

Hae Chang Gea, Ph.D.
Professor

March 7, 2023

RE: Chair of the Department of Packaging and Graphic Media Science

Dear Members of the Search Committee:

I am delighted to express my enthusiasm for the Chair of Department of Packaging and Graphic Media Science position at RIT. With three decades of academic research, teaching, and leadership experience at Rutgers University, I am proud to have made a lasting, positive impact on students, alumni, staff, faculty, and external stakeholders. As I progress to the next stage in my career, I am excited to embrace the opportunity to lead the top packaging school in the United States, as it would be both a privilege and a challenge that I am eager to pursue.

With my extensive experience in leadership roles, as demonstrated by my CV, I have developed the ability to cultivate inclusive and diverse learning environments, innovate curricula, establish strong internal and external collaborations, and forge robust public-private partnerships. In 2011, I was appointed as the Chair and Director of the Packaging Engineering Program at Rutgers, where I successfully revitalized a declining program that was in danger of becoming defunct. Over the course of my ten-year tenure, I strategically enhanced the program's education value, developed interdisciplinary collaboration, and fostered industry partnerships.

My accomplishments include designing a rigorous undergraduate curriculum from scratch and creating two academic tracks, a major and a minor, to attract engineering students to the program. Since 2011, the Packaging Engineering Program has grown from only two students to over 180 students from all engineering disciplines. In just five years, I also established a new Master of Science degree in Packaging Engineering, attracting over 25 graduate students and developing many research projects with various packaging industries. I facilitated interdisciplinary collaboration across Rutgers University.

To form stronger industry partnerships, I established the Rutgers Packaging Engineering Advisory Board (RPEAB), which grew to over 60 board members consisting of key executives from industry leaders such as Apple, Amazon, Bayer, Johnson & Johnson, and Merck. The RPEAB is now the largest industry advisory board among all academic departments at Rutgers University. I also secured over \$1MM in corporate donations to renovate the packaging engineering laboratory, making it the most philanthropic cash donation receiver among all engineering departments every year.

In addition to my work in the Packaging Engineering Program, I served as the Undergraduate Program Director in Mechanical and Aerospace Engineering and helped the department pass the accreditation review by the Accreditation Board for Engineering and Technology (ABET). As the Graduate Program Director in the Mechanical and Aerospace Engineering department, I established a multi-year funding mechanism to recruit new graduate students, which increased graduate enrollment by sixty percent to 180 graduate students during my tenure.

As an experienced transformational leader, team builder, and administrator, I am excited to apply for the Chair position of the Department of Packaging and Graphic Media Science at RIT. My extensive academic experience has given me the insights and understanding required to take on this unique opportunity. I look forward to discussing how my qualifications and experiences can enhance the department's visibility, brand, and reputation.

Thank you for your time and consideration.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Hae Chang Gea', with a stylized flourish at the end.

Hae Chang Gea, Professor
Department of Mechanical and Aerospace Engineering

HAE CHANG GEA

Mechanical and Aerospace Engineering
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EDUCATION

- 1993 Ph.D. Mechanical Engineering and Applied Mechanics
The University of Michigan, Ann Arbor, MI
- 1985 M.S. Mechanical Engineering
University of Southern California, Los Angeles, CA

ACADEMIC EXPERIENCE

- 2005 – Present Professor
Mechanical and Aerospace Engineering, Rutgers University
- 1998 – 2005 Associate Professor
Mechanical and Aerospace Engineering, Rutgers University
- 1993 – 1998 Assistant Professor
Mechanical and Aerospace Engineering, Rutgers University
- Committed to fostering academic excellence through teaching, research, and student development.
 - Served as the primary dissertation advisor for 16 PhD students, and supervised 15 visiting professors and 9 postdoctoral researchers, providing mentorship and guidance to help them achieve their academic goals.
 - Hosted more than 30 visiting professors and students, providing them with a welcoming and supportive learning environment.
 - Successfully secured over \$2.5 million in external funding as the Principal Investigator, demonstrating exceptional grant writing and project management skills.

ADMINISTRATIVE EXPERIENCE

2021 – Present

Director, Engineering Management/Master of Business and Science Program

- Developed a highly successful Engineering Management Program under the prestigious Master of Business and Science Program that has attracted top undergraduates and industry professionals.
- Worked closely with faculty and staff to design custom-tailored engineering pathways to meet the career goals and objectives of students with varying engineering and science backgrounds.

2011 – 2021 Chair and Director, Packaging Engineering Program

- Committed to promoting an inclusive and diverse learning environment that fosters student development. The Packaging Engineering Program achieved a 1:1 female-male student ratio - the highest mixed gender ratio in the SoE at Rutgers.
- Established strong private-public partnerships and collaborations in education and research, both nationally and internationally. This has allowed for the development of innovative research projects and provided opportunities for students to gain hands-on experience.
- Developed a rigorous hands-on learning undergraduate curriculum, and established a new Master of Science degree in Packaging Engineering. These programs have received significant recognition from industry leaders and have been successful in preparing students for real-world engineering challenges.
- Formed an interdisciplinary engineering program by collaborating closely with all engineering departments and schools within Rutgers. Built a dedicated team of NTT faculty, PTLs, and staff to ensure the program's successful operation.
- Raised over \$1MM in corporate donations to renovate the packaging engineering laboratory. This has provided students with state-of-the-art facilities to conduct cutting-edge research and develop innovative packaging solutions.

2016 – 2017 Director, the International Office, School of Engineering

- Fostered strategic relationships and global partnerships through collaboration with international academic institutions and Rutgers engineering departments.
- Developed innovative International Cooperative Education Programs, including the 2+2 program for dual BS degrees and the 3+2 program for BS/MS engineering degrees with top international universities.
- Initiated an academic professional development and academic exchange program for international visiting scholars to promote intercultural collaborations and develop a global research network.

2011 – 2015 Graduate Program Director, Mechanical and Aerospace Engineering

- Created a sustainable funding mechanism to attract and retain top graduate students by integrating research grants and fellowships, enhancing the program's competitiveness and reputation.
- Implemented effective recruitment strategies and retention policies, resulting in a significant sixty percent increase in graduate program enrollment.

2008 – 2011 Undergraduate Director, Mechanical and Aerospace Engineering

- Directed the academic progress of approximately 600 undergraduate students in Mechanical Engineering and introduced a new BS degree concentration in Energy Systems.
- Provided significant support to the department's accreditation review by the Accreditation Board for Engineering and Technology (ABET), ensuring compliance with all necessary standards and requirements.

AWARDS

- Foreign Distinguished Professor, the Ministry of Education of the People's Republic of China, UESTC, 2015-2019
- The Mary W. Raisler Distinguished Teaching Chair, Mechanical and Aerospace Engineering, Rutgers University, 2013-2016
- Senior Foreign Cultural and Educational Expert, the Ministry of Education of the People's Republic of China, UESTC, 2011
- Haitian Distinguished Scholar, Dalian University of Technology, 2007-2009
- The Best Technical Paper Award, 1994 and 1997 ASME Design Engineering Technical Conferences, Design Automation Conference
- Lilly Fellowship Award for Teaching Excellence, 1996

PROFESSIONAL RECOGNITION

- Adjunct Professor, University of Electronic Science and Technology of China, Chengdu, China, 2012 – 2019
- Adjunct Professor, Harbin University of Technology, Harbin, China, 2012 – 2019
- Adjunct Professor, Kunming University of Science and Technology, Kunming, China, 2014 – 2018
- Adjunct Professor, Dalian University of Technology, Dalian, China, 2008 – 2011
- Adjunct Professor, National Cheng-Kung University, Tainan, Taiwan, 2008 – 2009
- Chair Professor, University of Electronic Science and Technology of China, Chengdu, China, 2007 – 2008
- Advisory Board Member of International Journal for Simulation and Multidisciplinary Design Optimization
- Associate Editor of Journal of Structural and Multidisciplinary Optimization, 2005-2019
- Associate Editor of International Journal of Agile Manufacturing, 2001-2007
- Guest Editor for Journal of Structural and Multidisciplinary Optimization, 2004
- Chairman for American Society of Mechanical Engineers (ASME) of International Organization Committee in the 7th World Congress on Structural and Multidisciplinary Optimization, 2007
- Member of Scientific Committee, International Conference on Engineering Design, 2007, Paris, France
- Executive Committee – ASME Design Automation Committee, 2003 - 2008
- Committee Chair of the Design Automation Conference, the 2007 ASME Design Engineering Technical Conference
- Conference Chair of the Design Automation Conference, the 2006 ASME Design Engineering Technical Conference

- Program Chair of the Design Automation Conference, the 2005 ASME Design Engineering Technical Conference
- Special Session Paper Chair of the Design Automation Conference, the 2004 ASME Design Engineering Technical Conference
- Member of the International Academic Committee of the 2003 International Conference on Agile Manufacturing (ICAM2003)
- Technical Paper Reviewer for journals, conferences, and grant proposals. A partial list includes ASME Journal of Mechanical Design, Structural Optimization, Solids and Structures, Software Engineering and Knowledge Engineering, Vehicle Design, Optimization and Engineering, Journal of Reliability, Quality and Safety Engineering, ASME Design Automation Conference, SAE World Congress, National Science Foundation

PUBLICATIONS

Journal Articles

1. Liu, J. and Gea, H.C., 2018, *Robust Topology Optimization under Multiple Independent Unknown-but-Bounded Loads*, Computer Methods in Applied Mechanics and Engineering, Vol. 329, Feb. 2018, 464-479.
2. Ma, H., Shi, D., Gea, H.C., and Teng X., 2018, *Multi-objective structure dynamic optimization based on equivalent static loads*, International Journal of Interactive Design and Manufacturing, Vol. 12, 2., May 2018, 729-740
3. Ma, H., Shi, D., Gea, H.C., and Teng X., 2018, *Stiffness optimization of multi-material composite structure under dependent load*, International Journal of Interactive Design and Manufacturing, Vol. 12, 2., May 2018, 717-727
4. Lin, P.T., Manuel, M.C.E., Zhang, J., Jaluria, Y., and Gea, H.C., 2017, *Multi-Objective Design Optimization of Multiple Microchannel Heat Transfer Systems Based on Multiple Prioritized Preferences*, ASME. J. Thermal Sci. Eng. Appl, Vol. 9, 2. March 2017. 9(2):021011-021011-9. doi:10.1115/1.4035836
5. Lee, E., Qi, H. and Gea, H.C., 2016, *Decision Making Framework Using Probabilistic Pareto for Sustainable Packaging Life Cycle Assessment*, Journal of Applied Packaging Research, Vol. 8, 2, 17-31
6. Wang, B., Gea, H.C., and Kwon, Y.J., 2014, *Finite Element Analysis of Stresses and Deformations Occurring in the Spent Nuclear Fuel (SNF) Disposal Canister Deposited in a Deep Geological Repository*, Nuclear Engineering and Design, 266, 166-179.
7. Lee, E. and Gea, H.C., 2014, *A Strain Based Topology Optimization Method for Complaint Mechanism Design*, Structural and Multidisciplinary Optimization, 49, 2, 199-207.
8. Lin, P.T. and Gea, H.C., 2013, *A Gradient-based Transformation Method in Multidisciplinary Design Optimization*, Structural and Multidisciplinary Optimization, 47, 5, 715-733.

9. Lin, P.T. and Gea, H.C., 2013, *Reliability-Based Multidisciplinary Design Optimization Using Probabilistic Gradient-Based Transformation Method*, ASME Journal of Mechanical Design, 135, 2, 021001.
10. Lin, Z., Gea, H.C., Liu, S., 2011, *Design of piezoelectric energy harvesting devices by applying topology optimization subjected to broadband random vibrations*, Acta Mechanica Sinica, 27(5): 730–737.
11. Lin, P.T., Gea, H.C. and Jaluria, Y., 2011, *A Modified Reliability Index Approach for Reliability-based Design Optimization*, ASME Journal of Mechanical Design 133, 4, 044501.
12. Lin, P.T., Gea, H.C. and Jaluria, Y., 2010, *Systematic Strategy for Modeling and Optimization of Thermal Systems with Design Uncertainties*, Frontiers in Heat and Mass Transfer, DOI 10.5098/hmt.v1.1.3003
13. Zheng, B., Chang, C-J. and Gea, H. C., 2009, *Topology Optimization Considering Body Forces*, International Journal for Simulation and Multidisciplinary Design Optimization, 3, pp. 316 – 320.
14. Zheng, B., Chang, C-J. and Gea, H. C., 2009, *Topology Optimization of Energy Harvesting Devices using Piezoelectric Materials*, Structural and Multidisciplinary Optimization, 38, 1, pp. 17-23.
15. Lin, P.T., Jaluria, Y. and Gea, H. C., 2009, *Parametric Modeling and Optimization of Chemical Vapor Deposition Process*, Journal of Manufacturing Science and Engineering, Transactions of The ASME, 131, 1, 011011.
16. George, P., Lin, P.T., Gea, H.C. and Jaluria, Y., 2009, *Reliability-based Optimisation of Chemical Vapour Deposition Process*, International Journal of Reliability and Safety, 3, 4, pp. 363-383.
17. Zheng, B., Chang, C-J. and Gea, H. C., 2009, *Topology optimization with design-dependent pressure loading*, Structural and Multidisciplinary Optimization, 38, 6, pp. 535-543.
18. Chang, C-J., Zheng, B. and Gea, H. C., 2008, *Automated Design of Thin-walled Packaging Structures*, Structural and Multidisciplinary Optimization, 35, 6, pp. 601-608.
19. Yang, R.J., Gea, H.C., Chen, W. and Zhou, M., 2008, *Special Issue on Design Optimization-Industrial Applications*, Structural and Multidisciplinary Optimization, 35, 6.
20. Jung, D. and Gea, H. C., 2006, *Design of Energy Absorbing Structure using Topology Optimization with a Multi-material Model*, Structural and Multidisciplinary Optimization, 32, 3, pp. 251-257.
21. Gea, H. C. and Oza, K., 2005, *Two-Level Approximation Method for Reliability Based Design Optimization*, International Journal of Materials and Product Technology, 25, 1-3, pp. 99-111

22. Oza, K. and Gea, H. C., 2005, *An Efficient Method for Reliability-Based Design Optimization*, SAE Transactions: Journal of Materials & Manufacturing, 113, 5, pp. 493-499.
23. Jung, D. and Gea, H. C., 2004, *Compliant Mechanism Design with Non-linear Materials Using Topology Optimization*, International Journal of Mechanics and Materials in Design, 1: pp. 157-171.
24. Jung, D. and Gea, H. C., 2004, *Topology Optimization of Nonlinear Structures*, Finite Elements in Analysis and Design, Vol. 40, 11, pp. 1417-1427.
25. Gea, H. C., 2004, *Application of Regional Strain Energy in Compliant Structure Design for Energy Absorption*, Structural and Multidisciplinary Optimization, Vol. 26, 3-4, pp. 224-228.
26. Gea, H. C. and Luo, J., 2004, *On Stress Based and Strain Based Method for Prediction of Optimal Orientation of Orthotropic Materials*, Structural and Multidisciplinary Optimization, Vol. 26, 3-4, pp. 229-234.
27. Yang, R.J., Gea, H.C. and Botkin, M.E., 2004, Structural and Multidisciplinary Optimization, 26, 3-4.
28. Luo, J. and Gea, H. C., 2003, *Optimal Stiffener Design for Interior Sound Reduction Using a Topology Optimization Based Approach*, ASME Journal of Vibration and Acoustics, Vol. 125, pp. 267-273.
29. Gea, H. C. and Luo, J., 2001, *Topology optimization of structures with geometrical nonlinearities*, Computers and Structures, Vol. 79/20-21, No. 5, pp. 1977-1985.
30. Chickermane, H., Gea, H. C., Yang R. J. and Chuang C. H., 1999, *Optimal Fastener Pattern Design Considering Bearing Loads*, Journal of Structural Optimization, Vol. 17, No. 2/3, pp. 140-146.
31. Gea, H. C. and Luo, J., 1999, *Automated Optimal Stiffener Pattern Design*, International Journal of Mechanics of Structures and Machines, Vol. 27, No. 3, pp.275-292.
32. Luo, J. and Gea, H. C., 1998, *A Systematic Topology Optimization Approach for Bead Pattern Design*, Journal of Structural Optimization, 16, pp. 280-288.
33. Luo, J. and Gea, H. C., 1998, *Optimal Bead Orientation in 3D Shell/Plate Structures*, Finite Elements in Analysis and Design, 31, 1, pp. 51-71.
34. Jain, S. and Gea, H. C., 1998, *Two-Dimensional Packing Problems Using Genetic Algorithm*, Engineering with Computers, 14, pp. 206-213.
35. Gea, H. C. and Ramamurthy, R., 1998, *Blank Design Optimization on Deep Drawing of Square Shells*, IIE Transactions, Design and Manufacturing, 30, pp. 913-921.
36. Dong, Y. and Gea, H. C., 1998, *A Non-Hypersingular Boundary Integral Formulation for Displacement Gradients in Linear Elasticity*, Acta Mechanica, 129, pp. 187-205.

37. Luo, J. and Gea, H. C. 1998, *Optimal Orientation of Orthotropic Materials Using an Energy Based Method*, Journal of Structural Optimization, Vol. 15, pp. 230-235.
38. Luo J.H. and Gea H.C. 1997, *Optimal Stiffener Design for Interior Sound Reduction*, 1997, SAE Transactions, Journal of Passenger Cars, No. 971542.
39. Chickermane, H. and Gea, H. C., 1997, *Design of Multi-Component Structural Systems for Optimal Layout Topology and Joint Locations*, Engineering with Computers, 13, pp. 235-243.
40. Luo, J. and Gea, H. C., 1997, *Modal Sensitivity Analysis of Coupled Acoustic-Structural Systems*, ASME Journal of Vibration and Acoustics, Vol. 119, No. 4, pp. 545-550
41. Gea, H. C. and Fu, Y., 1997, *Optimal 3-D Stiffener Design with Frequency Considerations*, Advances in Engineering Software, Vol. 28, No. 8, pp. 525-531.
42. Chickermane, H. and Gea, H. C., 1996, *Structural Optimization Using a New Local Approximation Method*, International Journal for Numerical Methods in Engineering, Vol. 39, No. 5, pp. 829 – 846.
43. Gea, H. C., 1996, *Topology Optimization: A New Micro-Structural Based Design Domain Method*, Computers and Structures, Vol. 61, No. 5, pp. 781 – 788.
44. Chickermane, H. and Gea, H. C., 1996, *A Systematic Design Methodology for Generating the Optimal Repairs of Aging Aircraft*, Finite Elements in Analysis and Design, Vol. 23, pp. 365 – 379.
45. Jain, S. and Gea, H. C., 1996, *PCB Layout Design Using a Genetic Algorithm*, ASME Journal of Electronic Packaging, Vol. 118, pp. 11 – 15.
46. Gea, H. C. and Fu, Y., 1995, *3-D Shell Topology Optimization Using a Design Domain Method*, SAE Transactions, Journal of Passenger Car, No. 951105, Vol. 104-2, pp. 1983 – 1989.
47. Chirehdast, M., Gea, H. C., Kikuchi, N. and Papalambros, P., 1994, *Structural Configuration Examples of an Integrated Optimal Design Process*, ASME Journal of Mechanical Design, Vol. 116, pp. 997 – 1012.

Conference Papers

48. Gea, H.C., Ma, H. and Xue D., 2020, *Prediction of the Service Life of Expanded Polystyrene Foam based on Bayesian Inference*, IAPRI 2020
49. Gea, H.C. and Jin, T., 2019, *A New Packaging Design Paradigm with 3D Image Reconstruction and Convolutional Neural Networks*, IAPRI 2019
50. Li, J. Gea, H.C., and Lee, E., 2018, *A Systematic Optimization Method for Plastic Injection Molding Operational Parameters*, IAPRI 2018
51. Yang, X. Meer, P. and Gea, H.C., 2017, *Robust Recovery of 3D Geometric Primitives from Point Cloud*, DETC 2017-67564.
52. Gea, H.C., Liu, X., Lee, E. and Xu, L., 2016, *Topology Optimization under Independent Multi-Load Uncertainty*, DETC 2016-59301.

53. Qi, H., Lee, E., Gea, H.C., and Zheng, B., 2015, Probabilistic Pareto Decision Making Framework for Sustainable Packaging Life Cycle Assessment, DETC 2015-46885.
54. Song, W., Lee, E., Gea, H.C., and Xu, L., 2015, Topology Optimization with Load Uncertainty as an Inhomogeneous Eigenvalue Problem, DETC 2015-46912.
55. Song, W., Gea, H.C. and Zheng, B., 2014, Domain Composition Method for Structural Optimization, ASME International Design Engineering Technical Conferences, DETC 2014-35059.
56. Zhao, X., Song, W., Gea, H.C. and Xu, L., 2014, Topology Optimization With Unknown-but-Bounded Load Uncertainty, ASME International Design Engineering Technical Conferences, DETC 2014-35210.
57. Qi, H., Lee, E. and Gea, H.C., 2013, Decision Making Tool in Life Cycle Assessment for Packaging Sustainability, ASME Design Engineering Technical Conferences, DETC 2013-13680.
58. Song, W., Gea, H.C., Yang, R.J. and Chuang, C.-H., 2013, Topology Optimization with Inertia Relief using Regional Strain Energy Formulation, ASME Design Engineering Technical Conferences, DETC 2013-13283.
59. Zhao, X., Song, W., and Gea, H.C., 2013, Application of Eigenvalue-Superposition of Convex Models Method in Topology Optimization under Load Uncertainties, ASME Design Engineering Technical Conferences, DETC 2013-13317.
60. Wang, B., Bai, J., and Gea, H.C., 2013, Stochastic Kriging for Random Simulation Metamodeling with Finite Sampling, ASME Design Engineering Technical Conferences, DETC 2013-13361.
61. Gea, H.C. and McLean, G.A., 2013, Modeling and Simulations of Crew Redirection During Emergency Evacuation, The Seventh Triennial International Fire & Cabin Safety Research Conference.
62. Gea, H.C. and McLean, G.A., 2013, Computer Simulations of Crew Redirection and Interior Access Vehicle for Aircraft Emergency Evacuation, The Seventh Triennial International Fire & Cabin Safety Research Conference.
63. Gea, H.C. and McLean, G.A., 2013, Aircraft Emergency Evacuation Study on Injured Passengers and Crew Redirection, The Seventh Triennial International Fire & Cabin Safety Research Conference.
64. Zhao, X., Gea, H.C. and Xu, L.M., 2012, Non-Probabilistic Based Structural Design Optimization under External Load Uncertainties with Eigenvalue-Superposition of Convex Models, ASME Design Engineering Technical Conferences, DETC 2012-71316.
65. Lin, P.-T., Zhang J., Jaluria, Y. and Gea, H.C., 2012, Design and Optimization of Multiple Microchannel Heat Transfer Systems Based on Multiple Prioritized Preferences, ASME Design Engineering Technical Conferences, DETC 2012-70869.

66. Lin, P.-T., Gea, H.C. and Xu, L.M., 2011, Reliability-Based Design Optimization of Electrothermal Microactuators using Hybrid Reliability Approach, 2011 IEEE International Conference on Robotics and Biomimetics, Thailand.
67. Liu, X., Lee, H., Gea, H.C. and Du, P.A., 2011, Compliant Mechanism Design using a Strain Based Topology Optimization Method, ASME Design Engineering Technical Conferences, DETC 2011-48525.
68. Zhang, X., Lin, P.-T., Gea, H.C. and Huang, H.Z., 2011, Bounded Target Cascading in Hierarchical Design Optimization, ASME Design Engineering Technical Conferences, DETC 2011-48614.
69. Liu, J.T., Gea, H.C. and Du, P.A., 2011, Robust Design Optimization under Non-probabilistic Uncertainties, ASME Design Engineering Technical Conferences, DETC 2011-48710.
70. Gea, H.C. and McLean, G.A., 2010, Grouped Passenger Behavior during Emergency Evacuation, The Sixth Triennial International Fire & Cabin Safety Research Conference.
71. Gea, H.C. and McLean, G.A., 2010, Aircraft Emergency Evacuation Study with Injured Passengers, The Sixth Triennial International Fire & Cabin Safety Research Conference.
72. Gea, H.C. and McLean, G.A., 2010, Computer Simulations on Interior Access Vehicles for Emergency Evacuation, The Sixth Triennial International Fire & Cabin Safety Research Conference.
73. Lin, Z., Gea, H.C. and Liu, S., 2010, Topology Optimization of Piezoelectric Energy Harvesting Devices Subjected to Stochastic Excitation, ASME Design Engineering Technical Conferences, DETC 2010-28856.
74. Lin, P.-T., Jaluria, Y. and Gea, H.C., 2010, Hybrid Reliability Approach for Reliability-based Design Optimization, ASME Design Engineering Technical Conferences, DETC 2010-28871.
75. Lin, P.-T., Gea, H.C. and Jaluria, Y., 2009, A Modified Reliability Index Approach for Reliability-based Design Optimization, ASME Design Engineering Technical Conferences, DETC 2009-87804.
76. Lin, P.-T., Jaluria, Y. and Gea, H.C., 2008, Parametric Modeling and Optimization of Chemical Vapor Deposition Process, ASME Design Engineering Technical Conferences, DETC 2008-50054.
77. Chen, W.-J., Chang, C.-J. and Gea, H.C., 2008, Topology and Dimensional Synthesis of Linkage Mechanism Based on the Constrained Superposition Method, ASME Design Engineering Technical Conferences, DETC 2008-50093.
78. Zheng, B., and Gea, H.C., 2007, *Design of Energy Harvesting Devices Using Topology Optimization*, *Advancements of Design Optimization of Materials, Structures and Mechanical Systems*, Xian, China, 123-131.

79. Zheng, B., Chang, C.-J. and Gea, H.C., 2007, *Topology Optimization for Piezoelectric Energy Harvesting Devices*, The 7th World Congress on Structural and Multidisciplinary Optimization, WCSMO-A0254.
80. Chang, C.-J., Zhang, B. and Gea, H.C., 2007, *Topology Optimization for Tension/Compression Only Design*, The 7th World Congress on Structural and Multidisciplinary Optimization, WCSMO-A0322.
81. Guo, X., Bai, W., Cheng, G.D. and Gea, H.C., 2007, *Structural Optimization of Truss Structures Under Non-probabilistic Load Uncertainty Using SDP Relaxation*, The 7th World Congress on Structural and Multidisciplinary Optimization, WCSMO-A0479.
82. Zheng, B., Chang, C.-J. and Gea, H.C., 2007, *Design of Piezoelectric Actuator with In-plane Motion Using Topology Optimization*, ASME Design Engineering Technical Conferences, DETC 2007-34976
83. Lu, Y.W., Chang, C.J., Lin, P.T. and Gea, H.C., 2006, *Negative-Poisson's Ratio Microstructural Material by Soft-Joint Mechanism*, 2006 NSTI Nanotechnology Conference, Nanotech 2006
84. Gea, H. C. and Oza, K., 2006, *Prediction of Probabilistic Design Models for Uncertainty Propagation*, The 2006 SAE World Congress, 06M-462
85. Zheng, B. and Gea, H. C., 2006, *Topology Optimization Considering Gravitational and Centrifugal Forces*, ASME Design Engineering Technical Conferences, DETC 2006-99749
86. George, P., Gea, H. C. and Jaluria, Y., 2006, *Optimization of Chemical Vapor Deposition Process*, ASME Design Engineering Technical Conferences, DETC 2006-99748
87. Chang, C.-J. and Gea, H. C., 2006, *An Efficient Method for Detecting Packaging Supporting Space*, ASME Design Engineering Technical Conferences, DETC 2006-99747
88. Chang, C.-J. and Gea, H. C., 2006, *Automated Design of Thin-walled Packaging Structures*, The 7th World Congress on Computational Mechanics
89. Zheng, B. and Gea, H. C., 2006, *Topology Optimization with Design Dependent Body Forces*, The 7th World Congress on Computational Mechanics
90. Gea, H. C. and Kwon, J., 2005, *Topology Synthesis for Linkage Mechanism Design Using the Minimum Potential Energy Principle*, ASME Design Engineering Technical Conferences, DETC 2005-85587
91. Zheng, B. and Gea, H. C., 2005, *Structural Topology Optimization under Design Dependent Loads*, ASME Design Engineering Technical Conferences, DETC 2005-85605
92. Oza, K. and Gea, H. C., 2004, *Two-Level Approximation Method For Reliability Based Design Optimization*, ASME Design Engineering Technical Conference, DETC 2004-57463

93. Oza, K. and Gea, H. C., 2004, *An Efficient Method for Reliability Based Design Optimization*, The 2004 SAE World Congress, Reliability and Robust Design in Automotive Engineering, 2004-01-1125, pp. 227- 234.
94. Jung, D., Gea, H. C. and Yang, R.J., 2004, *Design of Negative Poisson's Ratio Materials Using Topology Optimization*, The 45th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference, AIAA-2004-1969.
95. Chen, W., Liu, H., Gea, H. C., and Oza K., 2004, *Reliability Assessments Using Two-Level Approximation with Higher Order Derivatives*, 2004 NSF Design and Manufacturing Grantees & Research Conference.
96. Jung, D. and Gea, H. C., 2003, *Design of Energy Absorbing Structure Using Topology Optimization with a Multi-Material Model*, ASME Design Engineering Technical Conference, DETC 2003, DAC-48774.
97. Gea, H. C., Abramson, S., Knight, D., Kohn, J. and Zhang, D., 2003, *Design and Modeling of Effective Material Properties of Bimodal Porous Scaffolds*, Society for Biomaterials, 29th Annual Meeting.
98. Liu, H, Chen, W., Sheng, J. and Gea, H. C., 2003, *Application of The Sequential Optimization and Reliability Assessment Method to Structural Design Problems*, ASME Design Engineering Technical Conference, DETC 2003, DAC-48710.
99. Chen, W. and Gea, H. C., 2003, *Exploitation of FEM in Robustness and Reliability Assessments*, 2003 NSF Design and Manufacturing Grantees & Research Conference.
100. Jung, D. and Gea, H. C., 2002, *Compliant Mechanism with Non-linear Materials Using Topology Optimization*, ASME Design Engineering Technical Conference, DETC 2002, DAC-34097.
101. Yim, Soonkyu and Gea, H. C., 2002, *Local Polygon Reduction for Voxel-Based Modeling*, ASME Design Engineering Technical Conference, DETC 2002, CIE-34480.
102. Gea, H. C., 2002, *Application of Regional Strain Energy in Compliant Structure Design*, 2002 NSF Design, Service and Manufacturing Grantees & Research Conference.
103. Luo, J. and Gea, H. C., 2001, *On Stress Based and Strain Based Methods for Prediction of Optimal Orientation of Orthotropic Materials*, The Sixth U.S. National Congress on Computational Mechanics.
104. Yim, Soonkyu and Gea, H. C., 2001, *Shape Representation Using Voxel-based Modeling with Wavelet Transform*, World Multiconference on Systemics, Cybernetics and Informatics, Vol. VII, Computer Science and Engineering: Part I, pp. 275-279.
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