

# PUBLICATIONS

## Journal Publications

1. **Ossama Abdelkhalik**, and Shangyan Zou. *Control of Wave Energy Converters Using a Simple Dynamic Model*, IEEE Transactions on Sustainable Energy, accepted in May 2018.
2. **Ossama Abdelkhalik**, and Shadi Darani, *Evolving Hidden Genes in Genetic Algorithms for Systems Architecture Optimization*, ASME Journal of Dynamic Systems, Measurement and Control, Accepted April 2018.
3. Shadi Darani and **Ossama Abdelkhalik**, *Space Trajectory Optimization Using Hidden-Genes Genetic Algorithms*, AIAA Journal of Spacecraft and Rockets, accepted November 2017, <https://doi.org/10.2514/1.A33994>.
4. **Ossama Abdelkhalik**, and Shadi Darani, *Optimization of Nonlinear Wave Energy Converters*, Ocean Engineering, Elsevier, Vol. 162, pp. 187--195, May 2018 <https://www.sciencedirect.com/science/article/pii/S0029801818307881>
5. Shadi Darani and **Ossama Abdelkhalik**, *Convergence Analysis of Hidden Genes Genetic Algorithms in Space Trajectory Optimization*, AIAA Journal of Aerospace Information Systems, Vol. 15, No. 4, pp. 228-238, April 2018, <http://arc.aiaa.org/doi/abs/10.2514/1.I010564>
6. Shangyan Zou and **Ossama Abdelkhalik**, *Control of Wave Energy Converters with Discrete Displacement Hydraulic Power Take-Off Units*. MDPI Journal of Marine Science and Engineering, Special issue on Advances in Ocean Wave Energy Conversion, Vol. 6, No. 2, JSME-275888, <http://www.mdpi.com/2077-1312/6/2/31>, April 2018.
7. Ehsan Taheri, Di Wu, **Ossama Abdelkhalik**, Shangyan Zou, Kaushik Prabhu, Shadi Darani, Brandon Jackson. *GTOC 9: Results from Michigan Technical University and University of Michigan (team MTU-UoM)*. ESA Acta Futura, Issue 11, pp.99-107, January 2018. <http://www.esa.int/gsp/ACT/publications/ActaFutura/index.html>
8. **Ossama Abdelkhalik**, Shangyan Zou, Rush Robinett, Giorgio Bacelli , David Wilson, Ryan Coe, *Control of Three-Degree-of-Freedom Wave Energy Converters Using Pseudo-Spectral Methods*. ASME Journal of Dynamic Systems, Measurement and Control, Vol. 140, No. 7, pp. 074501 (9 pages), January 2018.
9. Ryan Coe, Giorgio Bacelli, David G Wilson, **Ossama Abdelkhalik**, Umesh A Korde, Rush D Robinett, *A comparison of control strategies for wave energy converters*. International Journal of Marine Energy, Elsevier, Vol. 20, pp. 45-63, December 2017.
10. Shangyan Zou, **Ossama Abdelkhalik**, Rush Robinett, Giorgio Bacelli , David Wilson, Ryan Coe, and Umesh Korde, *Model Predictive Control of Parametric Excited Pitch-Surge Modes in Wave Energy Converters*. Elsevier, International Journal of Marine Energy, Vol. 19, pp. 32-46, September 2017.
11. Umesh A Korde, Jiajun Song, Rush D Robinett, and **Ossama Abdelkhalik**, *Hydrodynamic Considerations in Near-Optimal Control of a Small Wave Energy Converter for Ocean Measurement Applications*. Marine Technology Society Journal, MTS, Vol. 51, No. 6, pages 44-57, December 2017

12. **Ossama Abdelkhalik**, Shangyan Zou, Rush Robinett, Giorgio Bacelli , David Wilson, Ryan Coe, and Umesh Korde, *Multi Resonant Feedback Control of Three-Degree-of-Freedom Wave Energy Converters*. IEEE Transactions on Sustainable Energy, Vol. 8, No. 4, pages 1518—1526, October 2017.
13. Umesh A Korde, Jianyang Lyu, Rush D Robinett, David Wilson, Giorgio Bacelli, and **Ossama Abdelkhalik**, *Constrained near-optimal control of a wave energy converter in three oscillation modes*. Applied Ocean Research, Elsevier, Vol. 69, pages 126-137, December 2017.
14. Shangyan Zou, **Ossama Abdelkhalik**, Rush Robinett, Giorgio Bacelli , and David Wilson, *Optimal Control of Wave Energy Converters*. Elsevier, Renewable Energy, Vol 103, pages 217--225, April 2017.
15. Jiajun Song, **Ossama Abdelkhalik** , Rush Robinett , Giorgio Bacelli , David Wilson , and Umesh Korde, *Multi Resonant Feedback Control of Wave Energy Converters*, Ocean Engineering, Elsevier, Vol. 127, pages 269--278, 2016.  
<http://www.sciencedirect.com/science/article/pii/S0029801816304346>
16. **Ossama Abdelkhalik**, Shangyan Zou, Rush Robinett, Giorgio Bacelli , and David Wilson, *Estimation of Excitation Forces For Wave Energy Converters Control Using Pressure Measurements* . International Journal of Control, Taylor & Francis, 2016.  
<http://dx.doi.org/10.1080/00207179.2016.1222555>.
17. **O. Abdelkhalik** , R. Robinett , S. Zou, G. Bacelli , R. Coe, D. Bull , D. Wilson , and U. Korde, *On The Control Design of Wave Energy Converters With Wave Prediction*, Springer Journal of Ocean Engineering and Marine Energy, Vol. 2, No. 4, pp 473— 483, 2016.  
Doi: 10.1007/s40722-016-0048-4
18. E. Taheri, and **O. Abdelkhalik**, *Initial Three-Dimensional Low-Thrust Trajectory Design*. Advances in Space Research, Elsevier, Vol 57, No. 3, pp. 889-903, 2016.
19. E. Taheri, and **O. Abdelkhalik**, *Fast Initial Trajectory Design for Low-Thrust Restricted-Three Body Problems*. Journal of Guidance, Control, and Dynamics, AIAA, Vol 38, No. 11, pp. 2146-2160, 2015.
20. H.M. Nyew, **O. Abdelkhalik**, and N. Onder, *Structured-Chromosome Evolutionary Algorithms For The Variable-Size Autonomous Interplanetary Trajectory Planning Optimization*. Journal of Aerospace Information Systems, AIAA, Vol. 12, No. 3 (2015), pp. 314-328. doi: 10.2514/1.I010272.
21. Shu Ting Goh, Seyed A.(Reza) Zekavat, and **Ossama Abdelkhalik**, *LEO Satellite Formation for SSP: Energy and Doppler Analysis*, IEEE Transactions on Aerospace and Electronic Systems, IEEE, Vol. 51, No. 1, doi: 10.1109/TAES.2014.120333, Jan. 2015.
22. S.T. Goh, **O. Abdelkhalik** and S. R. Zekavat, *A Weighted Measurement Fusion Kalman Filter Implementation for UAV Navigation*, Aerospace Science and Technology, Elsevier, Volume 28, Number 1, pp 315 – 323, 2013.
23. **O. Abdelkhalik**, *Hidden Genes Genetic Optimization for Variable-Size Design Space Problems*. Journal of Optimization Theory and Applications, Springer, Volume 156, Number 2, February 2013.

24. **O. Abdelkhalik**, *Autonomous Planning of Multi gravity-Assist Trajectories with Deep Space Maneuvers Using a Differential Evolution Approach*. International Journal of Aerospace Engineering, Hindawi, vol. 2013, Article ID 145369, 2013.
25. Nicholas Mastricola and **Ossama Abdelkhalik**, *Comparison of Relativistic Perturbations on Spacecraft Earth Orbits*, IIUM Engineering Journal, Volume 14, Number 1, 2013.
26. **O. Abdelkhalik** and E. Taheri, *Approximate On-Off Low-Thrust Space Trajectories using Fourier Series*. AIAA Journal of spacecraft and rockets, Volume 49, Number 5, September-October 2012.
27. **O. Abdelkhalik** and A. Gad, *Dynamic-Size Multi-Population Genetic Optimization for Multi-Gravity-Assist Trajectories*, AIAA Journal of Guidance, Control, and Dynamics, Volume 35, Number 2, pp 520–529, March-April 2012.
28. S. T. Goh, **O. Abdelkhalik** and S.R. Zekavat, *Constraint estimation of spacecraft formations orbits using relative positions measurements*. AIAA Journal of Guidance, Control, and Dynamics, Volume 35, Number 2, pp 387–397, March-April 2012.
29. S.T. Goh, **O. Abdelkhalik** and S. R. Zekavat, *Implementation of Differential Geometric Filter For Spacecraft Formation Orbit Estimation*, International Journal of Aerospace Engineering, Hindawi, vol. 2012, Article ID 910496, 2012. doi:10.1155/2012/910496.
30. E. Taheri and **O. Abdelkhalik**, *Shape Based Approximation of Constrained Low-Thrust Space Trajectories using Fourier Series*. AIAA Journal of spacecraft and rockets, Volume 49, Number 3, May - June 2012.
31. A. Gad, **O. Abdelkhalik**. *Hidden Genes Genetic Algorithm for Multi-Gravity-Assist Trajectories Optimization*, AIAA Journal of Spacecraft and Rockets, AIAA, Vol. 48, No 4, pp 629-641, July-August 2011.
32. S. T. Goh, **O. Abdelkhalik** and S.R. Zekavat, *Spacecraft Formation Orbit Estimation using WLPS-based Localization*, International Journal of Navigation and Observation, Hindawi, Volume 2011, Article ID 654057, 2011.
33. **O. Abdelkhalik**, A. Gad. *Optimization of space orbits design for Earth orbiting missions*, Acta Astronautica, Elsevier, Vol. 68, No. 7-8, pp 1307–1317, April-May 2011. doi:10.1016/j.actaastro.2010.09.029.
34. **O. Abdelkhalik**. *Initial Orbit Design from Ground Track Points*, Journal of Spacecraft and Rockets, AIAA, Vol. 47, No 1, Jan.-Feb. 2010.
35. A. Gad, and **O. Abdelkhalik**. *Repeated Shadow Track Orbits for Space-SunSetter Missions*. International Journal of Aerospace Engineering, Volume 2009 (2009), Article ID 561495, doi:10.1155/2009/561495. <http://www.hindawi.com/journals/ijae/2009/561495.html>
36. **O. Abdelkhalik**, D. Mortari. *On The N-Impulse Orbit Transfer Using Genetic Algorithms*, Journal of Spacecraft and Rockets, AIAA, Vol. 44, No 2, March-April 2007.
37. **O. Abdelkhalik**, D. Mortari. *Orbit Design for Ground Surveillance Missions Using Genetic Algorithms*. Journal of Guidance Dynamics and Control, AIAA, Vol. 29, No 3, Sep. 2006.
38. **O. Abdelkhalik**, D. Mortari. *On The Two-Way Orbits*. Journal of Celestial Mechanics and Dynamical Astronomy, Springer, Vol. 94, No 4, April 2006, pp 399-410.

39. **O. Abdelkhalik**, B. Nairouz, T. Weaver, B. Newman. *MicroMaps Space Mission Analysis and Design*. Journal of Space Mission Architecture - NASA Jet Propulsion Lab, Fall 2003, pp 61-100.

## Journal Publications in Review

1. Shangyan Zou, **Ossama Abdelkhalik**, *Time Varying Linear Quadratic Optimal Control for Three-Degrees-Of-Freedom Wave Energy Converters*. Renewable Energy, Elsevier, submitted November 07, 2017
2. **Ossama Abdelkhalik** and Shangyan Zou, *Constrained Control Of Two-Body Heaving Wave Energy Converters*. Renewable Energy, Elsevier, submitted July 2017, Revision received December 24 2017, resubmitted Jan 28 2018.
3. **Ossama Abdelkhalik**, Shadi Darani, and Rush Robinett, *A Hamiltonian Surface Shaping Approach for Control System Analysis and Design of Nonlinear Wave Energy Converters*, Ocean Engineering, Elsevier, submitted September 2017.
4. S. Zou and **O. Abdelkhalik**, *Consensus Estimation in Arrays of Wave Energy Converters*, IEEE Transactions on Sustainable Energy, submitted Feb 15, 2018.
5. M. Dessouki and **O. Abdelkhalik**. On The Spacecraft Magnetic Attitude Control Without Magnetic Field Measurements, Acta Astronautica, Elsevier, submitted April 27, 2018
6. M. Dessouki and **O. Abdelkhalik**. Spacecraft Magnetic Attitude Control Without Magnetometers, IEEE Transactions on Aerospace and Electronic Systems, submitted May 25, 2018
7. M. Dessouki and **O. Abdelkhalik**. *Wave Prediction using Wave Rider Position Measurements and NARX Network in Wave Energy Conversion*. Ocean Engineering, Elsevier, submitted December 24, 2017
8. Shadi Darani, Wayne Weaver, Rush D. Robinett, **Ossama Abdelkhalik**. *Optimal Positioning of Energy Assets in Autonomous Robotic Microgrids for Power Restoration*, IEEE Transactions on Smart Grid, submitted January 19, 2018.
9. Sameh Darwish and **Ossama Abdelkhalik**, *Approximate Surrogate Models of Wave Energy Conversion Arrays*. Elsevier Journal of Applied Ocean Research, submitted February 20, 2018.

## Patents

1. **Ossama Abdelkhalik**, Rush Robinett, Shangyan Zou, Giorgio Bacelli , and David Wilson. “Optimal Control of Wave Energy Converters.” US Application. No. 15/466,605, Filing Date: provisional: 12/09/2016, non-provisional March 22, 2017
2. David G. Wilson, Giorgio Bacelli, Rush D. Robinett III, **Ossama Abdelkhalik** and Jiajun Song. “PROPORTIONAL-DERIVATIVE COMPLEX CONJUGATE CONTROL OF A WAVE ENERGY CONVERTER.” US Application. No. 62/432,401, Filing Date 12/09/2016.
3. David G. Wilson, Giorgio Bacelli, Ryan G. Coe, **Ossama Abdelkhalik**, Shangyan Zou, Rush D. Robinett III, and Umesh A. Korde “MULTI-RESONANT FEEDBACK CONTROL OF MULTIPLE DEGREE-OF-FREEDOM WAVE ENERGY CONVERTERS.” US Application. No. 62/432,409, Filing Date 12/09/2016.
4. David G. Wilson, Giorgio Bacelli, Ryan G. Coe, **Ossama Abdelkhalik**, Shangyan Zou and Rush D. Robinett III “PSEUDO-SPECTRAL METHOD TO CONTROL THREEDEGREE-OF-FREEDOM WAVE ENERGY CONVERTERS.” US Application. No. 62/432,427, Filing Date 12/09/2016.
5. David G. Wilson, Giorgio Bacelli, Ryan G. Coe, **Ossama Abdelkhalik**, Shangyan Zou, Rush D. Robinett III, and Umesh Korde “Model predictive control of parametric excited pitch-surge modes in wave energy converters.” US Application. No. 62/432,417, Filing Date 12/09/2016.

## Book Chapter

1. **Ossama Abdelkhalik**; “*Implementation Of Kalman Filter For Localization*”, chapter 19 in “*Position Location - Theory, Practice and Advances: A Handbook for Engineers and Academics*,” 1<sup>st</sup> Edition, John Wiley-IEEE Press, 2011.
2. Shu Ting Goh, Sayed Reza Zekavat, **Ossama Abdelkhalik**; “*Implementation Of Kalman Filter For Localization*”, chapter 19 in “*Position Location - Theory, Practice and Advances: A Handbook for Engineers and Academics*,” 2<sup>nd</sup> Edition, John Wiley-IEEE Press, 2018.

## Books

1. Raed Kafafy and **Ossama Abdelkhalik**; “*Space Mechanics for Engineers*”, 2<sup>nd</sup> edition, Perpustakaan Negara Malaysia Cataloguing-in-Publication Data, ISBN 978-983-259998-2, 2013.
2. **In Preparation: Ossama Abdelkhalik**; “*Engineering Systems Optimization- Introduction and Recent Advances in Systems Architecture Design*”, CRC PRESS, Boca Raton, FL, USA. Expected publication date: summer 2018.

## Conference Proceedings (presenter underlined)

1. Xiang Zhou, Mehdi Jafari, **Ossama Abdelkhalik**, Umesh Korde, Lucia Gauchia. *Statistical Energy Storage Sizing for Point Absorber Wave Energy Converters (WECs): A Device for Operation Off the U.S. East Coast*. The 37th International Conference on Ocean, Offshore & Arctic Engineering, OMAE2018, ASME, OMAE2018-77227, Madrid, Spain, June 17-22, 2018.
2. **Ossama Abdelkhalik**, Shangyan Zou, Rush Robinett, and Umesh Korde. *Time-Varying Linear Quadratic Gaussian Optimal Control for Three-Degree-of-Freedom Wave Energy Converters*. The 12<sup>th</sup> European Wave and Tidal Energy Conference (EWTEC), Cork, Ireland, 27 August – 2 September, 2017.
3. Umesh Korde, Rush Robinett, David Wilson, Giorgio Bacelli, **Ossama Abdelkhalik**. *Wave-by-Wave Control of a Wave Energy Converter with Deterministic Wave Prediction*. The 12<sup>th</sup> European Wave and Tidal Energy Conference (EWTEC), Cork, Ireland, 27 August – 2 September, 2017.
4. Shangyan Zou, **Ossama Abdelkhalik**, Umesh Korde, Rush Robinett. *Switching Control for Constrained Wave Energy Converters*. The MTS IEEE OCEANS 2017, Anchorage, Alaska, September 18--21, 2017.
5. David Wilson, Giorgio Bacelli, Rush Robinett, Umesh Korde, **Ossama Abdelkhalik**, Steve Glover. *Order of Magnitude Power Increase from Multi-Resonance Wave Energy Converters*. The MTS IEEE OCEANS 2017, Anchorage, Alaska, September 18--21, 2017.
6. Giorgio Bacelli, Ryan Coe, David Wilson, **Ossama Abdelkhalik**. *Experimental testing and nonlinear modelling of an inverted cone heaving point absorber*. The 12<sup>th</sup> European Wave and Tidal Energy Conference (EWTEC), Cork, Ireland, 27 August - 2 September, 2017.
7. Shangyan Zou, **Abdelkhalik O.** *On the control of Three-Degree-of-Freedom Wave Energy Converters*. Proceedings of the ASME 2017 Power and Energy conference, June 26-30, 2017, Charlotte, North Carolina, USA.
8. **Ossama Abdelkhalik**, Giorgio Bacelli, Ryan Coe. *WEC geometry optimization with advanced control*. The 36th International Conference on Ocean, Offshore & Arctic Engineering, OMAE2017, ASME, Trondheim, Norway, June 25-30, 2017.
9. Ryan Coe, Giorgio Bacelli, **Ossama Abdelkhalik**. *An assessment of WEC control performance uncertainty*. The 36th International Conference on Ocean, Offshore & Arctic Engineering, OMAE2017, ASME, Trondheim, Norway, June 25-30, 2017.
10. **Ossama Abdelkhalik**, Jiajun Song, Rush Robinett, Giorgio Bacelli, David Wilson, and Umesh Korde. *Feedback Control of Wave Energy Converters*. The Asian Wave and Tidal Energy Conference (AWTEC), pp 658-662, Marine Bay Sands, Singapore, October 24-28, 2016.
11. Shadi Darani and **Ossama Abdelkhalik**, *Developments on The Optimization of Interplanetary Trajectories using Hidden Genes Genetic Algorithms*. AIAA/AAS Astrodynamics Specialist Conference, Long Beach, California, 13 - 16 September 2016.
12. **Abdelkhalik O.**, Shangyan Zou, Giorgio Bacelli, Rush Robinett, David Wilson, Ryan Coe. *Estimation of excitation force on wave energy converters using pressure measurements for feedback control*. OCEANS 2016 MTS/IEEE Monterey, September 19-23, 2016.

13. **Ossama Abdelkhalik**, and Shadi Darani. *Hidden Genes Genetic Algorithms for Systems Architecture Optimization*. ACM Proceedings, Genetic and Evolutionary Computation Conference, GECCO '16, July 20–24, 2016, Denver, CO, USA.  
[http://http://dx.doi.org/10.1145/2908812.2908819](http://dx.doi.org/10.1145/2908812.2908819)
14. **Giorgio Bacelli**, Ryan Coe, Diana Bull, David Wilson, **Abdelkhalik O.**, Rush Robinett, and Umesh Korde. *A linear comparison of WEC control strategies*. The 2016 Marine Energy Technology Symposium (METS), Washington DC, April 25-27, 2016.
15. **Ossama Abdelkhalik**, and Shadi Darani. *Piecewise Initial Trajectory Design Using Linearized Dynamic Models*. AAS/AIAA Astrodynamics Specialist Conference, AAS 15-817, Vail, CO, August 9-13, 2015.
16. **Taheri, E.**, and **Abdelkhalik O.** *Constraint Low-Thrust Trajectory Planning in Three Body Dynamic Models: Fourier Series Approach*. AIAA Space and Astronautics Forum and Exposition, AIAA-2014-4464, San Diego, CA, August 4-7, 2014.
17. **Taheri, E.**, and **Abdelkhalik O.** *Solar Electric-Powered Low-Thrust Trajectory Optimization Using Genetic Algorithm*. AIAA Space and Astronautics Forum and Exposition, AIAA-2014-4464, San Diego, CA, August 4-7, 2014.
18. **Taheri, E.**, and **Abdelkhalik O.** *Approximation of Constraint Low-Thrust Space Trajectories in three-body dynamic models using Fourier series*. AAS/AIAA Space Flight Mechanics Meeting, AAS 13-251, Kauai, Hawaii, February 10-14, 2013.
19. **O. Abdelkhalik**, **Ahmed Daoud**, and Shu Ting Goh. *Dynamic Penalty Function Evolution Algorithms for History Matching of Oil and Gas Reservoir Models*. 2012 SPE Kuwait International Petroleum Conference and Exhibition, Society of Petroleum Engineers, SPE-163372-MS, Kuwait City, Kuwait, Dec 10 - 12, 2012.
20. **H.M. Nyew**, **O. Abdelkhalik**, and N. Onder. *Structured Chromosome Evolutionary Algorithms for Multi-Gravity-Assist Trajectories Optimization*. AAS/AIAA Astrodynamics Specialist Conference, AIAA 2012-4522, Minneapolis, MN, Aug 12 - August 16, 2012.
21. **O. Abdelkhalik**. *Multi-Gravity-Assist Trajectories Optimization: Comparison between the Hidden Genes and the Dynamic-Size Multiple Populations Genetic Algorithms*. AAS/AIAA Astrodynamics Specialist Conference, AAS 11-620, Girdwood, Alaska, July 31 - August 4, 2011.
22. **Taheri, E.**, and **Abdelkhalik O.** *Approximation of Constraint Low-Thrust Space Trajectories using Fourier Series*. AAS/AIAA Astrodynamics Specialist Conference, AAS 11-555, Girdwood, Alaska, July 31 - August 4, 2011.
23. **S.A. Zekavat** and **O. Abdelkhalik**. *Space-based power grids introduction: Feasibility study*. 2011 IEEE Aerospace Conference, Big Sky, MT, 5-12 March 2011.
24. Lawrence P. Nicasastro III, Mohammed A. Azeez, J. Dhainaut, S.N. Gangadharan, C. Subramanian, and **O. Abdelkhalik**, *Hybrid Control System For a Launch Vehicle and Spacecraft Antenna Boom Structure*, 51<sup>st</sup> AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, AIAA 2010-2956, 12 - 15 April 2010, Orlando, Florida, USA.
25. **Abdelkhalik O.**, and **Gad, A.** *Optimal Orbit Design for Regional Coverage Using Genetic Algorithm*. AAS/AIAA Astrodynamics Specialist Conference, AAS 10-205, San Diego, CA, February 14-17, 2010.

26. **Abdelkhalik O.**, and Gad, A. *N-Impulse Interplanetary Orbit Transfer Using Genetic Algorithms with Application to Mars Mission*. AAS/AIAA Astrodynamics Specialist Conference, AAS 10-167, San Diego, CA, February 14-17, 2010.
27. **Abdelkhalik, O.**, and Gad, A. *Initial Orbit Design for Regional Coverage*. AAS/AIAA Astrodynamics Specialist Conference, AAS 09-303, Pittsburgh, PA, August 9-13, 2009
28. Gad, A., and **Abdelkhalik, O.** *Repeated Shadow Track Orbits*. AAS/AIAA Astrodynamics Specialist Conference, AAS 09-434, Pittsburgh, PA, August 9-13, 2009.
29. Zekavat, S.R., **Abdelkhalik, O.**, and Fuhrmann, D. *Wireless Solar Power Transfer via Distributed LEO Satellites*. The National workshop on New Research Directions for Future Cyber-Physical Energy Systems, Baltimore, MD, June 3, 4, 2009
30. Goh, S.T., **Abdelkhalik, O.**, and Zekavat, S.R. *Spacecraft Constellation Orbit Estimation Via a Novel Wireless Positioning System*. 19<sup>th</sup> AAS/AIAA Space flight Mechanics Meeting, Savannah, GA, AAS 09-116, February 8-12, 2009.
31. Farahat, A. and **Abdelkhalik, O.**, *On The Optimal Estimation Of Dynamic Systems*. F. Landis Markley Astronautics Symposium, AAS 08-304, AAS, MD, USA, July 2008.
32. Zekavat, S.R., **Abdelkhalik, O.**, Tong, H. *Wireless Local Positioning Systems with Applications in Aircraft Relative Positioning and Spacecraft Constellations Navigation*. ICNS Conference, MD, 5-7 May 2008.
33. **O. Abdelkhalik**, D. Mortari. *Space Surveillance Using Star Trackers, Orbit Estimation*. 16<sup>th</sup> AAS/AIAA Space flight Mechanics Meeting, AAS 06-232, Tampa, FL, January 22-26, 2006.
34. **O. Abdelkhalik**, T. Alberts. *Interval Control of Formations in Eccentric Orbits*. 14<sup>th</sup> AAS/AIAA Space flight Mechanics Meeting, Maui, Hawaii, February 8-12, 2004. 35.
35. **O. Abdelkhalik**, D. Mortari. *Satellite Constellation Design for Earth Observation*. 15<sup>th</sup> AAS/AIAA Space flight Mechanics Meeting, Copper Mountain, Colorado, January 23-27, 2005.
36. **O. Abdelkhalik**, D. Mortari. *The Two-Way Orbits Set*. IEEE Aerospace Conference, Big sky, MT, March 5-12, 2005.
37. **O. Abdelkhalik**, D. Mortari, *Reconnaissance Problem Using Genetic Algorithms*. 15<sup>th</sup> AAS/AIAA Space flight Mechanics Meeting, Copper Mountain, Colorado, January 23-27, 2005.
38. D. Mortari, **O. Abdelkhalik**, C. Bruccoleri. *Relative Flower Constellation with applications for Planetary Exploration*. 15<sup>th</sup> AAS/AIAA Space flight Mechanics Meeting, Copper Mountain, Colorado, January 23-27, 2005.
39. S. Hassan, M. Argoun, M. Bayoumi, and **O. Abdelkhalik**. *Remote Sensing Satellites Orbits Control*. The Technical Military Academy Conference, Egypt in May 2001.
40. P. Bianco, L. De Rocco, **O. Abdelkhalik**. *Orbit Control of MITA-class satellites with FEED electric propulsion system*. S5a.4, Proceedings of the 5th International Symposium "Small Satellites Systems and Services", France, 2000.
41. S. T. Goh, **O. Abdelkhalik** and S.R. Zekavat, *Differential Geometric Estimation For Spacecraft Formations Orbits via a Novel Wireless Positioning System*, IEEE Aerospace Conference, March 6-13, 2010, Big Sky, Montana
42. S. T. Goh, C. Passarello, and **O. Abdelkhalik**, *Spacecraft Relative Attitude Determination*, IEEE Aerospace Conference, March 6-13, 2010, Big Sky, Montana



43. S.R. Zekavat, **O. Abdelkhalik**, S. T. Goh, and D. R. Fuhrmann, *A Novel Space Based Solar Power Collection via LEO Satellite Networks: Orbital Management via Wireless Local Positioning Systems*, IEEE Aerospace Conference, March 6-13, 2010, Big Sky, Montana
44. M. Taylor, R. Khatri, J. Dhainaut, S.N. Gangadharan, C. Subramanian, and **O. Abdelkhalik**, *Hybrid Control System For Spacecraft Antenna Boom*, ASME International Mechanical Engineering Congress and Exposition, IMECE2009-11303, November 13-19, 2009, Lake Buena Vista, Florida, USA.

## Conference Presentations

1. Abdelkhalik O., Rush Robinett, Giorgio Bacelli, Ryan Co-e, Diana Bull, David Wilson, and Umesh Korde. *Control Optimization of Wave Energy Converters Using a Shape-Based Approach*. ASME Power & Energy 2015 conference, San Diego, CA, June 28 – July 2, 2015.

## Workshop Presentations

1. **O. Abdelkhalik**, R. Robinett, G. Bacelli, D. Wilson, and Umesh Korde. *Optimal Control of Wave Energy Converters*, The 11th MTS Buoy Workshop 2016, Woods Hole Oceanographic Institution, Quissett Campus, Woods Hole, MA. April 18-21, 2016

## Magazine Articles

1. (invited paper) **O. Abdelkhalik**, S. Zou, R. Robinett, G. Bacelli, D. Wilson, *ASME: Wave energy conversion: control of the buoy heave motion*, Top Story, ASME Energy Tech magazine, May 2016, appeared online April 22, 2016.  
[http://www.energytech.com/advanced\\_energy/article\\_1001da4a-07da-11e6-a5ac-37c919238338.html](http://www.energytech.com/advanced_energy/article_1001da4a-07da-11e6-a5ac-37c919238338.html)

## Posters

1. **O. Abdelkhalik**, D. Mortari, *The Flower Constellations, Theory, Design, and Applications*. InSAR workshop, Oxnard, CA, 2004. (Invited Speaker)

## Government Reports

1. **O. Abdelkhalik**, B. Nairouz, T. Weaver, B. Newman. *Engineering Feasibility and Trade Studies for the NASA/VSGC MicroMaps Space Mission*. 2003, NASA/CR-2003212652.
2. Junkins, L.J., Mortari, D., Pollock, T., Boyle, D., Carron, I., **Abdelkhalik, O.**, Ettouati, I., Hill, C., and Cantrell J., *Feasibility Study and System Concept Development for the Space Situational Awareness*; Sponsor: Schafer Corporation, Contract No. SC-03A-22-08

## Industry Reports

1. **O. Abdelkhalik**, Trajectory Planning Studies for the SolRider Satellite using Solar Electric Propulsion; Sponsor: ExoTerra Resources LLC, Contract No. 1020

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