Stanford



Michael Lepech

C. L. Peck, Class of 1906, Professor and Senior Fellow at the Woods Institute for the Environment

Civil and Environmental Engineering

Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrator**

  Leigh Wang - Program Administrator

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Bio

BIO

Unsustainable energy and material consumption, waste production, and emissions are some of today's most pressing global concerns. To address these concerns, civil engineers are now designing facilities that, for example, passively generate power, reuse waste, and are carbon neutral. These designs are based foremost on longstanding engineering theory. Yet woven within this basic knowledge must be new science and new technologies, which advance the field of civil engineering to the forefront of sustainability-focused design.

My research develops fundamental engineering design concepts, models, and tools that are tightly integrated with quantitative sustainability assessment and service life modeling across length scales, from material scales to system scales, and throughout the early design, project engineering, construction, and operation life cycle phases of constructed facilities. My research follows the Sustainable Integrated Materials, Structures, Systems (SIMSS) framework. SIMSS is a tool to guide the multi-scale design of sustainable built environments, including multi-physics modeling informed by infrastructure sensing data and computational learning and feedback algorithms to support advanced digital-twinning of engineered systems. Thus, my research applies SIMMS through two complementary research thrusts; (1) developing high-fidelity quantitative sustainability assessment methods that enable civil engineers to quickly and probabilistically measure sustainability indicators, and (2) creating multi-scale, fundamental engineering tools that integrate with sustainability assessment and facilitate setting and meeting sustainability targets throughout the life cycle of constructed facilities.

Most recently, my research forms the foundation of the newly created Stanford Center at the Incheon Global Campus (SCIGC) in South Korea, a university-wide research center examining the potential for smart city technologies to enhance the sustainability of urban areas. Located in the smart city of Songdo, Incheon, South Korea, SCIGC is a unique global platform to (i) advance research on the multi-scale design, construction, and operation of sustainable built environments, (ii) demonstrate to cities worldwide the scalable opportunities for new urban technologies (e.g., dense urban sensing networks, dynamic traffic management, autonomous vehicles), and (iii) improve the sustainability and innovative capacity of increasingly smarter cities globally.

With an engineering background in civil and environmental engineering and material science (BSE, MSE, PhD), and business training in strategy and finance (MBA), I continue to explore to the intersection of entrepreneurship education, innovation capital training, and the potential of startups to more rapidly transfer and scale technologies to solve some of the world's most challenging problems.

ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Senior Fellow, Stanford Woods Institute for the Environment

ADMINISTRATIVE APPOINTMENTS

- Director (acting), Stanford Technology Ventures Program, (2023- present)
- Director, Stanford Center for Sustainable Development and Global Competitiveness, (2019- present)
- Director, Stanford Center at the Incheon Global Campus (SCIGC) in South Korea, (2019- present)
- Academic Director, Stanford Project Leadership Institute (PLI), (2017- present)
- Academic Director, Stanford Ideas to Market Entrepreneurial Education Program, (2018- present)
- Academic Director, Stanford Venture Capital Unlocked VC/Angel Investing Program, (2017- present)
- Academic Director, Stanford Product Management Professional Certificate, (2020- present)

HONORS AND AWARDS

- CAREER Award, US National Science Foundation (2015)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Executive Committee Member, Stanford-Thailand Research Consortium (2018 - present)
- Executive Committee Member, Stanford Science, Technology, and Society (STS) Program (2019 - present)
- Executive Committee Member, Stanford Urban Studies Program (2018 - present)
- Executive Committee Member, Emmett Interdisciplinary Program in Environment and Resources (E-IPER) (2021 - present)

PROGRAM AFFILIATIONS

- Science, Technology and Society

PROFESSIONAL EDUCATION

- MBA, University of Michigan , Finance and Strategy (2008)
- PhD, University of Michigan , Civil and Environmental Engineering (2006)

LINKS

- Stanford Center for Sustainable Development and Global Competitiveness: https://sdgc.stanford.edu/
- Stanford Center at the Incheon Global Campus in South Korea: https://korea.stanford.edu/

Teaching

COURSES

2026-27

- Advances in Smart Manufacturing: ENGR 394 (Win)
- Damage and Failure Mechanics of Structural Systems: CEE 305 (Spr)
- Engineering Economics and Sustainability: CEE 146S, ENGR 60 (Aut, Spr)
- Life Cycle Assessment for Complex Systems: CEE 226 (Aut)
- Scalable AI Infrastructure: CEE 121, CEE 221 (Aut, Win, Spr)

2025-26

- Accounting, Finance & Valuation for Engineers & Constructors: CEE 244 (Sum)

- Emerson Consequential Scholars: CEE 246F (Aut, Win)
- Engineering Economics and Sustainability: CEE 146S, ENGR 60 (Aut, Spr, Sum)
- Global AI Entrepreneurship, Infrastructure, and Sustainability: CEE 121, CEE 221 (Win, Spr)
- Life Cycle Assessment for Complex Systems: CEE 226 (Aut)

2024-25

- Accounting, Finance & Valuation for Engineers & Constructors: CEE 244 (Sum)
- Damage and Failure Mechanics of Structural Systems: CEE 305 (Spr)
- Emerson Consequential Scholars: CEE 246F (Aut, Win)
- Engineering Economics and Sustainability: CEE 146S, ENGR 60 (Aut, Spr, Sum)
- Global AI Entrepreneurship, Infrastructure, and Sustainability: CEE 121, CEE 221 (Aut, Spr)
- Life Cycle Assessment for Complex Systems: CEE 226 (Aut)

2023-24

- Accounting, Finance & Valuation for Engineers & Constructors: CEE 244 (Sum)
- Damage and Failure Mechanics of Structural Systems: CEE 305 (Spr)
- Engineering Economics and Sustainability: CEE 146S, ENGR 60 (Aut, Spr, Sum)
- Global Korea: Understanding the Nexus of Innovation, Culture, and Media: CEE 121, CEE 221 (Aut, Spr)
- Life Cycle Assessment for Complex Systems: CEE 226 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Eleni Alexandraki, Eleanor Ho, Giulia Scagliotti

Postdoctoral Faculty Sponsor

Jiechao Gao, Summer Jung, Maira Magnani Asencio, Yuandong Pan

Doctoral Dissertation Advisor (AC)

Andrew Lesh

Master's Program Advisor

Ahmed Agour, Aroutin Babakhanian, Erin Barry, Shawn Carrier, Ray Chang, Sean Collins, Gabriel Cornejo, Sai Kumar Ganesh, Hazel He, Rebecca Henig, Valerie Hope, Udank Jain, Enoch Jung, Sungyoon Kim, Asher Lockwood, Juan Lopez Barrios, Yudhistira Mangasi, Grace Marchant, Emilie Moore, Justin Moy, Jin Na, Michael Nehmé, Vera Nguyen, Sue Park, Emily Pastewka, Mohammed Semilan, Marrisa Smith, Jasong Song, . Taylor, Peyton Warford, Shuyi Yang, Shunyu Yao, Sean Yepez, Alice Zhao

Doctoral (Program)

Eunice Jung, Andrew Lesh, Nicholas Reisweber, Farah Shahbaz, Muran Yu

Publications

PUBLICATIONS

- **Development of a multiphysics model of synergistic effects between environmental exposure and damage in woven glass fiber reinforced polymeric composites** *COMPOSITE STRUCTURES*
  Li, Z., Lepech, M. D., Furmanski, J.
  2021; 258

- **Micromechanics modeling and homogenization of glass fiber reinforced polymer composites subject to synergistic deterioration** *COMPOSITES SCIENCE AND TECHNOLOGY*
  Li, Z., Furmanski, J., Lepech, M. D.
  2021; 203

- **How "Belt and Road" initiative implementation has influenced R&D outcomes of Chinese enterprises: asset-exploitation or knowledge transfer?** *R & D MANAGEMENT*
  Li, S., Su, J., Liu, Y., Lepech, M. D., Wang, J.
  2020

- **Incorporating pavement deterioration uncertainty into pavement management optimization** *INTERNATIONAL JOURNAL OF PAVEMENT ENGINEERING*
  Garcia-Segura, T., Montalban-Domingo, L., Llopis-Castello, D., Lepech, M. D., Sanz, M., Pellicer, E.
  2020

- **Prediction of micrometeoroid damage to lunar construction materials using numerical modeling of hypervelocity impact events** *INTERNATIONAL JOURNAL OF IMPACT ENGINEERING*
  Allende, M. I., Miller, J. E., Davis, B., Christiansen, E. L., Lepech, M. D., Loftus, D. J.
  2020; 138

- **Hypervelocity Impact Performance of Biopolymer-Bound Soil Composites for Space Construction** *JOURNAL OF AEROSPACE ENGINEERING*
  Allende, M., Davis, B., Miller, J. E., Christiansen, E. L., Lepech, M. D., Loftus, D. J.
  2020; 33 (2)

- **A novel approach to district heating and cooling network design based on life cycle cost optimization** *ENERGY*
  Best, R. E., Kalehbasti, P., Lepech, M. D.
  2020; 194

- **Incorporating multi-physics deterioration analysis in building information modeling for life-cycle management of durability performance** *AUTOMATION IN CONSTRUCTION*
  Wu, J., Lepech, M. D.
  2020; 110

- **On Designing Biopolymer-Bound Soil Composites (BSC) for Peak Compressive Strength** *JOURNAL OF RENEWABLE MATERIALS*
  Rosa, I., Roedel, H., Allende, M., Lepech, M. D., Loftus, D. J.
  2020; 8 (8): 845–61

- **Prediction of ultimate compressive strength for biopolymer-bound soil composites (BSC) using sliding wingtip crack analysis** *ENGINEERING FRACTURE MECHANICS*
  Roedel, H., Rosa, I., Allende, M., Lepech, M. D., Loftus, D. J., Garboczi, E. J.
  2019; 218

- **PROBABILISTIC DESIGN OF SUSTAINABLE REINFORCED CONCRETE INFRASTRUCTURE REPAIRS USING SIPMATH**
  Zirps, M., Lepech, M., Savage, S., IEEE
  IEEE.2019: 3104–15

- **Finite element models of reinforced ECC beams subjected to various cyclic deformation** *COMPUTERS AND CONCRETE*
  Frank, T. E., Lepech, M. D., Billington, S. L.
  2018; 22 (3): 305–17

- **Experimental Testing of Reinforced ECC Beams Subjected to Various Cyclic Deformation Histories** *JOURNAL OF STRUCTURAL ENGINEERING*
  Frank, T. E., Lepech, M. D., Billington, S. L.
  2018; 144 (6)

- **Scaling Impact Crater Dimensions to Predict Micrometeorite Damage of Biopolymer-Stabilized Regolith**
  Allende, M. I., Lepech, M. D., Loftus, D. J.
  edited by Malla, R. B., Goldberg, R. K., Roberts, A. D.
  AMER SOC CIVIL ENGINEERS.2018: 612–20

- **Probabilistic Design of Environmentally Sustainable Reinforced-Concrete Transportation Infrastructure Incorporating Maintenance Optimization** *JOURNAL OF INFRASTRUCTURE SYSTEMS*
  Shen, B., Lepech, M. D.
  2017; 23 (3)
- **Development of time-dependent fragility functions for deteriorating reinforced concrete bridge piers** *STRUCTURE AND INFRASTRUCTURE ENGINEERING*
  Rao, A. S., Lepech, M. D., Kiremidjian, A.
  2017; 13 (1): 67-83
- **Simplified structural deterioration model for reinforced concrete bridge piers under cyclic loading** *STRUCTURE AND INFRASTRUCTURE ENGINEERING*
  Rao, A. S., Lepech, M. D., Kiremidjian, A. S., Sun, X.
  2017; 13 (1): 55-66
- **Influence of carbon feedstock on potentially net beneficial environmental impacts of bio-based composites** *JOURNAL OF CLEANER PRODUCTION*
  Miller, S. A., Billington, S. L., Lepech, M. D.
  2016; 132: 266-278
- **Modeling and optimization of building mix and energy supply technology for urban districts** *APPLIED ENERGY*
  Best, R. E., Flager, F., Lepech, M. D.
  2015; 159: 161-177
- **Cradle-to-gate sustainable target value design: integrating life cycle assessment and construction management for buildings** *JOURNAL OF CLEANER PRODUCTION*
  Russell-Smith, S. V., Lepech, M. D.
  2015; 100: 107-115
- **Sustainability Assessment of Protein-Soil Composite Materials for Limited Resource Environments** *JOURNAL OF RENEWABLE MATERIALS*
  Roedel, H., Plata, I. R., Lepech, M., Loftus, D.
  2015; 3 (3): 183-194
- **Integrating durability-based service-life predictions with environmental impact assessments of natural fiber-reinforced composite materials** *RESOURCES CONSERVATION AND RECYCLING*
  Miller, S. A., Srubar, W. V., Billington, S. L., Lepech, M. D.
  2015; 99: 72-83
- **Static versus Time-Dependent Material Selection Charts and Application in Wood Flour Composites** *JOURNAL OF BIOBASED MATERIALS AND BIOENERGY*
  Miller, S. A., Lepech, M. D., Billington, S. L.
  2015; 9 (2): 273-283
- **Techno-Ecological Synergy: A Framework for Sustainable Engineering** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Bakshi, B. R., Ziv, G., Lepech, M. D.
  2015; 49 (3): 1752-1760
- **Impact of progressive sustainable target value assessment on building design decisions** *BUILDING AND ENVIRONMENT*
  Russell-Smith, S. V., Lepech, M. D., Fruchter, R., Littman, A.
  2015; 85: 52-60
- **Sustainable target value design: integrating life cycle assessment and target value design to improve building energy and environmental performance** *JOURNAL OF CLEANER PRODUCTION*
  Russell-Smith, S. V., Lepech, M. D., Fruchter, R., Meyer, Y. B.
  2015; 88: 43-51
- **Incorporating spatiotemporal effects and moisture diffusivity into a multi-criteria materials selection methodology for wood-polymer composites** *CONSTRUCTION AND BUILDING MATERIALS*
  Srubar, W. V., Miller, S. A., Lepech, M. D., Billington, S. L.
  2014; 71: 589-601

- **A multi-objective feedback approach for evaluating sequential conceptual building design decisions** *AUTOMATION IN CONSTRUCTION*
  Basbagill, J. P., Flager, F. L., Lepech, M.
  2014; 45: 136-150

- **Firm-level ecosystem service valuation using mechanistic biogeochemical modeling and functional substitutability** *ECOLOGICAL ECONOMICS*
  Comello, S. D., Maltais-Landry, G., Schwegler, B. R., Lepech, M. D.
  2014; 100: 63-73

- **Probabilistic design and management of environmentally sustainable repair and rehabilitation of reinforced concrete structures** *CEMENT & CONCRETE COMPOSITES*
  Lepech, M. D., Geiker, M., Stang, H.
  2014; 47: 19-31

- **Application of multi-criteria material selection techniques to constituent refinement in biobased composites** *MATERIALS & DESIGN*
  Miller, S. A., Lepech, M. D., Billington, S. L.
  2013; 52: 1043-1051

- **Behavior of Concrete and ECC Structures under Simulated Earthquake Motion** *JOURNAL OF STRUCTURAL ENGINEERING-ASCE*
  Gencturk, B., Elnashai, A. S., Lepech, M. D., Billington, S.
  2013; 139 (3): 389-399

- **Network-Level Pavement Asset Management System Integrated with Life-Cycle Analysis and Life-Cycle Optimization** *JOURNAL OF INFRASTRUCTURE SYSTEMS*
  Zhang, H., Keoleian, G. A., Lepech, M. D.
  2013; 19 (1): 99-107

- **Application of life-cycle assessment to early stage building design for reduced embodied environmental impacts** *BUILDING AND ENVIRONMENT*
  Basbagill, J., Flager, F., Lepech, M., Fischer, M.
  2013; 60: 81-92

- **Improvement in environmental performance of poly(beta-hydroxybutyrate)-co-(beta-hydroxyvalerate) composites through process modifications** *JOURNAL OF CLEANER PRODUCTION*
  Miller, S. A., Billington, S. L., Lepech, M. D.
  2013; 40: 190-198

- **Durability of strain-hardening cement-based composites (SHCC)** *MATERIALS AND STRUCTURES*
  Van Zijl, G. P., Wittmann, F. H., Oh, B. H., Kabele, P., Toledo Filho, R. D., Fairbairn, E. M., Slowik, V., Ogawa, A., Hoshiro, H., Mechtcherine, V., Altmann, F., Lepech, M. D.
  2012; 45 (10): 1447-1463

- **Cradle-to-Gate Life Cycle Assessment for a Cradle-to-Cradle Cycle: Biogas-to-Bioplastic (and Back)** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Rostkowski, K. H., Criddle, C. S., Lepech, M. D.
  2012; 46 (18): 9822-9829

- **Human Health Impact as a Boundary Selection Criterion in the Life Cycle Assessment of Pultruded Fiber Reinforced Polymer Composite Materials** *JOURNAL OF INDUSTRIAL ECOLOGY*
  Basbagill, J. P., Lepech, M. D., Ali, S. M.
  2012; 16 (2): 266-275

- **Project-Level Assessment of Environmental Impact: Ecosystem Services Approach to Sustainable Management and Development** *JOURNAL OF MANAGEMENT IN ENGINEERING*
  Comello, S. D., Lepech, M. D., Schwegler, B. R.
  2012; 28 (1): 5-12

- **Multi-objective building envelope optimization for life-cycle cost and global warming potential** *9th European Conference on Product and Process Modelling*
  Flager, F., Basbagill, J., Lepech, M., Fischer, M.
  CRC PRESS-TAYLOR & FRANCIS GROUP.2012: 193–200

- **Structural modeling of corroded reinforced concrete bridge columns** *6th International Conference on Bridge Maintenance, Safety and Management (IABMAS)*
  Rao, A. S., Lepech, M. D., Kiremidjian, A. S.
  CRC PRESS-TAYLOR & FRANCIS GROUP.2012: 1008–1014

- **USING LIFE CYCLE ASSESSMENT METHODS TO GUIDE ARCHITECTURAL DECISION-MAKING FOR SUSTAINABLE PREFABRICATED MODULAR BUILDINGS** *JOURNAL OF GREEN BUILDING*
  Faludi, J., Lepech, M. D., Loisos, G.
  2012; 7 (3): 151-170

- **ECOLOGICAL PAYBACK TIME OF AN ENERGY-EFFICIENT MODULAR BUILDING** *JOURNAL OF GREEN BUILDING*
  Faludi, J., Lepech, M.
  2012; 7 (1): 100-119

- **INTEGRATED PROBABILISTIC LIFE CYCLE ASSESSMENT AND DURABILITY DESIGN FOR SUSTAINABLE SHCC INFRASTRUCTURE** *2nd International RILEM Conference on Strain Hardening Cementitious Composites (SHCC2-Rio)*
  Lepech, M. D., Stang, H., Geiker, M.
  R I L E M PUBLICATIONS.2011: 157–164

- **A Framework for Multiphysics Modeling of Natural Environments for Valuation of Privately Owned Ecosystem Services** *IEEE International Symposium on Sustainable Systems and Technology (ISSST)*
  Comello, S. D., Lepech, M. D.
  IEEE.2011

- **Life-Cycle Optimization of Pavement Overlay Systems** *JOURNAL OF INFRASTRUCTURE SYSTEMS*
  Zhang, H., Keoleian, G. A., Lepech, M. D., Kendall, A.
  2010; 16 (4): 310-322

- **Dynamic Life-Cycle Modeling of Pavement Overlay Systems: Capturing the Impacts of Users, Construction, and Roadway Deterioration** *JOURNAL OF INFRASTRUCTURE SYSTEMS*
  Zhang, H., Lepech, M. D., Keoleian, G. A., Qian, S., Li, V. C.
  2010; 16 (4): 299-309

- **Design of Sustainable Pavements Using Probabilistic LCA/Durability Design** *Proceedings of International Workshop on Energy and Environment in the Development of Sustainable Asphalt Pavements*
  Lepech, M. D.
  XIAN JIAOTUNG UNIV PRESS.2010: 16–21

- **Improving infrastructure sustainability using nanoparticle engineered cementitious composites** *International Conference on Advanced Concrete Materials (ACM)*
  Lepech, M. D.
  CRC PRESS-TAYLOR & FRANCIS GROUP.2010: 153–161

- **Time varying risk modeling of deteriorating bridge infrastructure for sustainable infrastructure design** *5th International Conference on Bridge Maintenance, Safety and Management (IABMAS)*
  Rao, A. S., Lepech, M. D., Kiremidjian, A. S., Sun, X. Y.
  CRC PRESS-TAYLOR & FRANCIS GROUP.2010: 2501–2508

- **Water permeability of engineered cementitious composites** *CEMENT & CONCRETE COMPOSITES*
  Lepech, M. D., Li, V. C.
  2009; 31 (10): 744-753

- **Application of ECC for bridge deck link slabs** *MATERIALS AND STRUCTURES*
  Lepech, M. D., Li, V. C.
  2009; 42 (9): 1185-1195

- **Introduction of Transition Zone Design for Bridge Deck Link Slabs Using Ductile Concrete** *ACI STRUCTURAL JOURNAL*
  Qian, S., Lepech, M. D., Kim, Y. Y., Li, V. C.
  2009; 106 (1): 96-105

- **Transition Zone Analysis and Design for Bridge Deck Link Slabs using Ductile Concrete** *ACI Structural Journal*

Qian, S., Lepech, M., Kim, Y., Y., Li, V., C.
2009; 1 (106): 96-105

- **Sustainable Infrastructure Systems using Engineered Cementitious Composites**
  Lepech, M., D.
  2009
- **Treatment of Uncertainties in Life Cycle Assessment**
  Baker, J., W., Lepech, M.
  2009
- **Improving Infrastructure Sustainability using Nanoparticle Engineered Cementitious Composites**
  Lepech, M., D.
  2009
- **Autogenous Healing of Engineered Cementitious Composites Under Wet-Dry Cycles** *Journal of Cement and Concrete Research*
  Yang, Y., Lepech, M., D., Yang, E., H., Li, V., C.
  2009; 39: 382-390
- **Design of Green Engineered Cementitious Composites for Improved Sustainability** *ACI MATERIALS JOURNAL*
  Lepech, M. D., Li, V. C., Robertson, R. E., Keoleian, G. A.
  2008; 105 (6): 567-575
- **Materials design for sustainability through life cycle modeling of engineered cementitious composites** *MATERIALS AND STRUCTURES*
  Kendall, A., Keoleian, G. A., Lepech, M. D.
  2008; 41 (6): 1117-1131
- **Design of green engineered cementitious composites for pavement overlay applications** *1st International Symposium on Life-Cycle Civil Engineering*
  Lepech, M. D., Keoleian, G. A., Qian, S., Li, V. C.
  CRC PRESS-TAYLOR & FRANCIS GROUP.2008: 837–842
- **Large Scale Processing of Engineered Cementitious Composites** *ACI Materials Journal*
  Lepech, M., D., Li, V., C.
  2008; 4 (105): 358-366
- **An integrated life cycle assessment and life cycle analysis model for pavement overlay systems** *1st International Symposium on Life-Cycle Civil Engineering*
  Zhang, H., Keoleian, G. A., Lepech, M. D.
  CRC PRESS-TAYLOR & FRANCIS GROUP.2008: 907–912
- **Integrated Structure and Materials Design for Sustainable Concrete Transportation Infrastructure**
  Lepech, M., Keoleian, G., A., Li, V., C.
  2007
- **Incorporating Life Cycle Analysis into Early Stage Office Furniture Product Development** *International Life Cycle Assessment and Management 2007.*
  Conway, C., Lepech, M., VanValkenburg, D., Youngs, B.
  2007
- **Guiding the design and application of new materials for enhancing sustainability performance: Framework and infrastructure application** *Symposium on Life-Cycle Analysis Tools for Green Materials and Process Selection held at the 2005 MRS Fall Meeting*
  Keoleian, G. A., Kendall, A. M., Lepech, M. D., Li, V. C.
  MATERIALS RESEARCH SOCIETY.2006: 123–134
- **Sustainable Infrastructure Engineering: Integrating Material and Structural Design with Life Cycle Analysis** *Advances in Cement and Concrete X: Sustainability*
  Lepech, M., Li, V., C.
  edited by Schrivener, K., Monteiro, P., Hanehara, S.
  ECI.2006: 55–60

- **Long Term Durability Performance of Engineered Cementitious Composites** *International Journal for Restoration of Buildings and Monuments*
  Lepech, M., D., Li, V., C.
  2006; 2 (12): 119-132
- **Durability ang Long Term Performance of Engineered Cementitious Composites**
  Lepech, M., Li, V., C.
  2006
- **General Design Assumptions for Engineered Cementitious Composites**
  Li, V., C., Lepech, M.
  2006
- **Life Cycle Modeling of Concrete Bridge Design: Comparison of Engineered Cementitious Composite Link Slabs and Conventional Steel Expansion Joints** *JOURNAL OF INFRASTRUCTURE SYSTEMS*
  Keoleian, G. A., Kendall, A., Dettling, J. E., Smith, V. M., Chandler, R. F., Lepech, M. D., Li, V. C.
  2005; 11 (1): 51-60
- **Water Permeability of Cracked Cementitious Composites**
  Lepech, M., Li, V.
  2005
- **Life-Cycle Cost Model for Evaluating the Sustainability of Bridge Decks**
  Keoleian, G., A., Kendall, A., Chandler, R., F., Helfand, G., Lepech, M., D., Li, V., C.
  2005
- **Life Cycle Model for Evaluating the Sustainability of Concrete Infrastructure Systems**
  Keoleian, G., Kendall, A., Chandler, R., Helfand, G., Lepech, M., Li, V., C.
  2005
- **Design and Field Demonstration of ECC Link Slabs for Jointless Bridge Decks**
  Lepech, M., Li, V., C.
  2005
- **Sustainable Infrastructure Material Design**
  Lepech, M., Li, V., C., Keoleian, G.
  2005
- **Self -healing of ECC under cyclic wetting and drying**
  Yang, Y., Lepech, M., Li, V.
  2005
- **Self-healing in Cementitious Compounds** *Self-healing Materials Workshop*
  Li, V., C., Lepech, M.
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  Delft, Netherlands.2005: 1
- **Life Cycle Modeling of Concrete Bridge Design: Comparison of ECC Link Slabs and Conventional Steel Expansion Joints** *Journal of Infrastructure Systems*
  Keoleian, G., A., Kendall, A., Dettling, J., E., Smith, V., M., Chandler, R., F., Lepech, M., D.
  2005: 51-60
- **Development of green engineered cementitious composites for sustainable infrastructure systems** *International Workshop on Sustainable Development and Concrete Technology*
  Li, V. C., Lepech, M., Wang, S. X., Weimann, M., Keoleian, G.
  CENTER TRANSPORTATION RESEARCH & EDUCATION.2004: 181–191
- **Development of Green ECC for Sustainable Infrastructure Systems.**
  Li, V., C., Lepech, M., Wang, S., Weimann, M., Keoleian, G.
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  2004

- **Size Effect in ECC Structural Members in Flexure**
  Lepech, M., Li, V., C.
  2004
- **Crack Resistant Concrete Material for Transportation Construction** *Transportation Research Board 83rd Annual Meeting Compendium of Papers, Paper No. 04-4680.*
  Li, V., C., Lepech, M.
  2004
- **Preliminary Findings on Size Effect in ECC Structural Members in Flexural**
  Lepech, M., Li, V., C.
  2003