

## **Bharathram Ganapathisubramani**

Aerodynamics and Flight Mechanics Research Group,  
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### **Academic Background**

- Ph.D., Aerospace Engineering, October 2004,  
University of Minnesota, Minneapolis, MN, USA
- Master of Science, Aerospace Engineering, December 2001  
University of Minnesota, Minneapolis, MN, USA
- Bachelor of Technology, Naval Architecture and Ocean Engineering, July 1999  
Indian Institute of Technology, Madras. [IIT-M], Chennai, Tamil Nadu, India

### **Appointments**

- September 2014 - present                      Head of Aerodynamics & Flight Mechanics Group,  
Faculty of Engineering and the Environment,  
University of Southampton.
- August 2012 - present                      Professor of Experimental Fluid Mechanics,  
Faculty of Engineering and the Environment,  
University of Southampton.
- September 2013 - June 2014              Visiting Fellow,  
Mechanical and Aerospace Engineering,  
Princeton University.
- September 2010 - July 2012              Senior Lecturer (Equivalent to Associate Professor),  
Aerodynamics & Flight Mechanics Group,  
Faculty of Engineering and the Environment,  
University of Southampton.
- October 2010 - September 2013        Honorary Research Fellow  
Department of Aeronautics,  
Imperial College London.
- January 2007 - September 2010        Lecturer (Equivalent to Assistant Professor),  
Department of Aeronautics,  
Imperial College London.
- November 2004 - December 2006      Post-Doctoral Fellow, Center for Aeromechanics Re-  
search, The University of Texas at Austin.

### **Honours and Awards**

- Associate Fellow, American Institute of Aeronautics and Astronautics.
- 2013 Philip Leverhulme Prize (<http://www.leverhulme.ac.uk/templates/asset-relay.cfm?frmAssetFileID=1548>.)
- European Starting Researcher Grant (2012-2016)
- Doctoral Dissertation Fellowship for 2003-2004, endowed by the Graduate School of University of Minnesota.

- DAAD Fellowship from November 1998 to April 1999 to work on undergraduate thesis at Hochschule-Bremen, Bremen, Germany.

### **Professional Affiliations and Activities**

- Associate Editor, Experiments in Fluids.
- Associate Editor, AIAA Journal.
- Guest Editor, Measurement Science and Technology (IOP Journal), Special Issue on “Advances in 3D Velocimetry”.
- UK Turbulence Consortium (UKTC) Advisory Board
- [UK National Wind Tunnel Facility](#), Management Board
- AIAA’s Aerodynamic Measurement Technology Technical Committee
- Executive Committee, International Symposium on Particle Image Velocimetry
- Scientific Review Committee, Engineering Turbulence Modelling and Measurements (ETMM) conference.
- Advisory Committee, International Symposium on Applications of Laser Techniques to Fluid Mechanics.
- Scientific Review Committee, 28th International Symposium on Shock Waves.
- Journal referee: Journal of Fluid Mechanics, Experiments in Fluids, Physics of Fluids, AIAA journal, Flow. Turb. & Combustion, Experimental Thermal and Fluid Science, Aeronautical Journal.
- Professional Memberships: American Physical Society (APS), American Institute of Aeronautics and Astronautics (AIAA), Royal Aeronautical Society (RAeS).

### **Research Funding**

24. EPSRC Grant January 2017–December 2020 (EP/P009638/1). “Surface Specific Moody Diagrams: A new paradigm to predict drag penalty of realistic rough surfaces with applications to maritime transport”. Value: £760k (Principal Investigator).
23. British Council Institutional Links grant, March 2015–February 2017. “Improvement of energy and environmental sustainability in marine transportation systems through understanding and management of bio-fouling in wall-bounded turbulence”. Value: £120k. (Sole Principal Investigator). This project is a collaboration with University of Melbourne (Prof. Hutchins and Dr. Monty) and ITS, Indonesia (Prof. Utama).
22. AIRBUS CASE Award September 2016–August 2019. “Manipulation of wall-turbulence using synthetic jets”. Value: £90k. (Sole Principal Investigator).
21. EPSRC Grant July 2014–June 2018 (EP/L006383/1). “Towards drag-reduction strategies for high Reynolds number wall-turbulence”. Value: £540k. (Sole Principal Investigator).
20. Philip Leverhulme Prize. June 2014-May 2016 Value: £70k. (Sole Principal Investigator).
19. EPSRC Grant January 2014–December 2018 (EP/L024888/1). “National Wind Tunnel Facility (NWTF)”, Value: £13.3M, Southampton’s share: £3.3M (co-Principal-investigator with J. Morrison - Imperial College, P. Ireland - Oxford, H. Babinsky - Cambridge, K. Garry - Cranfield, C. Atkins - City University, F. Coton & R. Green - Glasgow).
18. Royal Society International Exchanges grant: Oct 2014 – Sept 2016, “Manipulation of wall-turbulence using synthetic jets”, Value: £12k (co-Principal-Investigator with Dr Philippe Lavoie at the University of Toronto).
17. European Union Framework 7 project. October 2013–September 2016. “NIOPLEX”, Work Package on new methods for pressure determination and on validation of methods. Value: £255k. (co-Principal-Investigator with Dr Roeland de Kat).
16. Royal Society International Exchanges grant: January 2013 – December 2015, “A new systematic approach to predicting drag of rough surfaces”, Value: £12k (co-Principal-Investigator with Dr Nick

Hutchins at the University of Melbourne).

15. EPSRC Bridging the Gap award: March 2012 – June 2012, “Feathered dinosaur flight: A pilot study to understand the performance of unique wing shapes from the fossil record”, Value: £16k (co-Principal-Investigator with Dr Gareth Dyke at NOCS).
14. European Office of US Airforce Research & Development (EOARD): March 2012 – February 2015, “Integrally-actuated membrane wings”, Value: \$165k. (co-Principal-Investigator with Dr Richard Sandberg at Southampton and Dr Rafael Palacios at Imperial College London).
13. EPSRC Grant, EP/I037717/1: March 2012 – February 2015, “Scale interactions in wall turbulence: Old challenges tackled with new perspectives”, Value: £379k. (Sole Principal Investigator).
12. EPSRC Grant, EP/J001465/1: March 2012 –September 2015, “Towards biologically-inspired active-compliant-wing micro-air-vehicles”, Value: £251k. (co-Principal-Investigator with Dr Richard Sandberg).
11. European Research Council Starting Researcher Grant: January 2012–December 2017 (ERC grant agreement no. 277472), “Understanding and controlling high-Reynolds-number wall-bounded turbulence”, Value: €1.49M (Sole Principal Investigator).
10. EPSRC Grant, EP/I004785/1: December 2010 – May 2015, “Is fine-scale turbulence universal?”, Value: £755k. (Sole Principal Investigator).
9. Royal Society Travel Grant: July 1, 2010 – July 30, 2010, “Turbulent flow over flexible rough surfaces”, Value: £2.7k. (Sole Principal Investigator).
8. EPSRC Grant: April 2010 – September 2010, “Fine-scale turbulence in mixing layers: Simulations and Modelling”, HECToR Resource Allocation Panel. CPU hours only, 1.27 Million Allocation Units. (co-Principal Investigator with Dr. S. Lardeau, Dr. S. Laizet & Mr. O. Buxton).
7. EPSRC Grant, EP/H030875/1: April 2010 – September 2013, “Fractal-generated turbulence and mixing: flow physics and some industrial implications”, Value: £618k. (co-Principal-Investigator with Professor J. C. Vassilicos).
6. EPSRC Grant, EP/H020853/1: July 2010 – June 2013, “Shock-induced separation of hypersonic transitional boundary layers”, Value: £570k. (co-Principal-Investigator with Professor R. Hillier).
5. European Union Framework 7 project. March 2010–February 2013, “EMBOCON”. Work package on embedded systems for flow control. Value: £585k. (co-investigator with Dr. P. Goulart, Dr. G. Constantinides & Dr. E. C. Kerrigan).
4. EPSRC Grant, EP/F056206/1: October 2008 – September 2012, “Shock-wave/boundary-layer interactions: Physics and Control”, Value: £296k. (Sole Principal Investigator).
3. European Union Framework 7 project. March 2008–September 2010. “OPENAIR”, Work Package on New Concepts for Low Noise Airbrakes. Value: £55k. (co-Principal-Investigator with Professor J. C. Vassilicos).
2. Royal Society Travel Grant: July 2008 – September 2008, “Physical Mechanisms in High Reynolds Number Turbulent Boundary Layers”, Value: £4.5k. (Sole Principal Investigator)
1. Royal Society Research Grant: September 2007 – October 2008, “Experimental investigation of shock-wave/boundary-layer interactions using optical diagnostics”, Value: £15k. (Sole Principal Investigator)

## **Research Supervision**

### **Postdoctoral research associates**

9. Dr. Daniele Fiscaletti (2016-present)
8. Dr. B. Nugroho (2015-present)
7. Dr. J. Hearst (2015-2017, Associate Professor at NTNU, Trondheim, Norway)
6. Dr. G. Gomit (2014-2016, Currently staff researcher at University of Poitiers)
5. Dr. C. Vanderwel (2014-2015, currently Assistant Professor at University of Southampton)

4. Dr. R. Hanson (2013-2014, currently Director of Applied Fluid Dynamics Inc.)
3. Dr. G. Fourrie (2013-2014)
2. Dr. R. de-Kat (2012-2014, currently New Frontier Fellow at University of Southampton)
1. Dr. D. Estruch-Samper (2011-2013, currently Assistant Professor at National University of Singapore)

#### **PhD students (13 current, 10 graduated)**

Dr. Oliver Buxton (2008-2011, currently Asst. Prof. at Imperial College London), Dr. David Pearson (2009-2013, currently research engineer at STFC), Dr. Jovan Nedic (2009-2013, Asst. Prof. at McGill University), Dr. Sara Arbos-Torrent (2009-2013, currently Research Engineer in Surrey Satellites), Dr. Rafael Gomes (2010-2014, currently at BlackSwan), Dr. Leon Vanstone (2010-2014, currently postdoc at Univ. of Texas at Austin), Marco Placidi (2011-2015, currently postdoc at City University), Laura Cooper (2012-2016, currently postdoc at Univ. Southampton), Robert Bleischwitz (2012-2016, Currently postdoc at EPFL Laussane), Sonia Taddei (2012-2016, currently Research Engineer at RCR Crystals), Rammah Shami (2012-present), Alex Barbu (2012-present), Eda Dogan (2012-present), Luke Muscutt (2012-present), Angeliki Laskari (2013-present), Jacque van der Kindere (2013-present), Tim Berk (2014-present), Takfarinas Medjnoun (2015-present), Rene Kaufmann (2015-present), Manuel Ferreira (2015-present), Luis Esteban Blay (2015-present), Girish Jankee (2016-present), Nikolaos Lagopoulos (2016-present).

#### **Journal Publications**

60. R Bleischwitz, R de Kat, and B Ganapathisubramani. On the fluid-structure interaction of flexible membrane wings for MAVs in and out of ground-effect. *J. Fluids & Struct.*, In Press, 2017.
59. E Dogan, RJ Hearst, and B Ganapathisubramani. Modelling high Reynolds number wall-turbulence interactions in laboratory experiments using large-scale free-stream turbulence. *Philosophical Transactions of the Royal Society A*, In Press, 2017.
58. Vanderwel C, Placidi MP, and B Ganapathisubramani. Wind resource assessment in heterogeneous terrain. *Philosophical Transactions of the Royal Society A*, In Press, 2017.
57. T Berk, G Gomit, and B Ganapathisubramani. Vectoring of parallel synthetic jets: a parametric study. *Journal of Fluid Mechanics*, 804:467–489, 2016.
56. J Hearst, G Gomit, and B Ganapathisubramani. Effect of turbulence on the wake of a wall-mounted cube. *Journal of Fluid Mechanics*, 804:513–530, 2016.
55. BP Epps, LE Muscutt, BT Roesler, GD Weymouth, and B Ganapathisubramani. On the interfoil spacing and phase lag of tandem flapping foil propulsors. *Journal of Ship Production and Design*, 2016.
54. E Dogan, RE Hanson, and B Ganapathisubramani. Effects of large-scale freestream turbulence on turbulent boundary layers. *Journal of Fluid Mechanics*, 802:79–107, Sep 2016.
53. LHO Hellström, B Ganapathisubramani, and AIJ Smits. Coherent structures in transitional pipe flow. *Physical Review Fluids*, 1(2):024403, 2016.
52. S Taddei, C Manes, and B Ganapathisubramani. Characterisation of drag and wake properties of canopy patches immersed in turbulent boundary layers. *Journal of Fluid Mechanics*, 798:27–49, Jul 2016.
51. RE Hanson and B Ganapathisubramani. Development of turbulent boundary layers past a step change in wall roughness. *Journal of Fluid Mechanics*, 795:494–523, 2016.
50. R Bleischwitz, R de Kat, and B Ganapathisubramani. Aeromechanics of membrane and rigid wings in and out of ground-effect at moderate Reynolds numbers. *J. Fluids & Struct.*, 62:318–331, 2016.
49. A Laskari, R de Kat, and B Ganapathisubramani. Full-field pressure from snapshot and time-resolved volumetric PIV. *Experiments in Fluids*, 57(44):1–14, 2016.
48. LJ Cooper, J Heppell, GF Clough, B Ganapathisubramani, and T Roose. An image-based model of fluid flow through lymph nodes. *Bull. Math. Biol.*, 78(1):52–71, 2016.
47. JP Monty, E Dogan, RE Hanson, AJ Scardino, B Ganapathisubramani, and N Hutchins. An assessment

- of the ship drag penalty arising from light calcareous tubeworm fouling. *Biofouling*, 32(4):451–464, 2016.
46. R de Kat and B Ganapathisubramani. Frequency–wavenumber mapping in turbulent shear flows. *Journal of Fluid Mechanics*, 783:166–190, 2015.
  45. RJ Hearst and B Ganapathisubramani. Quantification and adjustment of pixel-locking in particle image velocimetry. *Experiments in Fluids*, 56(10):1–5, 2015.
  44. M Placidi and B Ganapathisubramani. Effects of frontal and plan solidities on aerodynamic parameters and the roughness sublayer in turbulent boundary layers. *Journal of Fluid Mechanics*, 782:541–566, 2015.
  43. D Fiscaletti, B Ganapathisubramani, and GE Elsinga. Amplitude and frequency modulation of the small scales in a jet. *Journal of Fluid Mechanics*, 772:756–783, 2015.
  42. R Bleischwitz, R de Kat, and B Ganapathisubramani. Aspect-ratio effects on aeromechanics of membrane wings at moderate Reynolds numbers. *AIAA Journal*, 53(3):780–788, 2015.
  41. C Vanderwel and B Ganapathisubramani. Effects of spanwise spacing on large-scale secondary flows in rough-wall turbulent boundary layers. *Journal of Fluid Mechanics*, 774:R2, 2015.
  40. D Estruch-Samper, L Vanstone, R Hillier, and B Ganapathisubramani. Toluene-based planar laser-induced fluorescence imaging of temperature in hypersonic flows. *Experiments in Fluids*, 56(6):1–13, 2015.
  39. LHO Hellström, B Ganapathisubramani, and AJ Smits. The evolution of large-scale motions in turbulent pipe flow. *Journal of Fluid Mechanics*, 779:701–715, 2015.
  38. M Vallikivi, B Ganapathisubramani, and AJ Smits. Spectral scaling in boundary layers and pipes at very high reynolds numbers. *Journal of Fluid Mechanics*, 771:303–326, 2015.
  37. R Gomes-Fernandes, B Ganapathisubramani, and JC Vassilicos. The energy cascade in near-field non-homogeneous non-isotropic turbulence. *Journal of Fluid Mechanics*, 771:676–705, 2015.
  36. J Nedić, O Supponen, B Ganapathisubramani, and JC Vassilicos. Geometrical influence on vortex shedding in turbulent axisymmetric wakes. *Physics of Fluids*, 27(3):035103, 2015.
  35. R Gomes-Fernandes, B Ganapathisubramani, and JC Vassilicos. Evolution of the velocity-gradient tensor in a spatially developing turbulent flow. *Journal of Fluid Mechanics*, 756:252–292, 2014.
  34. D Estruch-Samper, L Vanstone, R Hillier, and B Ganapathisubramani. Micro vortex generator control of axisymmetric high-speed laminar boundary layer separation. *Shock Waves*, pages 1–13, 2014.
  33. ORH Buxton and B Ganapathisubramani. Concurrent scale interactions in the far-field of a turbulent mixing layer. *Physics of Fluids*, 26(12):125106, 2014.
  32. G Dyke, R de Kat, C Palmer, J van der Kindere, D Naish, and B Ganapathisubramani. Aerodynamic performance of the feathered dinosaur microraptor and the evolution of feathered flight. *Nature Communications*, 4, 2013.
  31. A Wynn, DS Pearson, B Ganapathisubramani, and PJ Goulart. Optimal mode decomposition for unsteady flows. *Journal of Fluid Mechanics*, 733:473–503, 2013.
  30. DS Pearson, PJ Goulart, and B Ganapathisubramani. Turbulent separation upstream of a forward-facing step. *Journal of Fluid Mechanics*, 724:284–304, 2013.
  29. J Nedić, JC Vassilicos, and B Ganapathisubramani. Axisymmetric turbulent wakes with new nonequilibrium similarity scalings. *Physical review letters*, 111(14):144503, 2013.
  28. J Nedić, B Ganapathisubramani, and JC Vassilicos. Drag and near wake characteristics of flat plates normal to the flow with fractal edge geometries. *Fluid Dyn. Res.*, 45(6):061406, 2013.
  27. R de Kat and B Ganapathisubramani. Pressure from particle image velocimetry for convective flows: a taylors hypothesis approach. *Meas Sci Technol*, 24(2):024002, 2013.
  26. GE Elsinga and B Ganapathisubramani. Advances in 3D velocimetry. *Meas Sci Technol*, 24:020301, 2013.

25. ORH Buxton, R de Kat, and B Ganapathisubramani. The convection of large and intermediate scale fluctuations in a turbulent mixing layer. *Physics of Fluids*, 25(12):125105, 2013.
24. S Arbós-Torrent, B Ganapathisubramani, and R Palacios. Leading-and trailing-edge effects on the aeromechanics of membrane aerofoils. *Journal of Fluids and Structures*, 38:107–126, 2013.
23. R Gomes-Fernandes, B Ganapathisubramani, and JC Vassilicos. Particle image velocimetry study of fractal-generated turbulence. *Journal of Fluid Mechanics*, 711:306–336, 2012.
22. AR Oxlade, PC Valente, B Ganapathisubramani, and JF Morrison. Denoising of time-resolved PIV for accurate measurement of turbulence spectra and reduced error in derivatives. *Experiments in Fluids*, 53(5):1561–1575, 2012.
21. B Ganapathisubramani, N Hutchins, JP Monty, D Chung, and I Marusic. Amplitude and frequency modulation in wall turbulence. *Journal of Fluid Mechanics*, 712:61–91, 2012.
20. J Nedic, B Ganapathisubramani, JC Vassilicos, J Boree, LE Brizzi, and A Spohn. Aeroacoustic performance of fractal spoilers. *AIAA journal*, 50(12):2695–2710, 2012.
19. RJ Hearst, ORH Buxton, B Ganapathisubramani, and P Lavoie. Experimental estimation of fluctuating velocity and scalar gradients in turbulence. *Experiments in Fluids*, 53(4):925–942, 2012.
18. ORH Buxton, S Laizet, and B Ganapathisubramani. The effects of resolution and noise on kinematic features of fine-scale turbulence. *Experiments in Fluids*, 51(5):1417–1437, 2011.
17. N Hutchins, JP Monty, B Ganapathisubramani, HCH Ng, and I Marusic. Three-dimensional conditional structure of a high-reynolds-number turbulent boundary layer. *Journal of Fluid Mechanics*, 673:255–285, 2011.
16. ORH Buxton, S Laizet, and B Ganapathisubramani. The interaction between strain-rate and rotation in shear flow turbulence from inertial range to dissipative length scales. *Physics of Fluids (1994–present)*, 23(6):061704, 2011.
15. ORH Buxton and B Ganapathisubramani. Amplification of enstrophy in the far field of an axisymmetric turbulent jet. *Journal of Fluid Mechanics*, 651:483, 2010.
14. B. Ganapathisubramani, N. T. Clemens, and D. S. Dolling. Low-frequency dynamics of shock-induced separation in a compression ramp interaction. *Journal of Fluid Mechanics*, 636:397–425, 2009.
13. B. Ganapathisubramani, K. Lakshminarasimhan, and N. T. Clemens. Investigation of three-dimensional structure of fine scales in a turbulent jet by using cinematographic stereoscopic particle image velocimetry. *Journal of Fluid Mechanics*, 598:141–175, 2008.
12. B Ganapathisubramani. Statistical structure of momentum sources and sinks in the outer region of a turbulent boundary layer. *Journal of Fluid Mechanics*, 606:225–237, 2008.
11. B Ganapathisubramani. Statistical properties of streamwise velocity in a supersonic turbulent boundary layer. *Physics of Fluids*, 19(9):098108, 2007.
10. B. Ganapathisubramani, K. Lakshminarasimhan, and N. T. Clemens. Determination of complete velocity gradient tensor by using cinematographic stereoscopic PIV in a turbulent jet. *Experiments in Fluids*, 42(6):923–939, 2007.
9. B Ganapathisubramani and N Clemens. Effect of laser pulse duration on particle image velocimetry. *AIAA journal*, 44(6):1368–1371, 2006.
8. B Ganapathisubramani, NT Clemens, and DS Dolling. Large-scale motions in a supersonic turbulent boundary layer. *Journal of Fluid Mechanics*, 556:271–282, 2006.
7. B Ganapathisubramani, E K Longmire, and I Marusic. Experimental investigation of vortex properties in a turbulent boundary layer. *Physics of Fluids*, 18(5):055105, 2006.
6. B Ganapathisubramani, N Hutchins, WT Hambleton, EK Longmire, and I Marusic. Investigation of large-scale coherence in a turbulent boundary layer using two-point correlations. *Journal of Fluid Mechanics*, 524:57–80, 2005.

5. B Ganapathisubramani, EK Longmire, I Marusic, and S Pothos. Dual-plane PIV technique to determine the complete velocity gradient tensor in a turbulent boundary layer. *Experiments in Fluids*, 39(2):222–231, 2005.
4. B Ganapathisubramani, E K Longmire, and I Marusic. Characteristics of vortex packets in turbulent boundary layers. *Journal of Fluid Mechanics*, 478:35–46, 2003.
3. T Urness, V Interrante, I Marusic, E Longmire, and B Ganapathisubramani. Effectively visualizing multi-valued flow data using color and texture. In *Proceedings of the 14th IEEE Visualization 2003 (VIS'03)*, page 16. IEEE Computer Society, 2003.
2. EK Longmire, B Ganapathisubramani, I Marusic, T Urness, and V Interrante. Effective visualization of stereo particle image velocimetry vector fields of a turbulent boundary layer. *Journal of Turbulence*, 4(24), 2003.
1. B Ganapathisubramani, EK Longmire, and I Marusic. Investigation of three dimensionality in the near field of a round jet using stereo PIV. *Journal of Turbulence*, 3(016), 2002.

### Keynote and invited presentations

7. Keynote speaker, *EUROMECH Symposium on Wind farms in Complex Terrain, Stockholm, June, 2016*.
6. Invited speaker *IMS Singapore workshop on Fluid-Structure Interaction Problems, 30 May - 3 June 2016*
5. Invited speaker, *Special session on Advanced Diagnostics for Fluid-Structure Interaction problems, AIAA Scitech 2016, San Diego, January 3-8, 2016*.
4. Keynote speaker, *Interdisciplinary Turbulence Initiatives conference, Bertinoro, Italy, September, 2014*.
3. Invited speaker, *Extreme Flows workshop, In honour of the contributions of Lex Smits in the field of Fluid Dynamics, Princeton, USA, May 14-16, 2014*.
2. Keynote speaker, *13th International Symposium on Particle Image Velocimetry, Delft, July 1–3, 2013*.
1. Invited speaker, *UNH/IAM Workshop on high Reynolds number wall-bounded turbulence, Durham, New Hampshire, USA, November 2013*.

### Invited seminars at academic and research institutions

I have delivered invited talks and seminars in various Universities around the world including University of Michigan (2017), UT Dallas (2017), Caltech (2015), City University London (2016), University of Liverpool (2016), Johns Hopkins University (2014), University of Illinois (2014), Princeton University (2014), Illinois Institute of Technology (2014), University of Minnesota (2014), TU Delft (2013), University of Wawick, University of Melbourne (2009), University of Cambridge (2008, 2016), Imperial College London (2007, 2009, 2011, 2016).

### Refereed Conference Publications

62. Barbu IA, de Kat R, Ganapathisubramani B (2017), Aerodynamic Step Input Response of Electro-Active Membrane Wings, *AIAA SciTech 2017*, Grapevine, Texas, January 9-13.
61. van-der Kindere J, de Kat R, Ganapathisubramani B (2017), Mean and Fluctuating pressure estimation from snapshots of planar PIV measurements, *AIAA SciTech 2017*, Grapevine, Texas, January 9-13.
60. Berk T, Gomit G, Ganapathisubramani B (2017), Effects of vortex-induced velocity on the streamwise evolution of synthetic jets in cross-flow, *AIAA SciTech 2017*, Grapevine, Texas, January 9-13.
59. Berk T, Gomit G, Ganapathisubramani B (2016), Interaction of rectangular synthetic jets with a turbulent boundary layer: Influence of the actuation parameters and orientation effect. *11th International ERCOFTAC Symposium on Engineering Turbulence Modelling and Measurements*, Palermo, Italy, September 21-23.
58. Hearst, R. J., Gomit, G., and Ganapathisubramani, B. (2016), The effect of turbulence intensity on the wake of a wall-mounted cube in a turbulent boundary layer. *11th International ERCOFTAC Symposium on Engineering Turbulence Modelling and Measurements*. Palermo, Italy.

57. Barbu IA, Laskari A, Turner J, Ganapathisubramani B (2016), Developing a laboratory session on wing aerodynamics. *44th SEFI Conference*, Tampere, Finland.
56. R. Bleischwitz, R. de Kat, B. Ganapathisubramani (2016), Dynamics of Flexible Wings in and out of Ground Effect, *18th International Symposium of Laser techniques and applications*, Lisbon, Portugal.
55. B Ganapathisubramani, R de Kat (2016) From Time to Space and Back: Convection and Wave Velocities in Turbulent Shear Flows *In Proc Progress in Turbulence VI*.
54. Gomit G., Z. Berger, B. Ganapathisubramani, and P. Lavoie. (2016) Active Flow Control of a Turbulent Boundary Layer with Large-Window and Stereo-PIV, *54th AIAA Aerospace Sciences Meeting, AIAA SciTech Forum*, (AIAA 2016-1124).
53. R. Bleischwitz, R. de Kat, and B. Ganapathisubramani (2015), Aeromechanics of Membrane Wings in Ground-Effect, *45th AIAA Fluid Dynamics Conference*, Dallas, June.
52. van-der Kindere J and Ganapathisubramani B (2015), Characteristics of Recirculation Regions on Ribs of Varying Length. *Proceedings of International Conference on Jets, Wakes, and Separated Flows*. Stockholm, Sweden.
51. Hearst, R. J., Dogan, E., and Ganapathisubramani, B. (2015) Interface characteristics between a turbulent boundary layer and freestream turbulence. *Proceedings of International Conference on Jets, Wakes, and Separated Flows*. Stockholm, Sweden.
50. Laskari A, de Kat R, Ganapathisubramani B (2015) Pressure field estimation in convective turbulent flows from 3D PIV velocity fields. *11th International Symposium on Particle Image Velocimetry*, Santa Barbara, CA USA.
49. Dogan E, Hanson R, Ganapathisubramani B (2015), Effects of external disturbances on turbulent boundary layers. *15th European Turbulence Conference*, Delft, The Netherlands, August 25-28.
48. Vanderwel, C. and Ganapathisubramani, B. (2015), Secondary flows in boundary layers over streamwise-aligned wall-roughness, *15th European Turbulence Conference ETC15*, Delft, The Netherlands, August 25-28.
47. Chaitanya, P., Gill, J., Narayanan, S., Joseph, P., Vanderwel, C., Zhang X. and Ganapathisubramani, B., (2015), Aerofoil geometry effects on turbulence interaction noise, *AIAA AVIATION 2015 Aviations and Aeronautics Forum and Exposition*, Dallas, TX, USA, June.
46. Chaitanya, P., Narayanan, S., Joseph, P., Vanderwel, C., Kim, J. W. and Ganapathisubramani, B., (2015) Broadband noise reduction through leading edge serrations on realistic aerofoils, *AIAA AVIATION 2015 Aviations and Aeronautics Forum and Exposition*, Dallas, TX, USA, June.
45. Chaitanya, P., Stalnov, O., Joseph, P., Vanderwel, C. and Ganapathisubramani, B., (2015) Effect of aerofoil thickness on trailing edge noise, *AIAA AVIATION 2015 Aviations and Aeronautics Forum and Exposition*, Dallas, TX, USA, June.
44. Placidi, M. and Ganapathisubramani, B. (2015) Surface-morphology-induced energy redistribution in turbulent boundary layers. *The 9th International Symposium On Turbulent and Shear Flow Phenomena*, Melbourne, Australia.
43. Hanson, R.E., and Ganapathisubramani, B. (2015), Effects of Sudden Change in Surface Roughness on Turbulent Boundary Layers *The Ninth Symposium on Turbulence and Shear Flow Phenomena (TSFP-9)*, June 30 - July 3, Melbourne, Australia.
42. Laskari A, de Kat R, Ganapathisubramani B (2014) Full-field pressure from 3D PIV snapshots in convective turbulent flow. *17th International Symposium on Applications of Laser Techniques to Fluid Mechanics*, Lisbon, Portugal.
41. Placidi, M. and Ganapathisubramani, B., (2014). On the effects of surface morphology on the structure of wall-turbulence. *In interdisciplinary Turbulence initiative*, Bertinoro, Italy September 21-24
40. R. Bleischwitz, R. de-Kat & B. Ganapathisubramani (2014) Effect of aspect ratio on fluid-structure



- interactions in membrane wings. **AIAA-2011-1118**, 49<sup>th</sup> AIAA SciTech National Harbor, MD, USA, January 11–15.
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