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Professor Hassan Baaj

Correspondence language: English

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The primary information is denoted by (*)

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Professor Hassan Baaj

Language Skills

Language	Read	Write	Speak	Understand	Peer Review
English	Yes	Yes	Yes	Yes	Yes
French	Yes	Yes	Yes	Yes	Yes

Degrees

- 2020/8 — Master's non-Thesis, Business, Entrepreneurship and Technology, University of Waterloo
- 2002/7 — Doctorate, Civil Engineering, Institut National des Sciences Appliquées de Lyon
  Supervisors: Hervé Di Benedetto, 1998/9 - 2002/7
- 1998/7 — Master's Equivalent, Civil Engineering, École Nationale des Travaux Publics
  Supervisors: Hervé Di Benedetto, 1997/10 - 1998/7
- 1994/10 — Bachelor's, Civil Engineering, Damascus University

Recognitions

2022/7 — Faculty of Engineering Distinguished Performance Award - 2,500
University of Waterloo
Prize / Award
Awarded in recognition of outstanding performance in terms of research, teaching and service

2020/5 — Faculty of Engineering Outstanding Performance Award (OPA) - 4,090
University of Waterloo
Prize / Award
Awarded in recognition of outstanding performance in terms of research, teaching and service

2020/1 - 2020/12 — Faculty of Engineering Excellence in Graduate Supervision Award - 4,000
University of Waterloo
Prize / Award
Faculty of Engineering

2019/3 - 2022/3 — Imperial Oil University Research Award - 2019 competition - 75,000
Imperial Oil Limited
Prize / Award
Project title: "Sustainable Asphalt Mixes with High RAP Contents and Rejuvenating Agents: Laboratory Evaluation and Plant Validation"

2017/11 - 2017/11 Best Paper Elaine Thompson Award 2017
Canadian Technical Asphalt Association
Prize / Award
Paper co-authored with Pater Mikhailenko and Mike Aurilio

2017/1 - 2018/12 Faculty of Engineering Performance Award - 2,500
University of Waterloo
Prize / Award
Award received in recognition of my contribution to the faculty in terms of Teaching, Research and Service in 2017

2016/3 - 2018/3 Imperial Oil University Research Award - 2016 competition - 75,000
Imperial Oil Limited
Prize / Award
Project title: "Experimental Study on Blending of Aged and Virgin Binders in Asphalt Mixtures Incorporating RAP to Improve Mix Performance – Best Practices Recommendations"

User Profile

Research Specialization Keywords: Aggregates, Alternative Binders, Asphalt mix design, Bituminous binders, Civil Engineering, Cold Mix Asphalt, Construction Materials, Flexible pavement, Infrastructure, Life Cycle Analysis, Pavement design, Pavement rehabilitation, Portland Cement Concrete, Recycling, Rheology, Rigid pavement, Soil stabilisation, Warm Mix Asphalt

Employment

2020/7 Professor - Norman W. McLeod Chair in Sustainable Pavement Engineering
Civil and Environmental Engineeringntal, University of Waterloo
Full-time, Professor
Tenure Status: Tenure

2017/9 Director - Centre for Pavement and Transportation Technology (CPATT)
Civil and Environmental Engineeringntal, University of Waterloo
Full-time, Term
Tenure Status: Tenure

2020/7 - 2023/7 Associate Chair for Research
Civil and Environmental Engineeringntal, University of Waterloo
Full-time, Term, Professor
Tenure Status: Tenure

2014/9 - 2020/6 Associate Professor
Civil and Environmental Engineering, University of Waterloo
Full-time, Associate Professor
Tenure Status: Tenure

2013/7 - 2014/7 R&D Program Leader – Infrastructure Solutions
Construction Solutions, Lafarge Centre de Recherche

2010/11 - 2013/6 R&D Department Manager, Particulate Solids Research Group
Lafarge Centre de Recherche

2008/9 - 2013/6 Roads Research Project Manager
Lafarge Centre de Recherche

2005/1 - 2008/8	Part-time Professor Civil Engineering, Engineering, Concordia University Part-time, Sessional Tenure Status: Non Tenure Track Taught courses: - Pavement Design CIVI 6451 (Graduate) – Fall 2006, Summer 2005 & Summer 2007 - Civil Engineering Systems CIVI 341 (Undergraduate) – Winter 2006, 2007 & 2008 - Highway and Pavement Design CIVI 471 (Undergraduate) – Fall 2005 - Traffic Engineering CIVI 6441 (Graduate) – Winter 2005
2003/7 - 2008/8	Associate Director - R&D and Technical Division Sintra Inc.
2006/10 - 2007/7	Scientific Coordinator R&D and Technical Division, Sintra Inc.
2005/4 - 2006/10	R&D Project Manager R&D and Technical Division, Sintra Inc.
2006/1 - 2006/8	Chargé de cours (Part-time Professor) Génie de la Construction, École de technologie supérieure Part-time, Sessional Tenure Status: Non Tenure Track Taught Courses: Engineering Mechanics ING 155 (Undergraduate) – Summer 2006 Strength of Materials CTN 208 (Undergraduate) – Winter 2006
2004/2 - 2006/2	Adjunct Professor Génie de la Construction, École de technologie supérieure Part-time, Adjunct, Assistant Professor Tenure Status: Non Tenure Track - Research collaboration with faculty members at the Département de Génie de la Construction. - Advise students on industrial research projects and parcipate in teaching activities as invited speaker in some courses
2003/11 - 2005/4	Research Engineer R&D and Technical Division, Sintra Inc.
2002/11 - 2003/11	Postdoctoral NSERC Fellow National Research Council Canada Research Project: Restoration of utility cuts and rehabilitation of pavements
2002/9 - 2002/10	Visiting Scholar Department of Construction Engineering, École de technologie supérieure Full-time Tenure Status: Non Tenure Track Collaboration with Pr. Daniel Perraton, Experimental characterisation of the behaviour of asphalt mixes
1998/9 - 2002/7	Research Engineer (Ph.D. Candidate) Solaize Research Centre, TOTAL
1994/11 - 1996/5	Junior Engineer, Geotechnical Engineering Associated Consulting Engineers

Research Funding History

Awarded [n=11]

2022/4 - 2027/4 Principal Investigator	Towards Smart, Resilient Sustainable and Adaptable Pavements, Grant **Funding Sources:**

Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grant
Total Funding - 365,000
Portion of Funding Received - 365,000
Funding Competitive?: Yes

2020/12 - 2026/6
Co-investigator

Laboratory investigation of geosynthetics reinforced pavement system in response to low temperature and climate change, Grant

Funding Sources:
Canada Foundation for Innovation (CFI)
Research Infrastructure
Total Funding - 112,500
Portion of Funding Received - 112,500
Funding Competitive?: Yes
Ontario Research Fund (ORF)
Research Infrastructure
Total Funding - 112,500
Portion of Funding Received - 112,500
Funding Competitive?: Yes

2021/1 - 2026/1
Co-applicant

Advanced Materials Ontario: Harnessing the power of multifunctional materials for new technologies, Grant

Funding Sources:
Canada Foundation for Innovation (CFI)
Total Funding - 266,747
Portion of Funding Received - 266,747
Funding Competitive?: Yes
Ontario Research Fund (ORF)
Total Funding - 266,747
Portion of Funding Received - 266,747
Funding Competitive?: Yes

2022/8 - 2024/8
Principal Investigator

Developing High Performance Asphalt Concrete Mixes through Bio-Graphene Nanoplates Modification, Contract

Funding Sources:
Bio Graphene Solutions
Total Funding - 104,000
Portion of Funding Received - 100
Funding Competitive?: No

2022/3 - 2024/3
Co-investigator

Broadband Novel Application of Bio-cementation for Canadian Infrastructure, Grant

Funding Sources:
Government of Canada
New Frontiers in Research Fund-Exploration
Total Funding - 250,000
Portion of Funding Received - 250,000
Funding Competitive?: Yes

2021/1 - 2023/6
Principal Investigator

Towards Smart and Sustainable Pavement Structures in Canada, Grant

Funding Sources:
National Research Council Canada (NRC) (Ottawa, ON)
AI For Logestics
Total Funding - 248,188
Portion of Funding Received - 248,188

Funding Competitive?: Yes

2021/2 - 2023/2
Principal Investigator

Optimizing the use of recycled industrial waste plastic materials in asphalt binder and mixes, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
NSERC-Alliance
Total Funding - 215,000
Portion of Funding Received - 215,000
Funding Competitive?: Yes

2020/1 - 2022/12
Principal Investigator

Sustainable Asphalt Mixes with High RAP Contents and Rejuvenating Agents, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Collaborative Research and Development
Total Funding - 259,901
Portion of Funding Received - 259,901
Funding Competitive?: Yes

2018/11 - 2022/10
Principal Investigator

Improving the Fatigue Properties of Flexible Pavement with Polymer Modified Asphalt (PMA), Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Collaborative Research and Development
Total Funding - 197,280
Portion of Funding Received - 197,280
Funding Competitive?: Yes

2019/4 - 2022/3
Principal Applicant

Hydraulic Controller and Environmental Chamber for Characterization of Smart Construction Materials and High-Performance Asphalt Concrete Mixes, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Research Tools and Instruments
Total Funding - 130,000
Portion of Funding Received - 130,000
Funding Competitive?: Yes

2016/4 - 2022/3
Principal Investigator

Innovation in High-Performance Asphalt Mixes (HPAM) to increase the service life of flexible pavements in Canada, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grant
Total Funding - 135,000
Portion of Funding Received - 135,000
Funding Competitive?: Yes

Completed [n=15]

2019/6 - 2021/6
Co-investigator

Investigation on 3D Wall Printing: Materials, Patterns, insulation, and Deposition System, Grant

Funding Sources:
AMIDA 3D
Total Funding - 494,100
Portion of Funding Received - 125,000
Funding Competitive?: No

2018/1 - 2020/1
Principal Investigator

Use of Hydraulic Road Binders for In-Place Soil Stabilization and Full-Depth Reclamation of Low Volume Roads, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Collaborative Research and Development
Total Funding - 150,000
Portion of Funding Received - 150,000
Funding Competitive?: Yes

Co-investigator : Susan Tighe

2018/10 - 2019/10
Principal Investigator

Development of Biodegradable Asphalt Release Agents, Grant

Funding Sources:
Ontario Center of Excellence (OCE)
VIP I+Engage
Total Funding - 50,000
Portion of Funding Received - 50,000
Funding Competitive?: Yes

2019/3 - 2019/10
Principal Investigator

Impact of Aggregates Properties on Rutting Performance of Warm Asphalt Mixes, Contract

Funding Sources:
Nova Scotia Department of Transportation and Public Works
Total Funding - 50,500
Portion of Funding Received - 50,500
Funding Competitive?: No

2018/5 - 2019/10
Principal Investigator

Pilot Field Validation Project for High-Modulus Asphalt Mix, Grant

Funding Sources:
Ministry of Transportation of Ontario
Highway Infrastructure Innovation Funding Program
Total Funding - 52,875
Portion of Funding Received - 52,875
Funding Competitive?: Yes

2014/9 - 2019/9
Principal Investigator

UW Start-up funding, Grant

Funding Sources:
University of Waterloo
Start-up
Total Funding - 109,000
Portion of Funding Received - 109,000
Funding Competitive?: No

2018/5 - 2019/5
Principal Investigator

Development of High Performance Asphalt Mixes using Nano-fibres, Grant

Funding Sources:
Ontario Centres for Excellence
VIP I
Total Funding - 25,000
Portion of Funding Received - 25,000
Funding Competitive?: Yes

2016/4 - 2019/4
Principal Investigator

Improving Durability of Asphalt Mixes Produced with Reclaimed Asphalt Pavement (RAP) by Enhancing Binder Blending, Grant

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)

Collaborative Research and Development
Total Funding - 173,079
Portion of Funding Received - 173,079
Funding Competitive?: Yes

Co-investigator : Susan Tighe

2018/3 - 2019/3
Principal Investigator

Development of New Solvent(s) for Extraction of Asphalt Binder, Grant

Funding Sources:
Ontario Centres for Excellence
VIP I
Total Funding - 25,000
Portion of Funding Received - 25,000
Funding Competitive?: Yes

2016/5 - 2018/5
Principal Investigator

Development of a New Asphalt Mixture Aging/Conditioning Procedure to be used for Performance Testing of Asphalt Mixtures, Grant

Funding Sources:
Ministry of Transportation of Ontario
Highway Infrastructure Innovation Funding Program
Total Funding - 105,000
Portion of Funding Received - 105,000
Funding Competitive?: Yes

2015/7 - 2017/7
Principal Investigator

Development of High Modulus Asphalt mix design technology for use on Ontario's highways, Grant

Funding Sources:
Ministry of Transportation of Ontario
Highway Infrastructure Innovation Funding Program
Total Funding - 83,750
Portion of Funding Received - 41,875
Funding Competitive?: Yes

Co-investigator : Ludomir Uzarowski; Susan Tighe

2015/7 - 2016/12
Principal Investigator

Effect of Oxidation Products of Iron Sulphide Minerals in Aggregate on the Chemical/ Rheological Properties of Asphalt Cement, Grant

Funding Sources:
Ministry of Transportation of Ontario
Total Funding - 56,250
Portion of Funding Received - 37,500
Funding Competitive?: Yes

Co-investigator : Prabir Das

2015/7 - 2016/7
Principal Investigator

Evaluation of Reclaimed Concrete Materials as Aggregate for OPSS Granular B Type II (Partnership with Aggregate Recycling Ontario), Grant

Funding Sources:
Ministry of Transportation of Ontario
Highway Infrastructure Innovation Funding Program
Total Funding - 31,250
Portion of Funding Received - 31,250
Funding Competitive?: Yes

Co-investigator : Paul Lum

2015/7 - 2016/7
Principal Investigator

Effect of Extraction and Recovery Method and Solvent Type on Properties of Recovered Binder, Grant

Funding Sources:
Ministry of Transportation of Ontario
Total Funding - 25,000
Portion of Funding Received - 25,000
Funding Competitive?: Yes

2015/6 - 2016/6
Principal Investigator

Optimisation of the Use of Recycled Glass-Base Artificial Lightweight Aggregates in the Pavement Structure, Grant

Funding Sources:
Ontario Center of Excellence (OCE)
VIP I
Total Funding - 50,000
Portion of Funding Received - 50,000
Funding Competitive?: Yes

Student/Postdoctoral Supervision

Bachelor's [n=27]

2021/9 - 2021/12
Principal Supervisor

Muhammad Nuh Ali Reza Chaudhry (Completed) , University of Waterloo
Thesis/Project Title: Smart and Sustainable Pavement
Present Position: Undergraduate Student

2021/5 - 2021/8
Principal Supervisor

Camden Naylor (Completed) , University of Windsor
Thesis/Project Title: Mechanics of Asphalt Materials
Present Position: Undergraduate student

2021/5 - 2021/8
Principal Supervisor

Aiman Khan (Completed) , University of Waterloo
Thesis/Project Title: Asphalt modification
Present Position: Co-op

2021/5 - 2021/8
Principal Supervisor

Muhammad Nuh Ali Reza Chaudhry (Completed) , University of Waterloo
Thesis/Project Title: Smart pavement
Present Position: Undergraduate student

2020/4 - 2020/8
Principal Supervisor

Matea Ceric (Completed) , University of Waterloo
Thesis/Project Title: Modelling of thermal transfer in 3D printed concrete walls
Present Position: Undergraduate student

2020/1 - 2020/4
Principal Supervisor

Aiman Khan (Completed) , University of Waterloo
Thesis/Project Title: Apshalt Mixes with Rejuvenators
Present Position: Undergraduate student

2019/9 - 2019/12
Principal Supervisor

Matea Ceric (Completed) , University of Waterloo
Thesis/Project Title: Use of polymer pellets as asphalt modifier
Present Position: Undergraduate student

2019/5 - 2019/8
Principal Supervisor

Abiye Robert Fiberesima (Completed) , University of Waterloo
Thesis/Project Title: High-Performance Asphalt
Present Position: Undergraduate student

2019/1 - 2019/4
Principal Supervisor

Kyle Robert Owen Gawtrey (Completed) , University of Waterloo
Thesis/Project Title: Full Depth Reclamation with Cement
Present Position: Undergraduate student

2019/1 - 2019/4 Principal Supervisor	Yi Fan Zhang (Completed) , University of Waterloo Thesis/Project Title: High-Performance Asphalt Mixes Present Position: Undergraduate student
2019/1 - 2019/4 Principal Supervisor	Lamar Bashbishi (Completed) , University of Waterloo Thesis/Project Title: Asphalt Recycling Present Position: Undergraduate student
2018/9 - 2018/12 Principal Supervisor	Dandi Zhao (Completed) , University of Waterloo Thesis/Project Title: Modification of Asphalt Mixtures with Nano-materials Present Position: PhD Student, University of Waterloo
2018/5 - 2018/8 Principal Supervisor	Jinjing Zhang (Completed) , University of Waterloo Thesis/Project Title: Several projects Present Position: Undergraduate student, University of Waterloo
2018/5 - 2018/8 Principal Supervisor	Yiran Liu (Completed) , University of Waterloo Thesis/Project Title: Several Projects as URA Present Position: Undergraduate student, University of Waterloo
2018/5 - 2018/8 Principal Supervisor	Sabrina Renna (Completed) , University of Waterloo Thesis/Project Title: ESEM testing of virgin and modified binders (Undergraduate Research Assistant) Present Position: MSc Student - UofT
2018/5 - 2018/5 Principal Supervisor	Azka Aqib (Completed) , University of Waterloo Thesis/Project Title: Several projects as URA Present Position: Undergraduate student, University of Waterloo
2018/5 - 2018/8 Principal Supervisor	Ya-Ting Yang (Completed) , University of Waterloo Thesis/Project Title: Asphalt release agents evaluation Present Position: Undergraduate student
2017/9 - 2017/12 Principal Supervisor	Abiye Fiberesima (Completed) , University of Waterloo Thesis/Project Title: Asphalt Recycling Present Position: Undergraduate student
2017/5 - 2017/8 Principal Supervisor	Aditi Sharma (Completed) , University of Waterloo Thesis/Project Title: Research assistant at CPATT Present Position: Master of Applied Science Student, University of Waterloo
2017/5 - 2017/12 Principal Supervisor	Sona Khalifeh (Completed) , University of Waterloo Thesis/Project Title: Research assistant at CPATT Present Position: MSc Student, The University of Manchester
2016/9 - 2016/12 Principal Supervisor	Lucas Menezes (Completed) , University of Waterloo Thesis/Project Title: Lightweight aggregates Present Position: MSc Student
2016/9 - 2016/12 Principal Supervisor	Thiago Hadad (Completed) , University of Waterloo Thesis/Project Title: Research assistant at CPATT Present Position: MSc Student
2016/9 - 2016/12 Principal Supervisor	Guillermo Pekny (Completed) , University of Waterloo Thesis/Project Title: Research assistant at CPATT Present Position: Civil Engineer
2016/5 - 2016/8 Principal Supervisor	Kenechi Chidolue (Completed) , University of Waterloo Thesis/Project Title: Research assistant at CPATT Present Position: Project Management Coordinator, Entuitive

2016/5 - 2016/8 Principal Supervisor	Ninweh Nina Jeorje (Completed) , University of Waterloo Thesis/Project Title: nano-materials in asphalt Present Position: M.A.Sc. Student, The University of British Columbia
2016/1 - 2016/4 Principal Supervisor	Spencer Townsend (Completed) , University of Waterloo Thesis/Project Title: Laboratory Assistant-ship at CPATT (1st year COOP) Present Position: Junior Geological E.I.T., BGC Engineering Inc.
2016/1 - 2016/4 Principal Supervisor	Daniel Deacon (Completed) , University of Waterloo Thesis/Project Title: Laboratory Assistant-ship at CPATT (1st year COOP) Present Position: Project Coordinator, Construction and Engineering, GeoSource Energy Inc.

Master's Thesis [n=12]

2022/5 - 2024/4 Principal Supervisor	Matea Ceric (In Progress) , University of Waterloo Thesis/Project Title: Smart Pavement and AI Present Position: Graduate Student
2021/9 - 2023/9 Principal Supervisor	Mohammadreza Safari (In Progress) , University of Waterloo Thesis/Project Title: Developing a Mechanistic Approach to Quantify Sustainability of WMA-based Pavements Present Position: MSc Student - Civil Infrastructure Design Engineer, WSP
2021/5 - 2023/5 Principal Supervisor	Aditi Sharma (In Progress) , University of Waterloo Thesis/Project Title: Pavement Reinforcement Present Position: MSc Student
2021/5 - 2023/5 Principal Supervisor	Mohammed Qado (In Progress) , University of Waterloo Thesis/Project Title: Long-term pavement performance modeling for high RAP pavement Present Position: Pavement Engineer, WSP
2020/9 - 2022/8 Principal Supervisor	Jianqi Kang (Completed) , University of Waterloo Thesis/Project Title: Pavement Performance Prediction Using Machine Learning and Instrumentation Practices in Smart Pavement Present Position: MASc student
2019/5 - 2021/4 Principal Supervisor	Basel Shoueb (Completed) , University of Waterloo Thesis/Project Title: 3D Printing of Concrete Present Position: Structural Engineer in Training, Teletek Structure Inc
2018/5 - 2020/4 Principal Supervisor	Michele Aurilio (Completed) , University of Waterloo Thesis/Project Title: Modification of asphalt binder using monomers for self-healing Present Position: Senior QC & Product Development Coordinator, Yellowline
2018/3 - 2018/7 Co-Supervisor	Lidia Santoro (Completed) , Politecnico di Tornio (Italy) Thesis/Project Title: Characterization of binders with nanomaterials (International Visiting Student) Present Position: MASc student, Politechnico di Torino
2017/4 - 2018/10 Principal Supervisor	Sarbjot Singh (Completed) , University of Waterloo Thesis/Project Title: Towards an Optimized Laboratory Procedure for Accelerated Long-term Oxidative Aging of Asphalt Mixes Present Position: Civil Engineer, Hatch
2017/1 - 2018/12 Principal Supervisor	Ali Qabur (Completed) , University of Waterloo Thesis/Project Title: Optimisation of Asphalt Mix Design to Improve Fatigue Present Position: Ph.D. Student

2015/5 - 2017/4 Principal Supervisor	Adam Schneider (Completed) , University of Waterloo Thesis/Project Title: The use of alternative sustainable materials in the unbound layers of the pavement structure Present Position: Ph.D. Student, University of Waterloo
2014/9 - 2018/12 Principal Supervisor	Yasaman Yousefi (Completed) , University of Waterloo Thesis/Project Title: Environmental impact of the use of lightweight aggregates manufactured from recycled glass Present Position: Owner, Unique Art Decor Corporation

Doctorate [n=17]

2021/9 - 2025/9 Co-Supervisor	Adam Schneider, University of Waterloo Thesis/Project Title: Pavement reinforcement using geosynthetics Present Position: Ph.D. Student
2020/9 - 2024/8 Co-Supervisor	Zahra Miri (In Progress) , University of Waterloo Thesis/Project Title: Modelling of the behaviour of 3D Printed Concrete Structures Present Position: Ph.D. Student
2019/9 - 2023/8 Co-Supervisor	Paula Barbi (In Progress) , University of Waterloo Thesis/Project Title: Implications of Climate Change in Airport Pavement Design and Performance in Canada Present Position: PhD Student
2019/5 - 2022/4 Principal Supervisor	Dandi Zhao (In Progress) , University of Waterloo Thesis/Project Title: Asphalt Mixes with Recycled Plastic Materials Present Position: PhD student
2019/1 - 2022/12 Principal Supervisor	Ali Qabour (In Progress) , University of Waterloo Thesis/Project Title: Modelling the Fatigue behaviour of Asphalt Mixes Present Position: PhD student
2018/9 - 2022/4 Principal Supervisor	Hui Liao (In Progress) , University of Waterloo Thesis/Project Title: Optimizing the Performance of Asphalt Mixes with High Reclaimed Asphalt Pavement Content Using Rejuvenators Present Position: PhD Student
2018/9 - 2022/8 Principal Supervisor	Roberto Aurilio (In Progress) , University of Waterloo Thesis/Project Title: Application of nanotechnology to improve the crack-healing properties of asphalt cements Present Position: PhD student
2018/9 - 2022/8 Co-Supervisor	Mehran Farshah (In Progress) , University of Waterloo Thesis/Project Title: Development of sustainable asphalt concrete mixture solution for use in approach intersection pavements in Ontario Present Position: Transportation Asset Management Engineer, York Region
2018/1 - 2022/8 Principal Supervisor	Abdulrahman Hamid (Completed) , University of Waterloo Thesis/Project Title: Experimental Investigation and ANN Modelling of the Behavior of Asphalt Binders Modified with Novel Geopolymers Present Position: PhD student
2016/9 - 2017/9 Co-Supervisor	Chanjian Kou (Completed) , Yangzhou University Thesis/Project Title: Characterization of asphalt binder aging using ESEM (International Visiting Scholar) Present Position: Assistant Professor, Yangzhou University

2016/1 - 2022/12 Principal Supervisor	Haya Almutairi (In Progress) , University of Waterloo Thesis/Project Title: High Performance Asphalt Mixes with Self-Healing Materials Present Position: PhD student
2016/1 - 2019/9 Principal Supervisor	Eskedil Abebaw Melese (Completed) , University of Waterloo Thesis/Project Title: Full Depth Reclamation of Low Volume Roads with HRB Present Position: Pavement Engineer, PSI International
2015/9 - 2019/12 Principal Supervisor	Shenglin Wang (Completed) , University of Waterloo Thesis/Project Title: Optimization of binder formulation and mix design for soil stabilization with hydraulic Road Binders Present Position: Post-doctoral fellow, University of Waterloo
2015/9 - 2019/8 Principal Supervisor	Yashar Azimi Alamdary (Completed) , University of Waterloo Thesis/Project Title: Impact of mix design parameters on the ageing of asphalt mixes Present Position: Materials Engineer, Coco Paving
2015/2 - 2019/4 Principal Supervisor	Hawraa Kadhim (Completed) , University of Waterloo Thesis/Project Title: Understanding the blending and diffusion between aged and virgin binders in asphalt mixtures incorporating RAP to improve mixperformance Present Position: Pavement Engineer, Tetra Tech
2015/1 - 2018/12 Principal Supervisor	Taher Baghaee Moghaddam (Completed) , University of Waterloo Thesis/Project Title: Developmentof High Modulus Asphalt mix design technology for use on Ontario's Highways Present Position: Postdoctoral Fellow/Research Associate, University of Alberta
2014/9 - 2020/12 Co-Supervisor	Saeed Saliani (Completed) , Ecole de Technologie Superieure Thesis/Project Title: Performance of Asphalt Mixes with Fractionated RAP and Aramid Fibres Present Position: Engineer, NouvLR

Post-doctorate [n=4]

2020/1 - 2021/12 Principal Supervisor	Shenglin Wang (In Progress) , University of Waterloo Thesis/Project Title: 3D Printed Concrete Structures Present Position: Research Associate
2019/1 - 2021/10 Principal Supervisor	Taher Baghaee Moghaddam (Completed) , University of Waterloo Thesis/Project Title: Research Associate involved in several research projects Present Position: Research Associate, University of Alberta
2016/1 - 2016/9 Principal Supervisor	Kamal Hossain (Completed) , University of Waterloo Thesis/Project Title: Optimization of Asphalt Mixes with Bio-based Rejuvenator Present Position: Assistant Professor, Carleton University
2014/10 - 2016/1 Principal Supervisor	Prabir Das (Completed) , University of Waterloo Thesis/Project Title: Usingadvanced testing techniques to study the behaviour of pavement constructionmaterials Present Position: Pavement Engineer, City of Toronto

Research Associate [n=2]

2018/9 - 2021/6 Principal Supervisor	Pezhouhan Tavassoti-Kheiry (Completed) , University of Waterloo Thesis/Project Title: Research Associate involved in several research projects (Co-supervised with M. Polak since June 2019) Present Position: Research Assistant Professor, University of Waterloo

2016/1 - 2018/11 Principal Supervisor	Peter Mikhailenko (Completed) , University of Waterloo Thesis/Project Title: Several research projects Present Position: Research Associate at EMPA

Event Administration

2020/12 - 2020/12	Chairman, Cement and Concrete Research Workshop, Cement Association of Canada and University of Waterloo, Workshop, 2020/12 - 2020/12
2019/1 - 2020/6	Co-Chairman of the Scientific Committee, RILEM International Symposium on Bituminous Materials (ISBM), Lyon, France, Conference, 2020/6 - 2020/6
2019/6 - 2019/12	Chairman, International Workshop on Crack-Healing of Asphalt Pavement Materials, Beijing University of Technology, Workshop, 2019/12 - 2019/12
2019/4 - 2019/4	Chairman, Pavement Engineering Research Symposium, April 26, 2019, Waterloo, ON, Seminar, 2019/4 - 2019/4
2019/1 - 2019/4	Chairman, Pavement Engineering Research Symposium - Groupe de Recherche en Ingénierie des Chaussées, University of Waterloo, Seminar, 2019/4 - 2019/4
2015/10 - 2016/6	Organizing Committee Member, International Conference on Sustainable Civil Engineering (20-22 June, 2016, Cape Town, South Africa), Conference, 2016/6 - 2016/6

Editorial Activities

2019/12 - 2022/12	Associate Editor, Canadian Journal of Civil Engineering, Journal
2019/6 - 2021/1	Editor, Proceedings of the RILEM International Symposium on Bituminous Materials: ISBM 2020, Book
2015/2 - 2020/2	Member of Editorial Board, International Journal of Road Materials and Pavement Design, Taylor & Francis, Journal
2018/10 - 2019/10	Guest Editor, Advances in Materials Science and Engineering - Advances in Bituminous Materials for Sustainable Pavements, Journal

Expert Witness Activities

2021/4 - 2021/8	Expert witness, Premature excessive deterioration of the pavement of a major highway project - Confidential client, Canada, Edmonton Analyze contract, design reports, construction reports, evaluation reports, field data, and provide expertise report

Knowledge and Technology Translation

2017/7 - 2021/11	Board Member - Asset Management Academy, Community Engagement Group/Organization/Business Serviced: Ontario Good Roads Association Target Stakeholder: Policy Maker/Regulator Outcome / Deliverable: The board administrates the Asset Management Academy of the OGRA and evaluates capstone projects of the candidates

2015/4 - 2021/11 Co-Instructor, Technology Transfer and Commercialization
Group/Organization/Business Serviced: Ontario Good Road Association (OGRA)
Target Stakeholder: Government Personnel
Outcome / Deliverable: - Asset Data Collection and Condition Evaluation Course - Asset Management of Road Networks Course

2020/1 - 2020/12 Senior Pavement Engineer, Consulting for Industry
Group/Organization/Business Serviced: Beton Leger du Canada
Target Stakeholder: Industry/Business-Small (<100 employees)
Outcome / Deliverable: Technical Report - An Innovative Lightweight High-Performance Concrete for Insulated Pavements Application

2015/1 - 2018/7 Senior Pavement Engineer, Consulting for Industry
Group/Organization/Business Serviced: HydroQuebec
Target Stakeholder: Industry/Business (>500 employees)
Outcome / Deliverable: Pavement design alternatives for the rehabilitation and/or reconstruction of three airport runways

2015/1 - 2016/12 Member of the Quality of Asphalt Pavement Task Force, Community Engagement
Target Stakeholder: Policy Maker/Regulator
Outcome / Deliverable: Five bulletins with recommendations for the improvement of quality of asphalt pavements in Canada

International Collaboration Activities

2017/9 - 2018/5 Scientific Advisor, France
Participate as a scientific expert and advisor, to the research activities of the Eiffage Research Chair at the Ecole Nationale des Travaux Publics de l'Etat (Lyon, France)

Committee Memberships

2016/1 - 2021/1 Chair, 278-CHA : Crack-Healing of Asphalt Pavement Materials, International Union of Laboratories and Experts in Construction Materials, Systems and Structures

2015/9 - 2020/12 Committee Member, 264-RAP : Asphalt Pavement Recycling, International Union of Laboratories and Experts in Construction Materials, Systems and Structures

2015/9 - 2020/12 Committee Member, Canadian Airfield Pavement Technical Group, Canadian Airfield Pavement Technical Group

2014/9 - 2020/9 Chair, Soil and Materials Standing Committee, Transportation Association of Canada
Assumed the role of executive committee and then vice-chair for four year.

2018/6 - 2020/6 Co-chair, Scientific Committee - International Symposium on Bituminous Materials (Lyon 2020)., Rilem

2018/9 - 2018/9 Committee Member, Rilem 252-CMB Symposium Chemo-Mechanical Characterization of Bituminous Materials BRAUNSCHWEIG, GERMANY SEPTEMBER 17-18, 2018, TU Braunschweig

2018/9 - 2018/9 Committee Member, Scientific Committee - 2018 2nd International Conference on Structural and Civil Engineering, University of Lisbon

2018/6 - 2018/6 Committee Member, Scientific Committee - ISAP Conference, Fortaleza, Brazil. June 19th – 21st, 2018, The International Society for Asphalt Pavements (ISAP)

2015/6 - 2017/12	Committee Member, Rilem Technical Committee 237-SIB: Advanced Testing and Characterization of Sustainable & Innovative Bituminous Materials, International Union of Laboratories and Experts in Construction Materials, Systems and Structures
2015/6 - 2017/12	Committee Member, Technical Committee 252-CMB : Chemo-Mechanical Characterization of Bituminous Materials, International Union of Laboratories and Experts in Construction Materials, Systems and Structures
2015/9 - 2016/7	Committee Member, Scientific Committee - The ISAP 2016 Symposium "From Molecules to Innovative Pavements", Laramie, Wyoming, USA, International Society of Asphalt Pavements

Other Memberships

2020/9 - 2022/9	Expert, International Union of Laboratories and Experts in Construction Materials, Systems and Structures
2015/6 - 2018/12	Senior Member, International Union of Laboratories and Experts in Construction Materials, Systems and Structures
2015/1 - 2018/12	Affiliate Member, Transportation Research Board
2006/10 - 2018/12	Member, International Society of Asphalt Pavement
2006/4 - 2018/12	Member, Association of Asphalt Paving Technologists
2003/1 - 2018/12	Member, Canadian Technical Asphalt Association

Presentations

1. (2020). Performance Testing Fundamentals. Asphalt Technical Symposium (ATS) Webinar, Canada
   Main Audience: Knowledge User
   Invited?: Yes, Keynote?: Yes
2. (2020). Crack-Healing of Asphalt Pavement Materials. RILEM International Symposium on Bituminous Materials, Lyon, France
   Invited?: Yes, Keynote?: Yes
3. (2020). Rôle de l'innovation et de la durabilité dans la recherche sur l'ingénierie des chaussées au CPATT. Symposium international i3C, Quebec City, Canada
   Invited?: Yes, Keynote?: Yes
4. Tavassoti P. (2020). Lightweight Concrete Materials for Pavement Construction. Soils and Materials Standing Committee Spring Meeting, Transportation Association of Canada, Ottawa, Canada
   Main Audience: Knowledge User
   Invited?: Yes, Keynote?: No
5. (2019). Crack-Healing of Asphalt Materials - An Overview of the RILEM TC Activities. International Workshop on Crack-Healing of Asphalt Pavement Materials, Beijing, China
   Main Audience: Researcher
   Invited?: Yes, Keynote?: Yes
6. (2019). Improving Durability of Asphalt Mixes with (RAP) by Enhancing Binder Blending. Politecnico di Torino, Torino, Italy
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No

7. (2018). Maximize Investment with Proper Management. Scott Mackay Municipal Infrastructure Training (MIT) Bituminous Technology Course, Ontario Good Roads Association, Canada
Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

8. (2018). Effect of Aggregates Petrology on the Age Hardening of Asphalt Cement. Petersen Asphalt Research Conference, Laramie, Laramie, United States of America
Main Audience: Researcher
Invited?: Yes, Keynote?: No

9. (2018). Self-Healing Asphalt Concrete Technology, Technical Meeting. Eiffage Travaux Publics France, France
Main Audience: Researcher
Invited?: Yes, Keynote?: No

10. (2018). Fatigue Characterization of Asphalt Mixes using an Intrinsic Damage Approach. Ecole Nationale des Travaux Publics de l'Etat, Lyon, France
Main Audience: Researcher
Invited?: Yes, Keynote?: No

11. (2017). Optimisation of the Use of Recycled Materials in Asphalt Mixes. School of Highway Engineering, Chnag'An University, Xian, China
Main Audience: Researcher
Invited?: Yes, Keynote?: No

12. (2017). Development of High Modulus Asphalt Mixes in Ontario. Pavement Standing Committee Spring Meeting - TAC, Ottawa, Canada
Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

13. (2017). Innovation in Pavement Materials. Asphalt Materials Research Seminar - Shanxi Highway Research Institute, Taiyuan, China
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

14. (2017). Optimization of Lightweight Foamglass Aggregates in Pavements. Joint Soils and Materials and Pavement Standing Committee Fall Meeting - TAC, St-John's, Canada
Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

15. (2017). Development of High Modulus Asphalt in Ontario. Petrochemical China's Annual Meeting, Shanghai, China
Main Audience: Knowledge User
Invited?: Yes, Keynote?: Yes

16. (2017). Use of Lightweight Foamglass Aggregates in Pavements. Changsha University of Science and Technology, Changsha, China
Main Audience: Researcher
Invited?: Yes, Keynote?: No

17. (2016). Flexible Pavement Cracking Mechanisms. OHMPA partners in Quality Road Tour, , organized by the Ontario Hot Mix Producers Association, Ottawa, Canada
Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

18. (2016). Ontario Experience with High Modulus Asphalt Mixes", Toward High Performance Asphalt Concrete (HPAC) for Cold Climates: From a Material Viewpoint to Pavement Behaviour. Workshop organised by the École de Technologie Supérieure, Montreal, Canada
Main Audience: Researcher
Invited?: Yes, Keynote?: No

19. (2016). Maximize Investment with Proper Management. Scott Mackay, Municipal Infrastructure Training (MIT) Bituminous Technology Course, Ontario Good Roads Association, Mississauga, Canada
Main Audience: Knowledge User
Invited?: Yes, Keynote?: No

Text Interviews

2020/04/01	Asphalt Research Fund Delivers Bankable Results, ASPHALTopics - Ontario Asphalt Pavement Council Magazine
2018/10/25	$15-million resurfacing of Red Hill Valley Parkway planned for summer, Hamilton Spectator (https://www.thespec.com/news-story/8986977--15-million-resurfacing-of-red-hill-valley-parkway-planned-for-summer/)
2017/07/17	Highway traffic tragedies: Why are there so many crashes on the Red Hill?, The Hamilton Spectator

Publications

Journal Articles

1. Aurilio, M; Tavassoti-Kheiry, P; Elwardany, M; Baaj, H. (2022). Characterization of Styrene-Butadiene-Styrene (SBS)-Modified Asphalt Binders using the Bending Beam Rheometer and the Asphalt Binder Cracking Device. Canadian Journal of Civil Engineering.
Submitted
Refereed?: Yes, Open Access?: No
2. Hamid, A*; Baaj, H; El-Hakim, M. (2022). Rutting Behaviour of Geopolymer and Styrene Butadiene Styrene-ModifiedAsphalt Binder. Polymers. 14(14): 1-20.
Published
Refereed?: Yes, Open Access?: Yes
3. Vale, A; da Silva, L; Bastos, J; Babadopoulos, L; Soares, J; Baaj, H. (2022). Comparison of parameters from a new MSCR approach with classical MSCR and LAS parameters for simplified binder selection. Journal of Testing and Evaluation.
Accepted
Refereed?: Yes, Open Access?: No
4. Liao, H*; Tavassoti, P; Baaj, H. (2022). Comparing Rheological Indices to Optimize Rejuvenator Dosage for AsphaltBinders Containing High Ratios of Recycled Asphalt. Journal of Testing and Evaluation.
Accepted
Refereed?: Yes
5. Wang, S*; Baaj, H. (2022). Impact of supplementary cementitious materials on the hydration and strength properties of hydraulic road binders. Road materials and pavement design. 23(5): 1181-1206.
Published
Refereed?: Yes, Open Access?: No
6. Melese, E; Baaj, H; Dias, GM; Tighe, S. (2022). Effects of cementitious stabilisers on performance and life cycle impacts of full-depth reclamation. Road Materials and Pavement Design. : 1-18.
Published
Refereed?: Yes, Open Access?: No

7. Wang, S L*; Baaj, H. (2022). Resilient Modulus and Damping Ratio of Hydraulic Road Binders TreatedWeak Subgrade under Cyclic Loads. Construction and Building Materials.
Submitted
Refereed?: Yes, Open Access?: No

8. Liao, H; Tavassoti, P; Baaj, H. (2022). Comparing Rheological Indexes to Optimize Rejuvenator Dosage for Asphalt Binders Containing High Ratios of Recycled Asphalt. Journal of Testing and Evaluation.
In Press
Refereed?: Yes, Open Access?: No

9. Raschia, S*; Baghaee Moghaddam, T*; Perraton, D; Baaj, H; Carter, A; Graziani, A. (2021). Effect of RAP source on compactability and behavior of Cold-Recycled Mixtures in the small strain domain. Journal of Materials in Civil Engineering. 33(4)
Published
Refereed?: Yes, Open Access?: No

10. Pirzadeh, P; Kadhim, H*; Grant, D; Webb, J; Baaj, H; Kriz, P. (2021). Impact of Hot Mix Asphalt Plant Silo Storage Conditions on Blending and Diffusion between Virgin and RAP Binders. Journal of Road Materials and Pavement Design. 22(6)
Published
Refereed?: Yes, Open Access?: No

11. Azimi Alamdary, Y*; Singh, S*; Baaj, H. (2021). Effect of aggregates containing iron sulphide on asphalt ageing. Road Materials and Pavement Design.
Published
Refereed?: Yes, Open Access?: No

12. Tavassoti, P., Ameen, T.H., Baaj, H., Cascante, G. (2021). Novel Analysis of Ultrasonic Pulse Propagation Tests for Characterization of Asphalt Concrete. Journal of Testing and Evaluation. 50(2)
Published
Refereed?: Yes

13. Azimi Alamdary, Y*; Baaj, H. (2021). Time–temperature superposition of asphalt materials and temperature sensitivity of rheological parameters (TSRP). Canadian Journal of Civil Engineering.
Published
Refereed?: Yes, Open Access?: No

14. Abdelfattah, H; Baaj, H; Kadhim, H*. (2021). Calibration of MEPDG permanent deformation models using Hamburg Wheel Rut Tester and field data. International Journal of Pavement Engineering.
Published
Refereed?: Yes, Open Access?: No

15. Aurilio, M*; Tavassoti, P; Elwardany, M; Baaj, H. (2021). Impact of Styrene-Butadiene-Styrene (SBS) content on asphalt Binder's fatigue resistance at various aging levels using Viscoelastic Continuum Damage and fracture mechanics. Construction and Building Materials. 305
Published
Refereed?: Yes, Open Access?: No

16. Wang, S*; Baaj, H. (2021). Treatment of Weak Subgrade Materials with Cement and Hydraulic Road Binder (HRB). Road Materials and Pavement Design. 22(8): 1756-1779.
Published
Refereed?: Yes

17. Mikhailenko, P*; Webber, G; Baaj, H. (2021). Evaluation of solvents for asphalt extraction. Road Materials and Pavement Design. 22: 1195-1206.
Published
Refereed?: Yes, Open Access?: No

18. Saliani, S*; Tavassoti, P; Baaj, H; Carter, A. (2021). Characterization of Asphalt Mixtures Produced with Short Pulp Aramid Fiber (PAF). Construction and Building Materials. 280
Published
Refereed?: Yes, Open Access?: No

19. Aurilio, R*; Aurilio, M; Baaj, H. (2021). The Effect of a Chemical Warm Mix Additive on the Self-Healing Capability of Bitumen. ASTM Journal of Testing and Evaluation. 50(2)
Published
Refereed?: Yes, Open Access?: No

20. Azimi Alamdary, Y*; Baaj, H. (2021). Toward a Realistic Asphalt Mix Ageing Protocol. Journal of Road Materials and Pavement Design, RMPD.
Published
Refereed?: Yes, Open Access?: No

21. Melese, E; Baaj, H; Dias, G; Tighe, S. (2021). **Effects of cementitious stabilizers on life cycle impacts of full-depth reclamation process**. Road Materials and Pavement Design.
Published
Refereed?: Yes, Open Access?: No

22. Hamid, A*; Alfaidi*, H; Baaj, H; El-Hakim, M. (2020). Evaluating Fly Ash-Based Geopolymers as a Modifier for Asphalt Binders. Advances in Materials Science and Engineering. 2020
Published
Refereed?: Yes, Open Access?: Yes

23. Hamid, A*; Alfaidi, H*; Baaj, H; El-Hakim, M. (2020). Effects of Geopolymer on Rheological and Microstructural Properties of Asphalt Binder. Advances in Materials Science and Engineering Journal. 2020: 1-11.
Published
Refereed?: Yes

24. Baghaee Moghaddam, T*; Baaj, H. (2020). The use of compressible packing model and modified asphalt binders in high-modulus asphalt mix design. Road Materials and Pavement Design. 21(4): 1061-1077.
Published
Refereed?: Yes, Open Access?: No

25. Mikhailenko, P*; Ataeian, P*; Baaj, H. (2020). Extraction and recovery of asphalt binder: a literature review. International Journal of Pavement Research and Technology. 13(1): 20-31.
Published
Refereed?: Yes, Open Access?: No

26. Melese, E*; Baaj, H; Tighe, S. (2020). Fatigue behaviour of reclaimed pavement materials treated with cementitious binders. Construction and Building Materials. 249
Published
Refereed?: Yes, Open Access?: No

27. Zhang, Y; Baaj, H; Zhao, R. (2019). Evaluation for the Leaching of Cr from Coal Gangue Using Expansive Soils. Processes. 7(8): 478.
Published
Refereed?: Yes, Open Access?: Yes

28. Kou, C; Xiao, P; Kang, A; Mikhailenko, P; Baaj, H; Wu, Z. (2019). Protocol for the morphology analysis of SBS polymer modified bitumen images obtained by using fluorescent microscopy. International Journal of Pavement Engineering. 20(5): 585-591.
Published
Refereed?: Yes, Open Access?: No

29. Melese, E*; Baaj, H; Tighe, S; Smith, T; Zupko, S. (2019). Mechanical Properties of Full-Depth Reclaimed Pavement Materials Treated with Hydraulic Road Binders. Transportation Research Record. 19(05361)
Published
Refereed?: Yes, Open Access?: No

30. Wang, D; Falchetto, A; Riccardi, C; Poulikakos, L; Hofko, B; Porot, L; Wistuba, MP; Baaj, H; Mikhailenko, P*; Moon, KH. (2019). Investigation on the combined effect of aging temperatures and cooling medium on rheological properties of asphalt binder based on DSR and BBR. Road Materials and Pavement Design. 20(sup1): S409-S433.
Published
Refereed?: Yes, Open Access?: No

31. Saliani, S*; Carter, A; Baaj, H; Tavassoti, P. (2019). Characterization of Asphalt Mixtures Produced with Coarse and Fine Recycled Asphalt Particles. Infrastructures. 4(67)
Published
Refereed?: Yes, Open Access?: Yes

32. Azimi Alamdary, Y*; Singh, S*; Baaj, H. (2019). Laboratory simulation of the impact of solar radiation and moisture on long-term age conditioning of asphalt mixes. Road Materials and Pavement Design. 20(sup1): S521-S532.
Published
Refereed?: Yes, Open Access?: No

33. Mikhailenko, P*; Kou, C*; Baaj, H; Poulikakos, L; Cannone-Falchetto, A; Besamusca, J; Hofko, B. (2019). Comparison of ESEM and physical properties of virgin and laboratory aged asphalt binders. Fuel. 235: 627-638.
Published
Refereed?: Yes, Open Access?: No

34. Kadhim, H*; Baaj, H. (2019). Evaluating the Performance of the Asphalt Mixes Containing Reclaimed Asphalt Pavement by Considering the Effect of Silo Storage Time. Journal of Testing and Evaluation. 48(1): 18-34.
Published
Refereed?: Yes, Open Access?: No

35. Saliani, S*; Carter, A; Baaj, H; Mikhailenko, P*. (2019). Characterization of Recovered Bitumen from Coarse and Fine Reclaimed Asphalt Pavement Particles. Infrastructures. 4(2): 24.
Published
Refereed?: Yes, Open Access?: No

36. Mikhailenko, P*; Baaj, H. (2019). Comparison of Chemical and Microstructural Properties of Virgin and Reclaimed Asphalt Pavement Binders and Their Saturate, Aromatic, Resin, and Asphaltene Fractions. Energy and Fuels. 33(4): 2633-2640.
Published
Refereed?: Yes, Open Access?: No

37. Melese, E*; Baaj, H; Tighe, S; Zupko, S; Smith, T. (2019). Characterisation of full-depth reclaimed pavement materials treated with hydraulic road binders. Construction and Building Materials. 226: 778-792.
Published
Refereed?: Yes, Open Access?: No

38. Ferrotti, G; Baaj, H; Besamusca, J et al. (2018). Comparison between bitumen aged in laboratory and recovered from HMA and WMA lab mixtures. Materials and Structures. 51
Published
Refereed?: Yes, Open Access?: No

39. Baghaee Moghaddam, T; Baaj, H. (2018). The use of compressible packing model and modified asphalt binders in high-modulus asphalt mix design. Road Materials and Pavement Design. : 1061-1077.
Published
Refereed?: Yes, Open Access?: No

40. Kou, C*; Kang, A; Xiao, P; Mikhailenko, P*; Baaj, H et al. (2018). A Source Pollution Control Measure Based on Spatial-Temporal Distribution Characteristic of the Runoff Pollutants at Urban Pavement Sites. Applied Sciences. 8(10): 1802.
Published
Refereed?: Yes, Open Access?: Yes

41. Moghaddam, T*; Baaj, H. (2018). Application of compressible packing model for optimization of asphalt concrete mix design. Construction and Building Materials. 159: 530-539.
Published
Refereed?: Yes, Open Access?: No

42. Baghaee Moghaddam, T*; Baaj, H. (2018). Rheological Characterization of High-Modulus Asphalt Mix with Modified Asphalt Binders. Construction and Building Materials. 193: 142-152.
Published
Refereed?: Yes, Open Access?: No

43. Baaj, H; Mikhailenko, P; Almutairi, H; Di Benedetto, H. (2018). Recovery of asphalt mixture stiffness during fatigue loading rest periods. Construction and Building Materials. 158: 591-600.
Published
Refereed?: Yes

44. Kou, C*; Xiao, P; Kang, A; Mikhailenko, P*; Baaj, H et al. (2017). Methods to Evaluate the Aging Grades of Reclaimed Asphalt Binder. Applied Sciences. 7(12): 1209.
Published
Refereed?: Yes, Open Access?: Yes

45. Mikhailenko, P*; Kadhim, H*; Baaj, H. (2017). Observation of bitumen microstructure oxidation and blending with ESEM. Road Materials and Pavement Design. 18: 216-225.
Published
Refereed?: Yes, Open Access?: No

46. Mikhailenko, P*; Kadhim, H*; Baaj, H; Tighe, S. (2017). Observation of asphalt binder microstructure with ESEM. Journal of Microscopy. 267(3): 347-355.
Published
Refereed?: Yes, Open Access?: No

47. Tapsoba, N*; Baaj, H; Sauzeat, C et al. (2016). 3D analysis and modelling of Thermal Stress Restrained Specimen Test (TSRST) on asphalt mixes with RAP and roofing shingles. Construction and Building Materials. 120: 393-402.
Published
Refereed?: Yes, Open Access?: No

48. Wang, S; Lv, Q; Baaj, H et al. (2016). Volume change behaviour and microstructure of stabilized loess under cyclic freeze--thaw conditions. Canadian Journal of Civil Engineering. 43(10): 865-874.
Published
Refereed?: Yes, Open Access?: No

49. Al-Bayati, H*; Das, PK*; Baaj, H; Tighe, S. (2016). Evaluation of various treatment methods for enhancing the physical and morphological properties of coarse Recycled Concrete Aggregate (RCA). Construction and Building Materials. 112: 284-298.
Published
Refereed?: Yes, Open Access?: No

50. Pickel, D; Tighe, S; Baaj, H; Fung, R; Saunderson, E. (2016). Innovative design, traffic management, and construction of concrete overlay technology: Canadian municipal application. Transportation Research Record. 2573: 107-114.
Published
Refereed?: Yes

51. Tierrie, J; Baaj, H; Darmedru, P. (2016). Modelling the Relationship between the Shape and Flowing Characteristics of Processed Sands. Construction and Building Materials. 104: 235-246.
Published
Refereed?: Yes, Open Access?: No

52. Baghaee Moghaddam, T; Baaj, H. (2016). The use of rejuvenating agents in production of recycled hot mix asphalt: A systematic review. Construction and Building Materials. 114: 805-816.
Published
Refereed?: Yes, Open Access?: No

Journal Issues

1. Hamid, A; Alfaid, H; Baaj, H; El-Hakim, M; Yu, M et al. (2020). Advances in Materials Science and Engineering Novel Bituminous Materials for Sustainable Pavements. Advances in Materials Science and Engineering. (Special)
Published
Refereed?: Yes, Open Access?: Yes
Editors: Norambuena-Contreras, J; Poulikakos, L; Baaj, H; Liu, Q

Reports

1. Hassan Baaj; Pejoohan Tavassoti; Goretty Dias Gian; Carlo Lorena. (2020). An Innovative Lightweight High-Performance Concrete for Insulated Pavements Application. 42. InnovAct Consultant Engineers.

2. Pejoohan Tavassoti; Basel Shoueb; Hassan Baaj; Marianna Polak; Shenglin Wang. (2020). 3D Printing of Concrete Structures. 57. AMIDA3D Inc.

3. Pejoohan Tavassoti ;Taher Baghaee Moghaddam; Hassan Baaj. (2020). Effect of Aggregate Sources and Additives on Durability of Flexible Pavements in Nova Scotia. 41. Nova Scotia Department of Transportation and Infrastructure Renewal (NSTIR).

4. Hassan Baaj, Yashar Azimi Alamdary. (2019). Development of a New Asphalt Mixture Aging/Conditioning Procedure to be used for Performance Testing of Asphalt Mixtures. 130. Ontario Ministry of Transportation.

5. Hassan Baaj, Taher Baghaee Moghaddam. (2019). Development of High Modulus Asphalt Concrete Mix Design Technology for Use on Ontario's Highways. 108. Ontario Ministry of Transportation.

6. Hassan Baaj; Peter Mikhailenko;. (2019). Effect of Extraction and Recovery Method and Solvent Type on Properties of Recovered Binder. 55. Ontario Ministry of Transportation.

7. Adam Schneider, Hassan Baaj, Paul Lum. (2017). Evaluation of Reclaimed Materials as Aggregate for OPSS Granular B Type II. 136. Ontario Ministry of Transportation.

Conference Publications

1. Qabur, A*; Liao, H*; Zhao, D*; Baaj, H. (2022). Preliminary Investigation of Using Nanocellulose in Bituminous Materials. Proceedings of the RILEM International Symposium on Bituminous Materials. RILEM International Symposium on Bituminous Materials, (1495-1501)
Paper
Published
Refereed?: Yes, Invited?: No

2. Aurilio, RM*; Aurilio, M*; Baaj, H. (2022). The Effect of a Chemical Warm Mix Additive on the Self-HealingCapability of Bitumen. Proceedings of the RILEM International Symposium on Bituminous Materials. RILEM International Symposium on Bituminous Materials, (1775-1782)
Paper
Published
Refereed?: Yes, Invited?: No

3. Zhao, D*; Aurilio, M; Tavassoti, P; Baaj, H. (2022). Evaluating IDEAL-CT for Elastomer Modified Asphalt Concrete. Annual Conference of the Canadian Technical Asphalt Association, Kelowna, Canada
Conference Date: 2022/11
Paper
Accepted
Refereed?: Yes, Invited?: No

4. Liao, H*; Sharma, A*; Tavassoti, P; Baaj, H. (2022). Rapid Assessment of High RAP Mix with Bio-based Rejuvenators UsingUltrasonic Pulse Velocity and Hamburg Wheel Tracking Testing. Annual Conference of the Transportation Association of Canada, Edmonton, Canada
Conference Date: 2022/10
Paper
Published
Refereed?: Yes, Invited?: No

5. Hamid, A*; Baaj, H; El-Hakim M. (2022). Effect of High Temperature on the Behavior of Geopolymer ModifiedAsphalt Binders. Annual Conference of the Transportation Association of Canada, Edmonton, Canada
Conference Date: 2022/10
Paper
Published
Refereed?: Yes, Invited?: No

6. Almutiri, H*; Qabur, A*; Baaj, H. (2022). Investigating the impact of thermal properties on the microstructure ofasphalt binder modified with Phase Change Materials and Glass Powder. International Conference on Regeneration and Conservation of Structures, Kyoto, Japan
Conference Date: 2022/9
Abstract
Published
Refereed?: Yes, Invited?: No

7. Zhao, D*; Aurilio, RM*; Almutairi, H*; Baaj, H. (2022). Monitoring Asphalt Concrete Cracking and Healing Using UltrasonicCharacterization. International Conference on Regeneration and Conservation of Structures,
Conference Date: 2022/9
Abstract
Published
Refereed?: Yes, Invited?: No

8. Liao, H*; Tavassoti, P; Baaj, H. (2022). A Systematic Approach to Evaluate the Efficacy of Different Rejuvenatorsfor Regenerating Reclaimed Asphalt Cement. International Conference on Regeneration and Conservation of Structures, Kyoto, Japan
Conference Date: 2022/9
Abstract
Published
Refereed?: Yes, Invited?: No

9. Qabur, A*; Baaj, H; Elhakim, M; Lo, A. (2022). Effect of the Use of Composite Plastic Packaging Waste (CPPW) on theHigh-Temperature Performance of Asphalt Binders. International Conference on Regeneration and Conservation of Structures, Kyoto, Japan
Conference Date: 2022/9
Abstract
Published
Refereed?: Yes, Invited?: No

10. Aurilio RM*; Qabur A; Liao, H; Baaj, H. (2022). Degradation characterization of asphalt binders using theoxidativeinduction technique. International Conference on Regeneration and Conservation of Structures, Kyoto, Japan
Conference Date: 2022/9
Abstract
Published
Refereed?: Yes, Invited?: No

11. Barbi, P*; Tavassoti, P; Tighe, S; Baaj, H. (2021). Implications of Climate Variation in Flexible Airport Pavement Design and Performance. ASCE - International Airfield and Highway Pavements Conference, United States of America
Paper
Published
Refereed?: Yes, Invited?: No

12. Barbi, P*; Tavassoti, P; Tighe, S; Baaj, H. (2021). Assessment of Mechanistic Analysis of Flexible Airport Pavements using FEM and Layered Elastic Theory. Transportation Research Board Annual Meeting, Washington, United States of America
Conference Date: 2022/1
Poster
Published
Refereed?: Yes, Invited?: No

13. Aurilio, R*; Aurilio, M*; Baaj, H. (2021). Preliminary Assessment of Linear Amplitude Sweep (LAS) Testing using Automated Digital Image Analysis. 9th Conference of the European Asphalt Technology Association, Online, Austria
Conference Date: 2021/6
Poster
Published
Refereed?: No, Invited?: Yes

14. Almutairi, H*; Zhao, D*; Baaj, H. (2020). Investigating Fatigue Characteristics of Asphalt Binder Modified with Phase Change Materials Using Dynamic Shear Rheometer. Proceedings of the RILEM International Symposium on Bituminous Materials. RILEM International Symposium on Bituminous Materials,
Paper
Published
Refereed?: Yes, Invited?: No

15. Di Benedetto, H; Baaj, H; Chailleux, E; Tebaldi, G; Sauzéat, C; Mangiafico, S. (2020). Proceedings of the RILEM International Symposium on Bituminous Materials: ISBM Lyon 2020. RILEM International Symposium on Bituminous Materials, Lyon, France
Paper
Published
Refereed?: Yes, Invited?: Yes

16. Hamid, A*; Baaj, H; El-Hakim, M. (2020). Predicting the Potential Impact of Geopolymers on the Creep Recovery Properties of Asphalt Binder. Proceedings of the RILEM International Symposium on Bituminous Materials. RILEM International Symposium on Bituminous Materials,
Paper
Published
Refereed?: Yes, Invited?: No

17. Aurilio, R*; Aurilio, M*; Baaj H. (2020). The Effect of a Chemical Warm Mix Additive on the Self-Healing Capability of Bitumen. RILEM International Symposium on Bituminous Materials, France
Conference Date: 2020/12
Paper
Published
Refereed?: Yes, Invited?: No

18. Pirzadeh, P; Baaj, H. (2020). Tracking Degree of Blending Between Recycled and Virgin Binder Through Asphalt Mix Phase Angle. RILEM International Symposium on Bituminous Material, Lyon, France
Conference Date: 2020/12
Paper
Published
Refereed?: Yes, Invited?: No

19. Tavassoti, P; Aurilio, R*; Zhao, D*; Baaj H. (2020). Investigating the Nonlinear Behavior of Neat and Modified Binders through Large Amplitude Oscillatory Shear (LAOS) Testing. RILEM International Symposium on Bituminous Materials, Lyon, France
Conference Date: 2020/12
Paper
Published
Refereed?: Yes, Invited?: No

20. Tavassoti, P; Ameen*, TH; Cascante, G; Baaj H. (2020). Improving the Predictive Master Curve of Bituminous Mixtures Using Ultrasonic Measurements. RILEM International Symposium on Bituminous Materials, Lyon, France
Conference Date: 2020/12
Paper
Published
Refereed?: Yes, Invited?: No

21. Aurilio, M*; Baaj, H. (2020). Examining the effects of a Self-Healing Elastomer on the Properties of Bitumen. RILEM International Symposium on Bituminous Materials, Lyon, France
Conference Date: 2020/12
Paper
Published
Refereed?: Yes, Invited?: No

22. Baglieri, O; Baaj, H; Canestrari, F; Wang, C et al. (2020). Testing methods to assess healing potential of bituminous binders. RILEM International Symposium on Bituminous Materials, Lyon, France
Conference Date: 2020/12
Paper
Published
Refereed?: Yes, Invited?: No

23. Leegwater, G; Tabokovic, A; Baglieri, O; Hammoum F; Baaj H. (2020). Terms and definitions on crack-healing and restoration of mechanical properties in bituminous materials. RILEM International Symposium on Bituminous Materials, Lyon, France
Conference Date: 2020/12
Paper
Published
Refereed?: Yes, Invited?: No

24. Baghaee, TM*; Baaj H. (2020). Effects of Aggregate Shape Parameters and Gradation on High-Modulus Asphalt Mix Performance. RILEM International Symposium on Bituminous Materials, Lyon, France
Conference Date: 2020/12
Paper
Published
Refereed?: Yes, Invited?: No

25. Aurilio, R; Aurilio, M; Baaj, H. (2020). High-Performance Pavements: A focus on self-healing asphalt technologies. Annual Conference of the Canadian Technical Asphalt Association, Kelowna, Canada
Conference Date: 2020/11
Paper
Published
Refereed?: No, Invited?: No

26. Aurilio, M*; Tavassoti, P; Elwardany, M; Baaj, H. (2020). Comparing the Ability of Different Tests and Rheological Indices to Evaluate the Cracking Resistance of Polymer Modified Asphalt Binders. Conference of the Canadian Technical Asphalt Association, Kelowna, Canada
Conference Date: 2020/11
Paper
Published
Refereed?: No, Invited?: No

27. Tavassoti, P; Baaj H. (2020). Moisture Damage in Asphalt Concrete Mixtures: State of the Art and Critical Review of the Test Methods. Annual Conference of the Transportation Association of Canada, Vancouver, Canada
Conference Date: 2020/10
Paper
Published
Refereed?: No, Invited?: No

28. Pejoohan Tavassoti; Yassaman Yousefi; Goretty Dias; Hassan Baaj. (2020). Foam Glass Lightweight Aggregate as an Innovative Lightweight Fill Material for Flexible Pavements in Canada: Engineering and Environmental Assessment. Transportation Research Board Annual Meeting, Washington, United States of America
Conference Date: 2020/1
Poster
Published
Refereed?: Yes, Invited?: No

29. Hamid, A*; Baaj, H; El-Hakim M. (2019). Enhancing Asphalt Cement Properties Using Geopolymer- Based on Fly Ash and Glass Powder. 7th CSCE International Specialty Conference on Engineering Mechanics and Materials, Laval, Canada
Paper
Published
Refereed?: Yes, Invited?: No

30. Tavassoti, P; Baaj, H; Mikhaelinko, P; Eamer, L. (2019). Experimental Evaluation of Biodegradable Asphalt Release Agents in Canada. Conference of the Canadian Technical Asphalt Association, Montreal, Canada
Conference Date: 2019/11
Paper
Published
Refereed?: No, Invited?: No

31. Aurilio M*, Mikhailenko P*, Baaj H, Polikakos L. (2019). Properties of Asphalt Binders with Increasing SBS Polymer Modification. 5th International Symposium on Asphalt Pavement and Environment (APE), Padua, Italy
Conference Date: 2019/9
Paper
Published
Refereed?: Yes, Invited?: No

32. Liu, MC*; Van Niejenhuis, C*; Aurilio, R*; Baaj, H. (2019). Impact of Cementitious Material Type and Complex Mineralizer on the Compressive Strength of Hempcrete. 7th CSCE International Specialty Conference on Engineering Mechanics and Materials, Laval, Canada
Conference Date: 2019/6
Paper
Published
Refereed?: Yes, Invited?: No

33. Aurilio, M*; Qabur, A*; Mikhailenko, P*; Baaj H. (2019). Analysis of Double Edge Notched Tension Test and Multiple Stress Creep Recovery Test Ability to Predict HMA Fatigue Performance. Annual Conference of Association of Asphalt Paving Technologists, Fort Worth, United States of America
Conference Date: 2019/3
Paper
Published
Refereed?: Yes, Invited?: No

34. Almutairi H*, Mikhailenko P*, Baaj H. (2018). Rutting Performance of Asphalt Mixtures with Nanotube-fibers with Varied Addition Rates. Conference of the Canadian Technical Asphalt Association, Canada
Conference Date: 2018/11
Paper
Published
Refereed?: No, Invited?: No

35. Baghaee Moghaddam T*, Baaj H. (2018). Development of High-Modulus Asphalt Mix Designs for Ontario's Highways. Conference of the Canadian Technical Asphalt Association, Regina, Canada
Conference Date: 2018/11
Paper
Published
Refereed?: No, Invited?: No

36. Aurilio, M*; Qabur, A*; Mikhailenko, P*; Baaj, H. (2018). Comparing the Fatigue Performance of HMA Samples with PMA to their Multiple Stress Creep Recovery and Double Notched Tension Test Properties. Conference of the Canadian Technical Asphalt Association, Regina, Canada
Conference Date: 2018/11
Paper
Published
Refereed?: No, Invited?: No

37. Melese, E*; Baaj, H; Tighe, S; Smith, T; Zupko, S. (2018). Laboratory Assessment on Effects of Blended Cements on Strength and Durability of Full-Depth Reclaimed Pavement Materials. Annual Conference of the Transportation Association of Canada, Saskatoon, Canada
Conference Date: 2018/9
Paper
Published
Refereed?: Yes, Invited?: No

38. Wang, S*; Baaj, H; Zupko, S; Smith, T. (2018). Field and lab assessment for cement-stabilized subgrade in Chatham, Ontario. Annual Conference of the Transportation Association of Canada, Saskatoon, Canada
Conference Date: 2018/9
Paper
Published
Refereed?: Yes, Invited?: No

39. Ferrotti, G; Baaj, H; Besamusca, J et al. (2018). Comparison of Short Term Laboratory Ageing on Virgin and Recovered Binder from HMA/WMA Mixtures. RILEM 252-CMB-Symposium on Chemo Mechanical Characterization of Bituminous Materials, (21-26)
Conference Date: 2018/9
Paper
Published
Refereed?: Yes, Invited?: No

40. Melese, E; Baaj, H; Tighe, S. (2018). Effects of Blended Cements on Strength and Durability of Full-Depth Reclaimed Pavement Materials. Annual Conference of the Transportation Association of Canada, Saskatoon, Canada
Conference Date: 2018/9
Paper
Published
Refereed?: Yes, Invited?: No

41. Kadhim H*, Baaj H. (2018). Evaluation of the Impact of Silo Storage on Thermal Cracking of the Hot Mix Asphalt with RAP. Annual Conference of the Transportation Association of Canada, Saskatoon, Canada
Conference Date: 2018/9
Paper
Published
Refereed?: Yes, Invited?: No

42. Mikhailenko, P*; Baaj, H; Kou, C* et al. (2018). ESEM Microstructural and Physical Properties of Virgin and Laboratory Aged Bitumen. RILEM 252-CMB-Symposium on Chemo Mechanical Characterization of Bituminous Materials, Braunschweig, Germany (150-155)
Conference Date: 2018/9
Paper
Published
Refereed?: Yes, Invited?: No

43. Pirzadeh, P; Grant, D; Kadhim, H*; Mikhailenko, P*; Baaj H. (2018). Impact of Silo Storage Time on Blending Between RAP and Virgin Binders in High RAP Content Asphalt Mixes. Petersen Asphalt Research Conference, Laramie, United States of America
Conference Date: 2018/7
Abstract
Published
Refereed?: No, Invited?: No

44. Baaj, H; Azimi Alamdary, Y*; Singh, S. (2018). Effect of Aggregates Petrology on the Age Hardening of Asphalt Cement. Petersen Asphalt Research Conference, Laramie, United States of America
Conference Date: 2018/7
Abstract
Published
Refereed?: No, Invited?: No

45. Mikhailenko, P*; Baaj, H. (2018). Comparison of Chemical and Microstructural Properties of Virgin and RAP Binders and SARA Fractions. Petersen Asphalt Research Conference, Laramie, United States of America
Conference Date: 2018/7
Abstract
Published
Refereed?: No, Invited?: No

46. Wang, SL; Baaj, H. (2018). Restrained Shrinkage Test and Lab Simulation of Micro-Cracking Technology for Cement-Stabilized Soils. Annual Conference of the Canadian Society for Civil Engineering, Fredericton, Canada
Conference Date: 2018/6
Paper
Published
Refereed?: Yes, Invited?: Yes

47. Kadhim, H*; Baaj, H; Pirzadeh, P. (2018). Evaluating Permanent Deformation in Asphalt Mixes Containing Reclaimed Asphalt Pavement by Considering the Effect of Silo Storage Time. 13th ISAP Conference on Asphalt Pavements, Fortaleza, Brazil
Conference Date: 2018/6
Paper
Published
Refereed?: Yes, Invited?: No

48. Saliani, S*; Carter, A; Baaj, H; Badeli, S. (2017). Investigation of the tensile strength of hot mix asphalt incorporating pulp aramid fiber. Annual Conference of the Canadian Technical Asphalt Association, Halifax, Canada
Conference Date: 2017/11
Paper
Published
Refereed?: No, Invited?: No

49. Aurilio, M*; Mikhailenko, P*; Baaj, H. (2017). Predicting HMA Fatigue Using the Double Edge Notched Tension Test and Multiple Stress Creep Recovery Test. Annual Conference of the Canadian Technical Asphalt Association, Halifax, Canada
Conference Date: 2017/11
Paper
Published
Refereed?: Yes, Invited?: No

50. Smith, T; Race, P; Wang, S*; Melese, E*; Baaj, H; Tighe, S. (2017). Engineered Soils: What Are They and How are They Used In Canada. The 70th Canadian Geotechnical Conference (Geo Ottawa 2017), Ottawa, Canada
Conference Date: 2017/10
Paper
Published
Refereed?: Yes, Invited?: No

51. Mikhailenko, P; Baaj, H. (2017). Survey of Current Asphalt Binder Extraction and Recovery Practices. Annual Conference of the Transportation Association of Canada,
Conference Date: 2017/9
Paper
Published
Refereed?: Yes, Invited?: No

52. Mikhailenko, P*; Kou, C*; Baaj, H; Tighe, S. (2017). Observation of polymer modified asphalt microstructure by ESEM. Annual Conference of Canadian Society for Civil Engineering, Vancouver, Canada (697-706)
Conference Date: 2017/6
Paper
Published
Refereed?: Yes, Invited?: No

53. Liu, Q; Hossain, K; Baaj, H; Tighe, S; et al. (2017). Field Assessment of Three-Dimensional Surface Textureand Frictional Properties of Experimental Canadian Road Pavements. World Conference of Pavement and Asset Management,
Conference Date: 2017/6
Paper
Published
Refereed?: Yes, Invited?: No

54. Kadhim, H*; Mikhailenko, P*; Baaj, H; Tighe, S. (2017). The Effect of the Silo-Storage on the Rheological Behavior of a Surface Course Asphalt Mix Containing Reclaimed Asphalt Pavement (RAP). Annual Conference of Canadian Society for Civil Engineering, Vancouver, Canada
Conference Date: 2017/6
Paper
Published
Refereed?: Yes, Invited?: No

55. Schneider A*, Baaj H, Lum P, Senior S. (2016). Field testing and evaluation of reclaimed materials as aggregate for opss granular B type II. Annual Conference of the Canadian Society for Civil Engineering, London, Canada (1470-1480)
Paper
Published
Refereed?: Yes, Invited?: No

56. Mikhailenko, P*; Kadhim, H*; Azimi Alamdary, Y*; Baaj H. (2016). Observation of asphalt binder microstructure with ESEM. Annual Conference of the Transportation Association of Canada, Toronto, Canada
Conference Date: 2016/9
Paper
Published
Refereed?: Yes, Invited?: No

57. Al-Bayati, H*; Tighe, S; Baaj, H. (2016). Effect of Different Treatment Methods on the Interfacial Transition Zone Microstructure to Coarse Recycled Concrete Aggregate. Annual Conference of the Transportation Association of Canada, Toronto, Canada
Conference Date: 2016/9
Paper
Published
Refereed?: Yes, Invited?: No

58. Schneider, A*; Baaj, H; Lum, P; Senior, S. (2016). Testing and Evaluation of Reclaimed Materials as Aggregate for OPSS Granular B Type II. Annual Conference of the Transportation Association of Canada, Toronto, Canada
Conference Date: 2016/9
Paper
Published
Refereed?: Yes, Invited?: No

59. Baghaee Moghaddam T*, Baaj H, Hossain K*. (2016). Adoption of statistical analysis to evaluate the permanent deformation of Polyethylene Terephthalate (PET) modified asphalt mixtures. Annual Conference of the Transportation Association of Canada, Tornoto, Canada
Conference Date: 2016/9
Paper
Published
Refereed?: Yes, Invited?: No

60. Tighe, S; Baaj, H. (2016). Developing sustainable practices to ensure there is sufficient high quality aggregate in the future: A Canadian case study. 8th International Conference on Maintenance and Rehabilitation of Pavements, MAIREPAV 2016, Singapore, Singapore (319-328)
Conference Date: 2016/7
Abstract
Published
Refereed?: No, Invited?: Yes

61. Yousefi, Y*; Schneider, A*; Baaj, H et al. (2016). Foam glass lightweight aggregate: The new approach. Annual Conference of the Canadian Society for Civil Engineering, London, Canada (3093-3100)
Conference Date: 2016/6
Paper
Published
Refereed?: Yes, Invited?: No

62. Saliani, S*; Carter, A; Baaj, H. (2016). Investigation of the impact of rap gradation on the effective binder content in hot mix asphalt. Annual Conference of the Canadian Society for Civil Engineering, London, Canada (1343-1353)
Conference Date: 2016/6
Paper
Published
Refereed?: Yes, Invited?: No