Coat Rheological Properties and the Effects on Bond Performance.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

14. Conference presentation (2018). *Mechanistic–Empirical Simulations and Life-Cycle Cost Analysis to Determine the Cost and Performance Effectiveness of Asphalt Mixtures Containing Recycled Materials.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

15. Conference presentation (2018). *Binder-Grade Bumping and High Binder Content to Improve Performance of Reclaimed Asphalt Pavement–Reclaimed Asphalt Shingle Mixtures*. Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

16. Invited Talk (2017). *OSU's Research on Durability and High Recycled Mixtures.* Asphalt Pavement Association of Oregon 48th Annual Meeting, Portland, Oregon, Dec 2017.

17. Invited Talk (2017). *Development of Strategies to Increase Recycled Asphalt Pavement Mixtures in Oregon.* New Frontiers in Construction Conference. University of Washington, Seattle, March 2017.

18. Invited Talk (2017). *Oregon's Tack Coat Research & Results – What Products & Methods Should We Be Using?* 23rd Annual Oregon Asphalt Conference. Eugene, Oregon, Feb 2017.

19. Invited Talk (2017). *OSU's Research on High Recycled Content Mixes.* 23rd Annual Oregon Asphalt Conference. Eugene, Oregon, Feb 2017.

20. Invited Talk (2016). *HMAC Layer Adhesion through Tack Coat.* Northwest Pavement Management Association Conference. Portland, Oregon, October 2016.

21. Invited Talk (2016). *Pavement Research at Oregon State University.* Turkish General Directorate of Highways. Ankara, Turkey, July 2016.

22. Invited Talk (2015). *Pavement and Sustainability Research at Oregon State University.* Oregon State University Materials Science Seminar, Corvallis, Oregon, March 2015.

23. Conference presentation (2015). *Model Development, Field Section Characterization and Model Comparison for Excess Vehicle Fuel Use Due to Pavement Structural Response*. Presented at the 94th Annual Meeting of the Transportation Research Board, Washington D.C.

24. Conference presentation (2014). *Permeability of Porous Friction Course Pavements: Before and After Accelerated Pavement Tests*. Presented at the 93rd Annual Meeting of the Transportation Research Board, Washington D.C.

25. Committee presentation (2013). *Micromechanical Investigation of Open-graded Asphalt Friction Courses' Rutting and Clogging Mechanisms*. Presented at the 92nd Annual Meeting of the Transportation Research Board, Washington D.C at the AFD40- Standing Committee on Full-Scale Accelerated Pavement Testing meeting.

26. Conference presentation (2013). *Rutting Mechanisms of Porous Asphalt Friction Courses.* Engineering Mechanics Institute Conference, Northwestern University, August 2013.

27. Conference presentation (2013). *Prediction of Rutting Performance Using Laboratory Measured and Strain Gauge Backcalculated Asphalt Concrete Stiffness*. Presented at the 92rd Annual Meeting of the Transportation Research Board, Washington D.C.

28. Conference presentation (2013). *Effects of Asphalt Concrete Anisotropy on Predicted Pavement Response at High Temperatures.* Presented at the 92nd Annual Meeting of the Transportation Research Board, Washington D.C.

29. Committee presentation (2012). *A Micromechanical Approach to Investigate Structural Properties of Asphalt Concrete Pavements*. Presented at the 91st Annual Meeting of the Transportation Research Board, Washington D.C at the AFK50- Standing Committee on Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements meeting.

30. Conference presentation (2012). Micromechanical Investigation of Asphalt Concrete Rutting Mechanisms. Engineering Mechanics Institute Conference, University of Notre Dame, June 2012.

31. Conference presentation (2012). A Micromechanical Finite Element Model for Asphalt Concrete Shear Modulus Simulation. Engineering Mechanics Institute Conference, University of Notre Dame, June 2012.

32. Conference presentation (2012). *Rutting of Rubberized Gap-Graded and Polymer- Modified Dense-Graded Asphalt Overlays in Composite Pavements*. Presented at the 91st Annual Meeting of the Transportation Research Board, Washington D.C.

33. Conference presentation (2012). *Calibration of Incremental-Recursive Rutting Prediction Models in CalME Using HVS Experiments*. Presented at the 4th International Conference on Accelerated Pavement Testing.

34. Conference presentation (2012). *Genetic Algorithm for Finite Horizon Pavement Resurfacing Planning Problem*. Presented at the 91st Annual Meeting of the Transportation Research Board, Washington D.C.

35. Conference presentation (2008). Pavement Rutting Performance Prediction by Integrated Weibull Approach. . Presented at the 87th Annual Meeting of the Transportation Research Board, Washington D.C.

Participation at Invitational Workshops

- Invited speaker. University of California, Davis. *Innovate to Build a More Sustainable Future for the Pavement Infrastructure.* April 2021, Davis, California.
- Invited speaker. Pacific Northwest Chapter of the Society of Environmental Toxicology and Chemistry Short Course. *Recycling Plastic into Asphalt Mixtures*. February 2020, Bremerton, Washington.

- Invited speaker. APAO/ODOT Advanced Pavers Workshop. *Takeaways from OSU's Research on New Tack Products and Using Asphalt in a New Way on Bridge Decks*. February 2019, Eugene, Oregon.
- Invited speaker. APAO/ODOT Advanced Pavers Workshop. *Tack Coat Research in Oregon*. February 2016, Eugene, Oregon.

Presentations by students

- Conference presentation by **Vikas Kumar.** (2023). *Implementation of Laboratory Conditioning and Testing Protocol to Evaluate Moisture Susceptibility of Asphalt Mixtures.* Presented at the 102nd Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Vipul Chitnis.** (2023). *Reducing the Impact of Center Line Rumble Strips on Pavement Performance: A Field and Laboratory Investigation.* Presented at the 102nd Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Vikas Kumar.** (2022). *Selection of Durable, Environmentally Friendly, and Cost-Effective Asphalt Mixtures for Oregon – Effects of Density, WMA, and High RAP.* Presented at the 101st Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Matthew Haynes.** (2021). *Performance of Waterproofing Membrane Strategies to Protect Concrete Bridge Decks.* Presented at the 100th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Richard Villarreal.** (2020). *Developing Technologies and Procedures to Reduce Tracking and Achieve Uniform and Accurate Tack Coat Application.* Presented at the 99th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Blaine Wruck.** (2020). *Quantifying In Situ Tack Coat Performance Using the OreTackBond for Quality Control.* Presented at the 99th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Shashwath Sreedhar.** (2020). *Development of a Long-Term Aging Protocol for Asphalt Mixtures.* Presented at the 99th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Blaine Wruck.** (2020). *Investigation of Tack Coat Bond Damage Mechanism in Asphalt Surfaced Pavements Under Dynamic Truck Loads.* Presented at the 99th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Mostafa Estaji.** (2019). *Field Section Characterization and Numerical Model Development to Quantify Energy Dissipation Due to Structural Response of Flexible and Rigid Pavements.* Presented at the 98th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Matthew Haynes.** (2019). *Impermeable Asphalt Concrete Layer to Protect and Seal Concrete Bridge Decks.* Presented at the 98th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Shashwath Sreedhar.** (2018). *Implementation of Performance Tester to Evaluate Fatigue Cracking of Asphalt Concrete in Oregon.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Shashwath Sreedhar.** (2018). *Impact of Mixture Properties on Cracking Performance of Asphalt Mixtures Used in Oregon.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.
- Conference presentation by **Sunny Lewis.** (2018). *Quantification of RAP Binder Blending to Provide Recommendations for Asphalt Mix Design.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

- Conference presentation by **Mostafa Estaji.** (2018). *Energy Dissipation in Concrete Pavements Under Moving Loads Due to Structural Damping.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.
- Invited Talk by **Matthew Haynes.** (2018). *Selection of Most Effective Pavement Surfacing Strategy for the Glenwood Cross Laminated Timber Parking Garage.* Presented at the TallWood Design Institute Research Symposium, Corvallis, Oregon.

Grant and Contract Support

List covers grants/contracts on which candidate served as PI or coPI only, including those funded through other institutions. "My share" indicates the amount of funding, if any, over which the candidate had control.

Agency & Dates	*PI (and coPIs)*	*Title*	*Total Budget*	*My Share*
Oregon Dept. of Transportation (ODOT) 12/14-8/16	E. Coleri	HMAC Layer Adhesion Through Tack Coat	$140,000	$140,000
California Dept. of Transportation 4/15-4/17	J. Harvey – Main PI O.S.U subcontract PI: E. Coleri	Modeling Effects of Pavement Structural Response on Vehicle Fuel Economy and Simulation of Cumulative Annual Impact	$1,600,000	$150,374
PacTrans Region 10 UTC 12/15-6-17	E. Coleri	A Network-Level Decision Making Tool for Pavement Maintenance and User Safety	$36,335	$36,335
ODOT 10/15-6/17	E. Coleri	Adjusting Asphalt Mixes for Increased Durability and Implementation of a Tester to Evaluate Fatigue Cracking of Asphalt Concrete	$170,000	$170,000
ODOT 11/15-06/17	E. Coleri	Binder-Grade Bumping and High Binder Content to Improve Performance of RAP-RAS Mixtures	$170,000	$170,000
ODOT 8/17-7/19	E. Coleri	Bridge Deck Asphalt Concrete Pavement Armoring	$185,000	$185,000
ODOT 8/17-7/19	E. Coleri	Implementation of ODOT Tack Coat Technologies and Procedures to Improve Long-Term Pavement Performance	$185,000	$185,000

Alliance Geosynthetics 7/17-8/17	E. Coleri	Effects of Fibers on Rutting and Cracking Resistance of Asphalt Mixtures	$15,500	$15,500
Surface Tech LLC 7/17-9/17	E. Coleri	Quantifying the Effects of Fibers on Rutting and Cracking Performance of Asphalt Mixtures	$16,700	$16,700
ODOT 11/17-8/19	E. Coleri	Development of a Balanced Mix Design Method in Oregon	$85,000	$85,000
Alliance Geosynthetics	E. Coleri	The Effects of Fiber-Reinforcement on Asphalt Mixture Performance	$60,033	$60,033
Tallwood Design Institute	Subcontract PI: E. Coleri	Selection of Most Effective Pavement Surfacing Strategy for the Glenwood Cross Laminated Timber Parking Garage	$56,700	$56,700
ODOT 12/18-1/21	E. Coleri	Constructing High Performance Asphalt Pavements by Improving In-Place Pavement Density	$175,000	$175,000
ODOT 10/19-11/21	E. Coleri	Implementation of a Laboratory Conditioning and Testing Protocol to Evaluate Moisture Susceptibility of Asphalt Mixtures	$225,000	$225,000
ODOT 10/19-06/22	E. Coleri	Centerline Rumble Strip Effects on Pavement Performance	$226,350	$226,350
ODOT 10/20-10/22	E. Coleri	Constructing High-Density Longitudinal Joints To Improve Pavement Longevity	$225,000	$225,000
PacTrans Region 10 UTC 03/21-03/22	E. Coleri	Measuring, Managing, and Reducing Pavement Macrotexture and Roughness to Improve Cyclists' Safety and Ride Quality	$40,000	$40,000
ODOT 10/21-09/24	E. Coleri	Implementation of Balanced Mix Design Methods in Oregon to Meet Long-Term Performance Goals	$315,000	$315,000

ODOT 12/21-11/23	E. Coleri	Development of Procedures and Technologies for Chip Seal Construction Quality Control in Oregon	$245,000	$245,000
ODOT 10/22-09/26	E. Coleri	Increasing Asphalt Recycling to Reduce Paving Costs, Improve Pavement Longevity, and Reduce Environmental Impact	$325,000	$325,000
FHWA (Climate Challenge)	E. Coleri	Asphalt plant renewable propane proof of concept and LCA development	$51,800	$51,800
FHWA (Climate Challenge)	E. Coleri	The impact of declining roadway conditions on road user costs and Greenhouse gas (GHG) emissions	$75,200	$75,200
		Totals	**$4,623,618**	**$3,173,992**

Other Scholarship and Creative Activities

Public and University Media Coverage

- **Momentum Magazine** – Oregon State University, Driving Innovation, Fall 2019, Pages 4 and 5.
- **Engineering Disasters Documentary – Highway to Hell Episode** – About 5 minutes of appearance to comment on asphalt mixtures and pavement performance and the controlling factors, Fall 2018.
- **VICE - Climate Change Could Destroy America's Roads** – Interview by Aaron Gordon, July 1st, 2021 .

DEI Training and Workshops

- Social Justice Education Initiative (SJEI) Tier Two Next Level - Addressing Microaggressions in Teaching and Learning Environments – Completed on 02/09/2023
- Organized by Amanda Larson, affordable learning instructional consultant at The Ohio State University - Practical Tips for Incorporating DEI Into Your Course Materials – Completed on 03/09/2023

Service

University Service

- **Chair**, OSU CCE Safety Advisory Committee, 2019-present
- Member, OSU CCE DEI DO Group, 2022-present
- Member, OSU CCE Graduate Committee, 2020-2022
- Member, OSU CCE Undergraduate Committee, 2019-2022
- Member, OSU CCE Graduate Committee, 2016-2018
- Member, OSU CCE Strategic Governance Committee 2015-2016
- Member, CCE Promotion and Tenure Committee, Ad Hoc Sub Committee (AHSC), 2022
- Providing suggestions for the OSU Transportation Services regarding best pavement selection and management practices 2018-present
- Undergraduate Faculty Marshal for the 2017 commencement at Oregon State University.

Service to the Profession

Conference and Workshop Organization

- Engineering Mechanics Institute (EMI), American Society of Civil Engineers (ASCE). In EMI 2013, organized and chaired the conference session - "Pavement Materials: Experiments and Modeling".
- Member of the Young Professional Conference Organization Committee on Accelerated Pavement Testing for the APT2012, 4th International Conference on Accelerated Pavement Testing, September, 2012.

Conference Program Committees

- Member of the Conference Scientific Committee on International Symposium on Pavement, Roadway, and Bridge Life Cycle Assessment Conference, Sacramento, California, June, 2020.
- Member of the Conference Scientific Committee on Accelerated Pavement Testing 6th International Conference, Nantes, France, September, 2020.
- Member of the Conference Scientific Committee on International Airfield and Highway Pavements Conference, Miami, FL, June, 2015.
- Chair for the session “Modeling of Asphalt Concrete Mixtures” at the Transportation Research Board Conference, Washington D.C., January 2014.
- Chair for the session “Relationship between Field Performance and Properties of Asphalt Mixtures” at the Transportation Research Board Conference, Washington D.C., January 2015.

Reviewing

Reviewed **over 165 papers** since 2010 for the following journals and conferences:

- Computer-Aided Civil and Infrastructure Engineering
- ASCE Journal of Transportation Engineering
- ASCE Journal of Materials in Civil Engineering
- ASCE Journal of Engineering Mechanics
- Elsevier - Construction and Building Materials
- ASCE Journal of Computing in Civil Engineering
- International Journal of Pavement Engineering
- IEEE Sensors Journal
- Transportation Research Board
- Transportation Research Record
- Journal of ASTM International
- Accelerated Pavement Testing Conferences
- International Society for Asphalt Pavements
- International Journal of Roads and Airports

Other

Professional Memberships

- **2nd Vice President**, Engineering Mechanics Institute (EMI), American Society of Civil Engineers (ASCE). Mechanics of Pavements Committee (01/2023 – present).
- Committee member, AKP40 committee of Transportation Research Board (TRB), Pavement Structural Testing and Evaluation (04/2020 – present).
- Committee member, AKM30 committee of Transportation Research Board (TRB), Asphalt Materials Selection and Mix Design (04/2020 – present).
- Committee member, AFK50 committee of Transportation Research Board (TRB), Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements (04/2012 – 01/2020).
- Committee member, AFD40 committee of Transportation Research Board (TRB), Full-Scale Accelerated Pavement Testing (04/2013 – 01/2020).
- **Membership Coordinator**, Engineering Mechanics Institute (EMI), American Society of Civil Engineers (ASCE). Mechanics of Pavements Committee (11/2016 – 01/2023).
- Committee member, Engineering Mechanics Institute (EMI), American Society of Civil Engineers (ASCE). Mechanics of Pavements Committee (11/2012 – present).
- Member of the International Society for Asphalt Pavements.
- Member of the Association of Asphalt Paving Technologists (AAPT).
- Member of the Asphalt Pavement Association in Oregon (APAO)
- American Society of Civil Engineers (ASCE)
- Engineering Mechanics Institute (EMI)

Other

- Revision of "RS-3 Paving Materials" lecture notes in the student manual of Oregon Technology Transfer Center's Roads Scholar Program, March 2018.