NARAYANAN MENON KOMERATH

Email: komerath2020@gmail.com

PUBLICATIONS ON SPACE AND SUSTAINABLE DEVELOPMENT

BOOKS AND BOOK CHAPTERS

- 1. Komerath, N. (Editor). *Smart Village Roadmap 2017: Roadmap for Rural Energy Independence*. Global Indian Business Council. ISBN-13: 978-1974312818. August 2017
- 2. Komerath, N. and Komerath, P. *Micro Renewable Energy Systems*. SCV Inc. Johns Creek, GA. IASIN: Bo1M14JVQY. ISBN 978-0-9962283-2-9, Sep. 2016.
- 3. Komerath, N.M., Rangedera, T., A Solar-Powered Near Earth Object Resource Extractor. Ch. 13 in Bodescu, V. (Ed), *Asteroids. Prospective Energy and Material Resources*. Springer-Verlag, 2013.
- 4. Komerath, N.M., Wireless Beamed Power. Part IV, Emerging Technologies and Applications (Disruptive Technologies. Ch. 13, In Goel, S., Bush, S.F., Bakken, D., (Ed), *IEEE Vision for Smart Grid Communications:*2030 and Beyond. IEEE Smart Grid Research, IEEE Communications Society, New York, June 2013. ISBN 978-0-7381-8461-6 STDPDV98261, p. 327-339.
- 5. Komerath, N.M., Smith, M.J., EXTROVERT: Improving Comprehension to Innovate Across Disciplines. *AICERA* 2012, Kottayam, India, July 2012. IEEE Print ISBN: 978-1-4673-2267-6. Digital Object Identifier: 10.1109/AICERA.2012.6306693.
- 6. Wanis, S.S., Rangedera, T., Justin, C., Komerath, N.M., Particle-Particle Interaction in Electromagnetic Fields for Force-Field Tailoring. *Space Technology And Applications International Forum -STAIF* 2007: AIP Conference Proceedings, Volume 880, 2007, p.177-184.
- 7. Boechler, N., Hameer, S., Wanis, S., Komerath, N.M., An Evolutionary Model for Space Solar Power. In El Genk, Editor, STAIF o6-o82, *Proceedings of the Space Technology and Applications International Forum*, American Institute of Physics Conference Proceedings Volume 813, Albuquerque, NM, Feb. 2006, ISBN: 0-7354-0305-8
- 8. Komerath, N.M., Smith, M.J., The Aerospace Digital Library Resources for Cross-Disciplinary Learning. In *Advanced Learning Technologies and Learning Networks and Their Impact on Future Aerospace Workforce*. Compiled by Ahmed K. Noor. NASA CP2003-212437, September 2003, p. 101 -132.
- 9. Wanis, S.S., Komerath, N.M., Use of Radiation Pressure for Space-Based Construction. *Proceedings of the ASCE Earth and Space 2004 Conference*, Albuquerque, NM, March 2004. ASCE American Society of Civil Engineers, Virginia, 2004.
- 10. Komerath, N.M., Smith, M.J., Lessons from a Resource for Learning Across Disciplines. Chap. 13. In Aung, W., Hoffman, M., King, R., Ng, W.J., Sanchez Ruiz, L.M., Editors, *INNOVATIONS 2003: World Innovations in Engineering Education and Research*. INEER, Arlington, VA. Library of Congress T65.3.I55 2003.

- 11. Ganesh, A.B., Komerath, N.M., Large Scale Construction for a Space-Based Economy. In Laubscher, B,E., Johnson, S.W., Moskowitz, S.E., Richter, P., Klinger, D., Editors, *Space 2002 and Robotics 2002* ASCE American Society of Civil Engineers, Virginia, 2002. ISBN 0-7844-0625-1, p. 531-537.
- 12. Komerath, N.M., Ganesh, A.B., Electromagnetic Construction of a 1km-Radius Radiation Shield in Orbit.High Frontier. Meeting of The Space Society, Inc., Princeton, NJ, May 2001. In Valentine, L.S., Greber, B., Editors, *Space Manufacturing 13: Settling Circumsolar Space*. Proceedings of the Fifteenth SSI/Princeton Conference on Space Manufacturing. Space Studies Institute, ISBN 0-9622379-3-0, July 2001.

REFEREED PUBLICATIONS

- 1. Komerath, N.M. *Revisiting InCA and The Space Power Grid*. IEEE International Conference on Wireless for Space and Extreme Environments (WiSEE). IEEE, 2020.
- 2. Komerath, N., Shukla, D., Hariharan, S., Patel, S., The Flying Carpet: Aerodynamic High-Altitude Solar Reflector Design Study. *SAE AeroTech Conference*, September 2017.
- 3. Komerath, N., Shukla, D., Tradeoff Study of High Altitude Solar Reflector Concepts. *SAE AeroTech Conference*, September 2017.
- 4. Komerath, N., Rocket-Augmented Two Stage Runway-Based Space Access Architecture. IMECE2017-70253. *ASME Annual Conference*, Tampa, FL, November 2017.
- 5. Forbes, A., Patel, A., Komerath, N., Drag Prediction for Supersonic Hydrogen-Fueled Airliners. Gurukulam International Journal of Innovations in Science and Engineering, 13-02-2016-703, Vol. 1, No. 1, 2016, p. 8-21. ISSN2454-6631.
- 6. Toki, T., Hiremath, N., Komerath, N., Aerothermodynamic Optimization Of A TSTO Concept With A Liquid Air Cycle. IMECE2016-65846. *ASME International Mechanical Engineering Conference and Exposition*, Phoenix, AZ, Nov. 2016.
- 7. Barbely, N., Pirau, S., Komerath, N.M., Measurements Of Wall Formation Forces In An Acoustic Resonator. *IMECE2013-63307, Proceedings of the ASME 2013 International Mechanical Engineering Congress & Exposition, San Diego, USA, November 15-21, 2013.*
- 8. Komerath, N.M., Dessanti, B., Shah, S., Millimeter Wave Space Power Grid Architecture Development 2012. *Proceedings of the IEEE Aerospace Conference*, Big Sky, MT, March 2013.
- 9. Barbely, N., Pirau, S., Komerath, N.M., Measurements Of Wall Formation Forces In An Acoustic Resonator. *IMECE2013-63307, Proceedings of the ASME 2013 International Mechanical Engineering Congress & Exposition*, San Diego, USA, November 15-21, 2013.
- 10. Dessanti, B., Komerath, N.M., Shah, S. Design of a Gigawatt Space Solar Power Satellite Using Optical Concentrator System. Proceedings of the IEEE Aerospace Conference, Big Sky, MT, March 2013.
- 11. Komerath, N.M., Ganesh, B.A., Towards Indian Leadership in Advanced Concept Development. *Proceedings of the IIMK-University of Sydney Conference on Global Strategies for an Emergent India*. IIM Kozhikode, Kerala, India. December 27-28, 2012.

- 12. Raghav, V.S., Komerath, N.M. Cruise Lane Highway Charging of Electric Vehicles. IMECE2012-85693. *Proceedings of the ASME 2012 International Mechanical Engineering Congress & Exposition*, Houston, TX, November 2012.
- 13. Dessanti, B., Komerath, N., Visualizing Wireless Transfer of Power: Proposal for a 5-Nation Demonstration by 2020. *Online Journal of Space Communication*. Issue 17. Fall 2012. ISSN:1542-0639A
- 14. Dessanti, B., Picon, N., Shah, S., Millimeter Wave Space Power Grid. *Online Journal of Space Communication*, Issue 17, Fall 2012.
- 15. Komerath, N.M., Kar, A., Millimeter Wave Retail Beamed Power for a Micro Renewable Energy Architecture: Survey. Invited paper, *IEEE ACM Journal on Emerging Technologies in Computing Systems*, Vol. 8, No. 3, p. 18-1, 18-25, July 2012.
- 16. Komerath, N.M., Srivastava, A., Pinder, M., Shah, S., Raghav, V., Thermoelectric and Thermophoto-voltaic Micro Renewable Power Systems for Home Use. *Proceedings of the 10th Annual International Energy Conversion Engineering Conference*, Atlanta, GA July 2012.
- 17. McGowan, R., Pendharkar, A., Morillas, K., Pinder, M, Komerath, N.M., Optimization of a Vertical Axis Micro Wind Turbine for Low Tip Speed Ratio Operation. *Proceedings of the 10th Annual International Energy Conversion Engineering Conference*, Atlanta, GA July 2012.
- 18. Komerath, N., Pant, R.K., Kar, A., An Architecture Using Lighter-Than-Air Platforms for Retail Power Beaming and Communications. Invited Paper, *Journal of Low Power Electronics*, Vol. 8, No. 3, American Scientific Publishers, Valencia, CA, June 2012.
- 19. Dessanti, B., Zappulla, R., Picon. N., Komerath, N., Design of a MillimeterWaveguide Satellite for Space Power Grid. *Proceedings of the IEEE Aerospace Conference*, Big Sky, MT March 2012.
- 20. Komerath, N.M., Dessanti, B., Shah, S., Millimeter Wave Space Power Grid Architecture 2011 . *Proceedings of the IEEE Aerospace Conference*, Big Sky, MT March 2012.
- 21. Komerath, N.M., Dessanti, B., Shah, S., A Gigawatt-level Solar Power Satellite Using Intensified Efficient Conversion Architecture. *Proceedings of the IEEE Aerospace Conference*, Big Sky, MT March 2012.
- 22. Srivastava, A., Pinder, M., Duran, D., Raghav, V., Komerath, N., Conceptual Design of a Thermoelectric Edu-Kitchen System. *Proceedings of IEEE EPSICON*, Trissur, India January 2012.
- 23. McGowan, R., Komerath, N.M., Raghav, V., Vertical Axis Micro Wind Turbine Simulation and Control. *Proceedings of IEEE EPSICON*, Trissur, India January 2012.
- 24. Komerath, N.M., Pant, R.K., Kar, A., An Imaging, Communications and Beamed Power Architecture for First Responders. *Proceedings of ACWR2011 International Conference on Wireless Technologies for Humanitarian Relief*, Amritapuri, India, December 2011.
- 25. Pant, R.K., Komerath, N.M., Application of Lighter-Than-Air Platforms for Power Beaming, Generation and Communications . *Proceedings of IEEE/ACM ISED 2011*, Kochi, India December 2011.
- 26. Komerath, N.M., Pant, R.K., Kar, A., Antenna Considerations for Retail Beamed Power Delivery in India. *Proceedings of IEEE/ACM ISED 2011*, Kochi, India December 2011.

- 27. Komerath, N.M., Prediction and Validation of a Micro Wind Turbine for Family Use. *Proceedings of the IMETI Conference*, July 2011.
- 28. Komerath, N.M., Modeling The Evolution of a Space Economy. *Proceedings of the International Symposium on Models and Modeling Methodologies in Science and Engineering: MMMse* 2011.
- 29. Komerath, N.M., Komerath, P.P., Implications of Inter-Satellite Power Beaming Using a Space Power Grid. Paper 1696, *Proceedings of the IEEE/AIAA Aerospace Conference*, Big Sky, MT, March 2011.
- 30. Komerath, N.M., Terrestrial Micro Renewable Energy Applications of Space Technology. Paper 2011-024, *Proceedings of the Space Propulsion and Energy Science International Forum*, College Park, MD, February 2011.
- 31. Komerath, N.M., Smith, M.J., Krausche, D.S., EXTROVERT: Helping AEs Develop Advanced Concepts. *Proceedings of the ASEE Annual Conference*, Vancouver, BC, June 2011.
- 32. Komerath, N.M., Komerath, P.P., The Case for Millimeter Wave Power Beaming. *Proceedings of the IMETI Conference*, July 2011.
- 33. Komerath, N.M., Modeling The Evolution of a Space Economy. *Proceedings of the International Symposium on Models and Modeling Methodologies in Science and Engineering: MMMse* 2011.
- 34. Pant, R.K., Komerath, N.M., Application of Lighter-Than-Air Platforms for Power Beaming, Generation and Communications . *Proceedings of IEEE/ACM ISED 2011*, Kochi, India December 2011.
- 35. Komerath, N.M., Pant, R.K., Kar, A., Antenna Considerations for Retail Beamed Power Delivery in India. *Proceedings of IEEE/ACM ISED 2011*, Kochi, India December 2011.
- 36. Komerath, N.M., Pant, R.K., Kar, A., An Imaging, Communications and Beamed Power Architecture for First Responders. *Proceedings of ACWR2011 International Conference on Wireless Technologies for Humanitarian Relief*, Amritapuri, India, December 2011.
- 37. Komerath, N.M., Advanced Concept Development Of A Hydrogen Supersonic Airliner: Second Iteration. *Proceedings of the ASEE Annual Conference*, Vancouver, BC, June 2011.
- 38. Komerath, N.M., Micro Renewable Energy Systems International Education Aspects. *Proceedings of the ASEE Annual Conference*, Louisville, KY, June 2010.
- 39. Komerath, N.M., Chowdhary, G., Retail Beamed Power for a Micro Renewable Energy Architecture: Survey. *Proceedings of the IEEE ISED Conference*, Bhubhaneshwar, India, Dec. 2010.
- 40. Komerath, N.M., and Smith, M.J., EXTROVERT: System For Learning Across Disciplines. *Proceedings of the ASEE Annual Conference*, Louisville, KY, June 2010.
- 41. Chowdhury, G., Komerath, N.M., Innovations Required for Retail Beamed Power Transmission Over Short Range. *Proceedings of the IMETI Conference*, Orlando, FL June 2010.
- 42. Forbes, A., Patel, A., Cone, C., Valdez, P., Komerath, N., A New Look at Supersonic Airliners. *Proceedings of the IMETI Conference*, Orlando, FL June 2010.

- 43. Komerath, N.M., Undergraduate Studies Of Supersonic Transport Development. *Proceedings of the ASEE Annual Conference*, Louisville, KY, June 2010.
- 44. Komerath, N., Venkat, V., Fernandez, J., Near-Millimeter Wave Issues for a Space Power Grid . Paper 2009-081, *Proceedings of the Space Power and Energy Sciences International Forum*, American Institute of Physics, Huntsville, AL, February 2009.
- 45. Komerath, N., A Campus-Wide Course on Micro Renewable Energy Systems. *Proceedings of the ASEE Annual Conference*, College Park, TX June 2009.
- 46. Komerath, N.M., Dreams to Reality: Bringing Far out Back Home to Aerospace Education Through Concept Development. *Proceedings of the ASEE Annual Conference*, Pittsburgh, PA, June 2008.
- 47. Komerath, N.M., Nally, J., Tang, E.Z., Policy Model for Space Economy Infrastructure. *Acta Astronautica*, Vol. 61, p. 1066-1075, November-December 2007.
- 48. Satyshur, P., Wanis, S., Komerath, N.M., System Design of Large Space Structures Using Tailored Force Fields. Paper AIAA06-7323, *Proceedings of the AIAA Space 2006, Space Colonization Symposium* (peer reviewed), September 2006.
- 49. Vanmali, R., Tomlinson, B., Li, B., Wanis, S., Komerath, N., Engineering a Space Based Construction Robot . Paper o5WAC-44, *Proceedings of the SAE World Aerospace Congress*, October 2005.
- 50. Komerath, N.M., Wanis, S.S., Czechowski, J., Tailored Force Fields for Space-Based Construction . *Proceedings of the STAIF Conference*, American Institute of Physics, Albuquerque, NM, February 2003.
- 51. Vanmali, R., Tomlinson, B., Li, B., Wanis, S., Komerath, N., Engineering a Space Based Construction Robot . Paper o5WAC-44, *Proceedings of the SAE World Aerospace Congress*, October 2005.
- 52. Vanmali, R., Tomlinson, B., Li, B., Wanis, S., Komerath, N., Engineering a Space Based Construction Robot. SAE transactions 114.1 (2005): 1375-1382.
- 53. Komerath, N.M., Wanis, S.S., Radio Waves for Space-based Construction . *Proceedings of the STAIF* 2004 Conference, American Institute of Physics, Albuquerque, NM, February 2004. item Komerath, N.M., Wanis, S.S., Czechowski, J., Tailored Force Fields for Space-Based Construction . *Proceedings of the STAIF Conference*, American Institute of Physics, Albuquerque, NM, February 2003.
- 54. Komerath, N.M., Involving Students in Engineering the Infrastructure of a Space-Based Economy. *Proceedings of the ASEE Annual Conference*, June 2002.
- 55. Komerath, N.M., Acoustic Shaping, Inc.: Business Plan for Space-Based Manufacturing. *Proceedings of the ASEE Annual Conference*, St. Louis, MO, June 2000.
- 56. Wanis, S., Komerath, N.M., Armanios, E., Acoustic Shaping in Microgravity, 3 Years of Flight Tests. *Proceedings of the ASEE Annual Conference*, St. Louis, MO, June 2000.
- 57. Komerath, N.M., Smith, M.J., Bodo, B., Learning Across Disciplines: Aerospace Digital Library. *Proceedings of the ASEE Annual Conference*, St. Louis, MO, June 2000.

58. Komerath, N.M., Design Centered Introduction: 3-Year Experience With the Gateway to the Aerospace Digital Library. *Proceedings of the ASEE Annual Conference*, St. Louis, MO, June 2000.

NON-REFEREED CONFERENCE PAPERS

- 1. Smith-Pierce, M. C., Charoenboonvivat, Y. C., Shukla, D., Komerath, N. M. (2018). High Altitude Aerodynamic Reflectors To Counter Climate Change. In 2018 Applied Aerodynamics Conference (p. 3963).
- 2. Leon, B., Komerath, N., Beam Shaping for an ISS-Based Long-Duration PV Power Transfer Experiment. *The 23rd Space Photovoltaic Research and Technology Conference*, Cleveland, OH, October 2014.
- 3. Komerath, N.M., Hiremath, N., Jagtap, S., Aerothermoelastic Tailoring for Waveriders. *Mathematical Modeling Workshop*, Air Force Research Laboratory, UF Research and Engineering Education Facility, Eglin Air Force Base, Ft. Walton Beach, FL July 30, 2014.
- 4. Komerath, N. Flournoy, D., A Five-Nation ISS-Based Millimeter Wave Power Beaming Experiment. *International Space Development Conference*, National Space Society, San Diego, CA May 2013.
- 5. Dessanti, B., Komerath, N.M. Brayton Cycle Conversion for Space Solar Power. *AIAA Joint Propulsion Conference*, Atlanta, GA July 2012.
- 6. Komerath, N., Flournoy, D., Dessanti, B., Visualizing Wireless Transfer of Power: Proposal for A Five-Nation Demonstration by 2020. Paper at the *International Space Development Conference*, 2012, Washington DC, June 2012.
- 7. Goal, K., Raghav, V., Komerath, N.M., Quantitative Measurements on Wall Formation by Particles in an Acoustic Resonator. *AIAA Aerospace Sciences Meeting*, Nashville, TN, January 2012.
- 8. Forbes, A., Patel, A., Komerath, N., Drag Prediction for Supersonic Hydrogen-Fueled Airliners. *AIAA Applied Aerodynamics Conference*, June 2011.
- 9. Dessanti, B., Picon, N., Rios, C., Shah, S., Komerath, N., A US-India Power Exchange Towards a Space Power Grid. *Proceedings of the International Space Development Conference*, National Space Society, Huntsville, AL, May 2011.
- 10. Komerath, N.M., Venkat, V., Halka, M., Micro Renewable Energy Systems: Synergizing Technology, Economics and Policy, *Proceedings of the Atlanta Conference on Science and Innovation Policy*, Atlanta, GA, October 2009.
- 11. Komerath, N.M., The Space Power Grid: Synergy Between Space, Energy and Security Policies *Proceedings of the Atlanta Conference on Science and Innovation Policy*, Atlanta, GA, October 2009.
- 12. Chowdhury, G., Komerath, N., Policy Issues for Retail Beamed Power Transmission, *Proceedings of the Atlanta Conference on Science and Technology Policy*, Atlanta, GA, Sep. 2009.
- 13. Komerath, N.N., Reichert, U.N., Economic Interaction Modeling for a Space Economy. AIAA Paper 2008-7791, AIAA Space 2008, San Diego, CA September 2008.

- 14. Wanis, S.S., Komerath, N.M., Force-Field Tailoring: First-Principles Derivation of Wall Formation Physics. IACD3.2.05, *57th International Astronautical Congress*, Valencia, Spain, October 2006.
- 15. Komerath, N.M., Boechler, N., The Space Power Grid. IAC-C3.4.06, 57th International Astronautical Federation Congress, Valencia, Spain, October 2006.
- 16. Komerath, N.M., Rangedera, T., Nally, J., Space-Based Economy Valuation, Analysis, and Refinement, AIAA Paper 2006-7204, AIAA Space 2006 Conference, San Jose, CA, Sep. 2006.
- 17. Komerath, N.M., and Komerath, P.P. Are Distributed Energy Systems Optimal In India? *Proceedings of the WAVES Conference*, Houston, TX, July 2006.
- 18. Sylvan, R., Komerath, N., Wollert, K., Tang, E.Z., Homnick, M., Palaia, J., The Emerging Inner Solar System Economy. *Proceedings of the ASCE Space and Earth 2006 Conference*, League City, TX, March 2006.
- 19. Wanis, S., Komerath, N., Designs for Space-Based Construction Using Force Fields. *Proceedings of the ASCE Space and Earth 2006 Conference*, League City, TX, March 2006.
- 20. Komerath, N., Boechler, N., Wanis, S., Space Power Grid- Evolutionary Approach To Space Solar Power. *Proceedings of the ASCE Space and Earth 2006 Conference*, League City, TX, March 2006.
- 21. Vanmali, R., Shah, N., Komerath, N., Satyshur, P., A Robotic Constructor-Excavator for NEO quarrying . Proceedings of the ASCE Space and Earth 2006 Conference, League City, TX, March 2006.
- 22. Rangedera, T., Vanmali, R., Shah, N., Zaidi, W., Komerath, N., A Solar-Powered Near Earth Object Resource Extractor. *Proceedings of the Space Systems Design Conference*, Georgia Institute of Technology, Atlanta, November 2005.
- 23. Nally J.A., Komerath, N.M., Modeling and Analysis of the Interactions in a Space-Based Economy. *Proceedings of the Space Resources Utilization Roundtable*, League City, TX, October 2005.
- 24. Wanis, S., Komerath, N.M., Tailored Force Fields for Flexible Space-Based Manufacturing . *Proceedings of the Space Resources Utilization Roundtable*, League City, TX, October 2005.
- 25. Komerath, N.M., Nally, J., Tang, E. Z. Policy Model for Space Economy Infrastructure IAC2005-D3.1.1.08, *International Astronautical Congress*, Fukuoka, Japan October 2005.
- 26. Wanis, S.S., Komerath, N.M., Flexible Space Construction using Tailored Force Fields, IAC2005-D1.1.02, *International Astronautical Congress*, Fukuoka, Japan October 2005.
- 27. Komerath, N.M., Global Cooperation in an Age of Security Concerns. AIAA 2005-6638, AIAA Space 2005, August-September 2005.
- 28. B. Tomlinson, B. Li, R. Vanmali, S.Wanis, N. Komerath, Conceptual design of a Multipurpose Robotic Craft for Space Based Construction . AIAA Paper, AIAA Space 2005, August-September 2005.
- 29. Komerath, N.M., Towards a Space-Based Economy. *Invited Testimony Before the Presidential Commission on the United States Space Program*. Atlanta, GA, March 24, 2004.

- 30. Komerath, N.M., Gopalakrishnan, P., Ganesh, B.A., Architecture for a Radiation Shielded Orbiting Habitat in the Earth-Moon System. AIAA 2003-6330, *Space Technology Conference*, Long Beach, California 23-25 September 2003
- 31. Komerath, N.M., Wanis, S., Ganesh, B.A., Czechowski, J., Zaidi, W., Tailored Force Fields for Space-Based Construction: Key To a Space-Based Economy. Phase 1 project report, *Proceedings of the NIAC Fellows Conference, NASA Institute of Advanced Concepts*, Universities Space Research Association, Atlanta, GA, October 2002.
- 32. Komerath, N.M., ISS to Island-1: Synergistic Architecture for a Space-Based Economy. *Proceedings of the Space Resource Utilization Roundtable*, August 2002.
- 33. Komerath, N.M., ISS to Island-1: Synergistic Architecture for a Space-Based Economy. *Proceedings of the Space Resource Utilization Roundtable*, August 2002.
- 34. Ganesh, A.B., Wanis, S.S., Komerath, N.M., Considerations for Large-Scale Construction in Orbit. *Proceedings of the 38th Space Congress*, Kennedy Space Center, Florida, May 2001.
- 35. Matos, C.A., Komerath, N.M., Download Modification using Surface Blowing. *Proceedings of the American Helicopter Society Aeromechanics Specialists Meeting*, Atlanta, GA, November 2000.
- 36. Ganesh, B., Matos, C.A., Coker, A., Hausaman, J., Komerath, N.M., A Costing Strategy For Manufacturing In Orbit Using Extraterrestrial Resources. *Proceedings of the Second Space Resource Utilization Roundtable*, Golden, CO, November 2000.
- 37. Wanis, S.. Matos, C.A., Komerath, N.M. Acoustic Shaping: Applications to Space-Based Construction, AIAA Paper 00-1020, *38th Aerospace Science Meeting*, Reno, Nevada, January 2000.
- 38. Komerath, N.M., et al, Acoustic Shaping: Enabling Technology for a Space-Based Economy . *Proceedings of the First Space Resource Utilization Roundtable*, Golden, CO, October 1999.
- 39. Wanis, S., Komerath, N.M., Acoustic Shaping: Technology Issues. *Proceedings of the First Space Resource Utilization Roundtable*, Golden, CO, October 1999.
- 40. Wanis, S., Coker, A., Tan, X-Y., Matos, C.A., Komerath, N.M., Acoustic Shaping: Flexible Manufacturing In Space. *Proceedings Of The American Astronautical Society Congress*, Pasadena, Ca, October 1999.
- 41. Komerath, N.M., et al, Acoustic Shaping: Enabling Technology for a Space-Based Economy . *Proceedings of the First Space Resource Utilization Roundtable*, Golden, CO, October 1999.
- 42. Wanis, S., Komerath, N.M., Acoustic Shaping: Technology Issues. *Proceedings of the First Space Resource Utilization Roundtable*, Golden, CO, October 1999.
- 43. Wanis, S., Coker, A., Tan, X-Y., Matos, C.A., Komerath, N.M., Acoustic Shaping: Flexible Manufacturing In Space. *Proceedings Of The American Astronautical Society Congress*, Pasadena, Ca, October 1999.
- 44. Wanis, S., Komerath, N.M., Sercovich, A., Acoustic Shaping in Microgravity: Higher Order Surface Shapes. AIAA Paper 99-0954, 37th Aerospace Sciences Meeting, Reno, NV, January 1999.

45. Wanis, S., Akovenko, J., Cofer, T., Ames, R.G., Komerath, N.M., Acoustic Shaping in Microgravity. AIAA Paper 98-1065, 36th Aerospace Sciences Meeting, Reno, NV, January 1998.

ESSAYS

- 1. Komerath, N., Space Technology. In *Careers*. Salem Press, 2011.
- 2. Komerath, N., Hypersonics. In Marchman, J.F., (Ed.), *Encyclopedia of Flight*, Salem Press, February 2002, 1006p. ISBN: 1-58765-046-0
- 3. Komerath, N., Contrails. In Moose, C., (Ed), Encyclopedia of Global Warming. Salem Press, 2009.
- 4. Komerath, N., Neptune Atmosphere. In Encyclopedia of the Solar System. Salem Press. 2009
- 5. Komerath, N., Neptune Great Dark Spot of Neptune. In *Encyclopedia of the Solar System*. Salem Press. 2009
- 6. Komerath, N., Enceladus. In Encyclopedia of the Solar System. Salem Press. 2009

SEMINARS

- 1. Komerath, N.M., "Glitter Belt: Controlled Solution To Reverse Climate Change". Invited Seminar, Amrita Engineering College, Kollam, India, Dec. 14, 2018.
- 2. Komerath, N.M., "Runway-Based Space Access: enabler for Space Solar Power". Invited Seminar, Amrita Viswa VidyaPeetham University, Coimbatore, India, Dec. 10, 2018.
- 3. Komerath, N.M., Rocket-Augmented Two-Stage Runway Based Space Access Architecture. Presentation at Indian Institute of Space Technology, TiruAnanthapuram, July 3, 2018.
- 4. Komerath, N., Smart Village Roadmap 2017. U. Houston/Indian-American Community Conference, Houston, TX, Sep. 29, 2017.
- 5. Komerath, N.M., Hiremath, N., Jagtap, S., Aerothermoelastic Tailoring for Waveriders. Mathematical Modeling Workshop, Air Force Research Laboratory, UF Research and Engineering Education Facility, Eglin Air Force Base, Ft. Walton Beach, FL July 30, 2014.
- 6. Komerath, N., Power from the Sky: A Comprehensive Architecture for Power Beaming. Plenary Address, EPSCICON12 IEEE Conference, Trissur, Kerala, India, January 2012.
- 7. Komerath, N., Tailored Force Fields for Space-Based Construction . Phase 2 Progress, NIAC Fellows Meeting, Boulder, CO, October 2005.
- 8. Komerath, N., Tailored Force Fields for Space-Based Construction. Phase 2 Initiation Presentation, NIAC Fellows Meeting, Seattle, WA Oct. 2004
- 9. Komerath, N.M., Gopalakrishnan, P., Wanis, S.S., Cities in Space: Articulating the Space Based Economy. Presentation to the Boeing NASA Aerospace Technology Working Group, Boeing Auditorium, Huntsville, AL March 2004.

- 10. Komerath, N.M., Styrofoam to Space Cities: A Synopsis of the Tailored Force Fields Team project . Invited presentation, Southeastern NASA Space Grant Consortium Meeting, Atlanta, GA, February 2004.
- 11. Komerath, N.M., Tailored Force Fields For Space-Based Construction: Key To A Space-Based Economy Invited presentation, Government Engineering College, University of Calicut, Trissur, India, December 2003.
- 12. Komerath, N.M., Building Cities in Space. Invited presentation, TKM Engineering College, University of Kerala, Kollam, India, December 2003.
- 13. Komerath, N.M., Building Cities in Space . Invited presentation, , Amrita Engineering College, University of Kerala, Amritapuri, India, December 2003.
- 14. Komerath, N.M., Building Cities in the Sky: Problem-Solving Across Disciplines . Invited presentation, Amrita Institute of Technology, Coimbatore, India, December 2003.
- 15. Komerath, N.M., Tailored Force Fields for space-based construction . Invited Lecture, Inventors of Georgia Business Meeting, May 2003.
- 16. Komerath, N.M., Matos, C.A., Strategic Plan for a Space-Based Economy . Invited Lecture, Georgia State University, Robinson School of Business, Atlanta, GA, February 2001.
- 17. Komerath, N.M., Matos, C.A., Space-Based Construction Industry. Invited Lecture, Georgia State University, Robinson School of Business, North Metro Campus, Alpharetta, GA, November 2000.
- 18. Komerath, N.M., Matos, C.A., Acoustic Shaping Inc.: Strategic Plan for a Space-Based Construction Industry. Invited Lecture, Georgia State University, Robinson School of Business, Atlanta, GA, March 2000.
- 19. Komerath, N.M., "Glitter Belt: Controlled Solution To Reverse Climate Change". Invited Seminar, Amrita Engineering College, Kollam, India, Dec. 14, 2018.
- 20. Komerath, N.M., "UAV-bsaed retail delivery for rural enterprise development". Invited Seminar, Amrita University, Kochi, India, Dec. 12, 2018.
- 21. Komerath, N.M., "Runway-Based Space Access: enabler for Space Solar Power". Invited Seminar, Amrita Viswa VidyaPeetham University, Coimbatore, India, Dec. 10, 2018.
- 22. Komerath, N.M., Rural Energy Self-Reliance. Presentation at Vidya Academy of Science and Technology, July 18, 2018.
- 23. Komerath, N.M., Rocket-Augmented Two-Stage Runway Based Space Access Architecture. Presentation at Indian Institute of Space Technology, TiruAnanthapuram, July 3, 2018
- 24. Komerath, N.M., RURAL ENERGY SELF-RELIANCE. Presentation at College of Engineering. Tiru-Ananthapuram, July 2, 2018.
- 25. Komerath, N., Roadmap to Rural Energy Independence. Presentation at Indian Institute of Technology, Civil and Environmental Engineering, Chennai, Dec. 12, 2017.

- 26. Komerath, N., "Roadmap for Rural Energy Independence". Plenary address, GSU/GIBC Smart Village Roadmap 2017 Conference on rural energy independence, Georgia State University, Atlanta, March 2017.
- 27. Komerath, N., "Towards Energy Independence". Keynote Address, International Conference on Emerging Trends in Engineering, Science and Technology. ICETEST-2015, Govt. Engg. College, Trissur, Kerala, India, December 2015.
- 28. Komerath, N., Micro Renewable Energy Systems. Maharishi School of Management, Iowa, August 2015.
- 29. Komerath, N.M., Hiremath, N., Jagtap, S., Aerothermoelastic Tailoring for Waveriders. Mathematical Modeling Workshop, Air Force Research Laboratory, UF Research and Engineering Education Facility, Eglin Air Force Base, Ft. Walton Beach, FL July 30, 2014.
- 30. Komerath, N., Experimental Aerodynamics. Embry-Riddle University, November 2013.
- 31. Komerath, N.M., Hypersonic Issues For Runway-Based Space Access. Eglin Air Force Base, FL, October 2013.
- 32. Komerath, N., "A Citizen's Approach to Energy Independence: Micro Renewable Energy Systems". Presentation at Thapar University, Patiala, India, August 2012.
- 33. Komerath, N., "COK = Supersonic Junction: A New Look at Hydrogen Fuelled Supersonic Airliners". Presentation to the Shri Narayana Guru Engineering College, Kochi, Kerala, July 2012.
- 34. Komerath, N., Power from the Sky: A Comprehensive Architecture for Power Beaming. Plenary Address, EPSCICON12 IEEE Conference, Trissur, Kerala, India, January 2012.
- 35. Komerath, N., Micro-Renewable Energy Systems. Keynote Address, Electrical Power, Systems and Controls Conference, IEEE India, Trissur, Kerala, January 2010.
- 36. Komerath, N. Opportunities in Micro Renewable Energy Systems . Presentation at the EES Engineering College, Trissur Kerala, India, Dec. 2009.
- 37. Komerath, N. Opportunities in Micro Renewable Energy Systems . Presentation at the Divya Engineering College, Trissur Kerala, India, Dec. 2009.
- 38. Komerath, N. Micro Renewable Energy Systems . Presentation at Amrita Engineering College, Amritapuri, Kerala, India, Dec. 2007.
- 39. Komerath, N., Tailored Force Fields for Space-Based Construction . Phase 2 Progress, NIAC Fellows Meeting, Boulder, CO, October 2005.
- 40. Komerath, N., Tailored Force Fields for Space-Based Construction. Phase 2 Initiation Presentation, NIAC Fellows Meeting, Seattle, WA Oct. 2004
- 41. Komerath, N.M., Gopalakrishnan, P., Wanis, S.S., Cities in Space: Articulating the Space Based Economy. Presentation to the Boeing NASA Aerospace Technology Working Group, Boeing Auditorium, Huntsville, AL March 2004.

- 42. Komerath, N.M., Styrofoam to Space Cities: A Synopsis of the Tailored Force Fields Team project . Invited presentation, Southeastern NASA Space Grant Consortium Meeting, Atlanta, GA, February 2004.
- 43. Komerath, N.M., Tailored Force Fields For Space-Based Construction: Key To A Space-Based Economy Invited presentation, Government Engineering College, University of Calicut, Trissur, India, December 2003.
- 44. Komerath, N.M., Building Cities in Space. Invited presentation, TKM Engineering College, University of Kerala, Kollam, India, December 2003.
- 45. Komerath, N.M., Building Cities in Space . Invited presentation, , Amrita Engineering College, University of Kerala, Amritapuri, India, December 2003.
- 46. Komerath, N.M., Building Cities in the Sky: Problem-Solving Across Disciplines . Invited presentation, Amrita Institute of Technology, Coimbatore, India, December 2003.
- 47. Komerath, N.M., Tailored Force Fields for space-based construction . Invited Lecture, Inventors of Georgia Business Meeting, May 2003.
- 48. Komerath, N.M., Matos, C.A., Strategic Plan for a Space-Based Economy . Invited Lecture, Georgia State University, Robinson School of Business, Atlanta, GA, February 2001.
- 49. Komerath, N.M., Matos, C.A., Space-Based Construction Industry. Invited Lecture, Georgia State University, Robinson School of Business, North Metro Campus, Alpharetta, GA, November 2000.
- 50. Komerath, N.M., Matos, C.A., Acoustic Shaping Inc.: Strategic Plan for a Space-Based Construction Industry. Invited Lecture, Georgia State University, Robinson School of Business, Atlanta, GA, March 2000.
- 51. Komerath, N.M., Funk, R.B., Low Speed Aerodynamics of the X-38. Presentation to the Engineering Staff of the X-38 Project Team, NASA Johnson Space Center, Fall 1996.