

Mark Hempzell – Publications (April 2017)

1. "Space Insignia", *Spaceflight*, Vol 18, No 4, April 1976.
2. (with D.Stott) "The European Space Tug: A Reappraisal", *Journal of the British Interplanetary Society*, Vol 34, No 7, July 1981.
3. (with R.C.Parkinson) "The Potential Market for a Low Cost Launch Vehicle", *Journal of the British Interplanetary Society* Vol 37 No 2 Feb 1984 (also in "Space: A Developing Role for Europe" Vol 56 of Science and Technology series ASS publication).
4. (with R.C.Parkinson) "Space Station Architecture - A European Viewpoint", presented at *BIS Symposium on Space Transportation*, London, April 1984.
5. (with R.C.Parkinson) "Future Launch Systems", *Aerospace* Vol 12 No 4, April 1985.
6. "Orbital Replacement Units", *Journal of the British Interplanetary Society*, Vol 39, No 2, February 1986.
7. "Standardisation of Interfaces Within the Space Infrastructure", *Journal of the British Interplanetary Society*, Vol 39, No 2, February 1986.
8. "Multi-Role Capsule - An Introduction", *Journal of the British Interplanetary Society*, Vol 42, No 2, February 1989.
9. "Rationale and Requirements for the Multi-Role Capsule", *Journal of the British Interplanetary Society*, Vol 42 No 2, February 1989.
10. (with R.J.Hannigan), "Multi-Role Capsule System Description", *Journal of the British Interplanetary Society*, Vol 42 No 2, February 1989.
11. (with I.Waters) "The Re-entry Environment of the Multi-Role Capsule", *Journal of the British Interplanetary Society* Vol 42 No 2, February 1989.
12. (with R.C.Parkinson) "Multi-Role Capsule: Programme and Costs", *Journal of the British Interplanetary Society* Vol 42 No 2, February 1989.
13. "Space Industrialisation - A New Perspective", *Spaceflight*, Vol 31 No 7 July 1989.
14. "An Expanded Space Infrastructure", *Journal of the British Interplanetary Society* Vol 43 No 10, November 1989.
15. (with C.H.Martin) "The Use of Pallets in The Space Station Infrastructure", *Journal of the British Interplanetary Society* Vol 43 No 10, October 1990
16. "European Manned In-orbit Infrastructure - An Alternative Viewpoint", *Journal of the British Interplanetary Society*, Vol 43 No 10, October 1990
17. (with R.C.Parkinson) "Cost Impacts of Supporting a Future European Space Station", presented at 41st International Astronautical Federation Congress, Dresden Oct 1990, Paper No. IAF-90-602. Later published in *Space Technology* Vol 12 No 4.
18. (with R.C.Parkinson and P.J.Conchie) "Potential Evolution of an International Moon Base Programme", presented at 41st International Astronautical Federation Congress, Dresden Oct 1990, Paper No. IAF-90-602

19. "The Cost Impact of Space Station Architectural Approaches", *The Journal of Practical Applications in Space* , Vol 3 No 3, Spring 1992.
20. (with R.C.Parkinson) "Cost Impacts of Supporting A Future European Space Station", *Space Technology*, Vol 12, No 4, 1992
21. "An Overview of the Bus Alpha Satellite Programme", presented at the World Space Congress, Washington 1992. Paper No. COSPAR Paper 1-H.04.
22. "Long Term Growth Targets for the Space Infrastructure", presented at the World Space Congress, Washington 1992. Paper No. IAA-92-0220, later published in *Journal of the British Interplanetary Society*, Vol 51 No. 7 July 1998.
23. (with R.C.Parkinson) "Space Station Interaction with Transportation System", IA, presented at the World Space Congress, Washington August 1992. Paper No. A-92-0167.
24. "British Space Industry - A Personal View", *Spaceflight* Vol 34 No 8, August 1992.
25. "The World Space Congress", *Spaceflight* Vol 34 No 11, November 1992
26. "No.1 Hit Targets the Moon", *Spaceflight* Vol 34 No 12, December 1992.
27. "A New Pattern for International Space Collaboration", *Spaceflight* Vol 35 Nos 1 & 2, January and February 1993.
28. (with R.C.Parkinson) "MAKS - Eastern Promise?", *Spaceflight* Vol 35, No 3, March 1993.
29. "HOTOL's Secret Engines Revealed", *Spaceflight* Vol 35 No 5, May 1993.
30. "STS-61 Astronauts at Bristol", *Spaceflight* Vol 35 no 6, June 1993.
31. "Polar Platform Model Unveiled", *Spaceflight* Vol 35 No 8, August 1993.
32. "Early History of the Polar Platform: 1984-87", *Spaceflight* Vol 35 No 8, August 1993.
33. "Mars Observer - Arriving For Work", *Spaceflight* Vol 35 No 9, September 1993.
34. "Extracting Power and ECLSS Consumables From Spacecraft Propulsion Systems", Presented at 44th International Astronautical Federation Congress, Graz Oct 1993, Paper No. IAF-93-S.1.460
35. "Matching Space Programme Objectives To Society's Needs", presented at 44th International Astronautical Federation Congress, Graz Oct 1993. Paper No IAA.8.1-93-765 , Later published in *Acta Astronautica* Vol 35 No 9-11 pp 733-739.
36. "Options in Phase A Objectives - What is Feasibility", presented at 44th International Astronautical Federation Congress, Graz Oct 1993 Paper No IAF-93-H.1.181
37. "Space Stations and Beyond", presented at "Space 93" conference, Hastings October 1993. Later published in *Spaceflight* Vol 36 No 1 Jan 1994.
38. "The 44th IAF Congress", *Spaceflight* Vol 36 No 1 Jan 1994.
39. "Meeting ESA Astronaut Claude Nicollier", *Spaceflight* Vol 36 No 9, Sept 1994

40. "Parametric Cost Modelling of Space Stations With Mixed Technology", presented at 45th International Astronautical Federation Congress, Jerusalem Oct 1994. Paper No IAA-94-IAA.1.1.586
41. "A Comparison of Modelling Techniques for Long Term Infrastructure Planning", , presented at 45th International Astronautical Federation Congress, Jerusalem Oct 1994. Paper No. IAA-94-IAA.8.1.705
42. "Britain's Place in Space" *Spaceflight* Vol 37 No 6, June 1995.
43. (with P.Kemp) "Overview of OS-10 Orbital Shelter Programme", Presented at the 46th International Astronautical Congress, Oslo Oct 1995. Paper No. IAF-95-T.1.08
44. "OS-10 Orbital Shelter Life Support System", presented at the 46th International Astronautical Congress, Oslo Oct 1995. Paper No. IAF/IAA-95-G.4.04
45. (with P Kemp) "OS-10: An Orbital Shelter", *Spaceflight* Vol 37 No 12, December 1995.
46. "Representational Space Art - Where is the Aesthetic?", presented at the 47th International Astronautical Congress. Beijing China 1996 Paper No IAA-96-IAA.8.2.03
47. "A Review of the OS-10 Orbital Shelter", presented at the 47th International Astronautical Congress. Beijing China 1996 Paper No IAF-96-T.108
48. (with R.T.Moses) "A Student Satellite for Europe", presented at the 47th International Astronautical Congress. Beijing China 1996 Paper No. IAF-96-P.1.08
49. (with R.T.Moses) "Microsatellites as an Educational Tool - The Bus-Alpha Experience", presented at the BIS Symposium on Low Cost Satellites 13th September 1995 later published *Journal of the British Interplanetary Society*, Vol 49 Dec 1996.
50. "A History of Space and Limits to Growth", *Journal of the British Interplanetary Society*, Vol 51 No 9 September 1998 pp 323-336
51. "Interim Orbital Transfer Stages for Use with Reusable Launch Vehicles as an Example of "Transition Systems"", presented at the 49th International Astronautical Congress. Melbourne, Australia 1998. Paper No. IAF-98-V.2.04, later published in *Space Technology* Vol 19 No 5-6 pp227-236 1999
52. (with A Bond) "A Technical Reappraisal of Black Arrow", presented at the 49th International Astronautical Congress. Melbourne, Australia 1998 Paper No IAA-98-IAA.2.3.07
53. (with J.Murray & A Bond) "An Experimental Precooler for Air Breathing Rocket Engines", presented at the 49th International Astronautical Congress. Melbourne, Australia 1998. Paper No. IAF-98-S.5.02 Later Published in the *Journal of the British Interplanetary Society* Vol 54 No5/6 May/June 2001
54. "Manned Platforms for Oceanographic Observation", *Space Policy* 15(1999) -7-8
55. "Public Access Space Suit" presented at the 50th International Astronautical Congress. Amsterdam, the Netherlands 1999 Paper No IAA-99-IAA.1.3.02 later published in *Journal of the British Interplanetary Society*, Vol 56, No 3/4, pp 127-136, Mar/Apr 2003

56. (with P Kemp) "OS-10 Payload Provisions", *Journal of the British Interplanetary Society* Vol 53 No7/8 July 2000
57. "The HAND Satellite - Proving Lower Cost Approaches" presented to Amsat Space 2000 the 15th Amsat-UK Colloquium, University of Surrey, July 2000
58. (with Roger Moses) "HAND Satellite Operational Considerations" presented at the 51st International Astronautical Congress Rio De Janerio, Oct 2000 Paper No IAA-00-IAA.11.3.07
59. (with Roger Moses) "The HAND Nanosatellite Project", *Journal of the British Interplanetary Society*, vol. 59, p. 167-175, 2006
60. "The Investigation of Natural Global Catastrophes" presented at the 51st International Astronautical Congress Rio De Janerio, Oct 2000, Paper No IAF-00-C-1.09 , Later published in *Journal of the British Interplanetary Society*, Vol 57, No1/2, Jan/Feb 2004
61. (with N.V.Taylor) "CFD and Analytical Methods for Advanced Nozzle Calculations". presented at the 52nd International Astronautical Congress Toulouse France Oct 2001 Paper No. IAF -01-S.2.07
62. "The Role of Heavy Lift Vehicles in a Reusable Launch Vehicle Based Infrastructure" presented at the 52nd International Astronautical Congress Toulouse France Oct 2001 Paper No. IAF-01-V.6.06 , later published in *Journal of the British Interplanetary Society*, Vol 56, No11/12, pp369-377, Nov/Dec 2003
63. (with J. Murray, P. Hendrick, M. Claus, R. Davies) "The Role of Universities in the Early Assessment of the Technical Credibility of Advanced Space Transportation Concepts", , Presented at the 6th International Symposium on Propulsion for Space Transportation of the XXIst Century, May, 2002
64. (with N.V.Taylor) "Vacuum Thrust Optimised Expansion Deflection Nozzles" presented at the 52nd International Astronautical Congress Toulouse France Oct 2001 Paper No. IAF -02-S.2.02
65. "The Potential for Space Intervention in Global Catastrophes", Presented at the 53rd International Astronautical Congress, Houston, Texas USA Oct 2002, Paper No IAC-02-C.2.02 Later published in *Journal of the British Interplanetary Society*, Vol 57, No1/2, Jan/Feb 2004
66. (with N.V.Taylor) "Throat Flow Modelling of Expansion Deflection Nozzles", *Journal of the British Interplanetary Society*, Vol 57, No7/8, Jul/Aug 2004
67. (with N. Taylor) "Optimising Expansion Deflection Nozzles for Vacuum Thrust", , *The Aeronautical Journal*, Vol 108, No 1088, Oct 2004
68. "Multi-Role Capsules: Fulfilling Their Potential", *Journal of the British Interplanetary Society*, Vol 58, No 11/12, pp347-356, Nov/Dec 2005
69. "Terraforming in Context of the Evolving Space Infrastructure". *Journal of the British Interplanetary Society*, Vol 58, No 11/12, pp385-391, Nov/Dec 2005
70. "Some Speculations on the Construction of Artificial Planets", *Journal of the British Interplanetary Society*, Vol 58, No 11/12, pp392-397, Nov/Dec 2005

71. "Space Power as a Response to Global Catastrophes", *Acta Astronautica*, Vol 59, pp524-530, 2006
72. (with H. Webber and A. Bond) "Sensitivity of Pre-cooled Air-breathing Engine Performance to Heat Exchanger Design Parameters", *Journal of the British Interplanetary Society*, Vol 59, May 2006
73. "Mission Capture With A Multi-role Capsule", International Astronautical Congress Later published in the *Journal of the British Interplanetary Society*, Vol 59, No 6, pp194-203, Jun 2006
74. "Space Tourism in the Context of a Diverse Market", *Journal of the British Interplanetary Society*, Vol 59, pp 411-416, Nov 2006
75. "The Multi-role Capsule as an Example of Function Based Requirement Generation" International Astronautical Congress Later published in the *Journal of the British Interplanetary Society* Vol. 60, pp.350-357, Oct 2007
76. "Requirement Generation for Space Infrastructure Systems", " presented at the 57th International Astronautical Congress Valencia Spain Oct 2006, Paper No. IAC-06-D1.3.05, Later published in the *Journal of the British Interplanetary Society* Vol 60, pp.358-366, Oct 2007.
77. (with Alan Bond) "*A Sumerian Observation of the Kofels Impact Event*", Alcuin Academics, 2008, ISBN 1904623646
78. "A Phased Approach to Orbital Public Access", Presented at 1st IAA Symposium on Private Human Access to Space, Arcachon (France) May 28 to 30, 2008, Paper No AA-1-2008-018
79. (with Roger Moses) "The Impact of Radiation Protection on the Design of Space Habitats" presented at the 58th International Astronautical Congress, Hyderabad, India, September 24-28, 2007, Paper No IAC-07-A1.5./A1.7.08, Later Published in the *Journal of the British Interplanetary Society*, Vol 61 pp 146-153, 2008
80. "The Use of Multi-role Components in a Systems of Systems Infrastructure" presented at the 58th International Astronautical Congress, Hyderabad, India, September 24-28, 2007, Paper No. IAC-07-D3.2.08. Later published in the *Journal of the British Interplanetary Society*, Vol 61 pp444-451, Nov 2008
81. "A Technical Description Of The Habitation Extension Module", *Journal of the British Interplanetary Society*, Vol 61 pp419-426, Oct 2008
82. "The Requirement for a Docking Standard Within a System of Systems Infrastructure", presented at the 59th International Astronautical Congress, Glasgow, Scotland, September 2008 Paper No. IAC-08-D3.3.4
83. "Requirement Generation For The Habitation Extension Module" *Journal of the British Interplanetary Society*, Vol 62 (feb) 2009
84. (with Roger Longstaff) "The Requirement Generation Process for the Skylon Launch System", Presented at the 60th International Astronautical Congress, Daejeon, Republic of Korea, 12-16 October 2009. Paper No IAC-09.D2.5.7. later published in *Journal of the British Interplanetary Society* Vol 63, pp.122-128, 2010

85. "An Analysis of the SKYLON Infrastructure" Presented at the 60th International Astronautical Congress, Daejeon, Republic of Korea, 12-16 October 2009. Paper No IAC-09.D3.3.4. later published in the *Journal of the British Interplanetary Society*, Vol 63, pp129-135, 2010
86. "The Interaction Between SKYLON and the International Space Station", presented at the 60th International Astronautical Congress, Daejeon, Republic of Korea, 12-16 October 2009. Paper, No IAC-09.D2.3.8. later published in *Journal of the British Interplanetary Society* Vol 63, pp.145-150, 2010.
87. (with A. Bond) "Technical and Operational Design of the SKYLON Upper Stage", *Journal of the British Interplanetary Society*, Vol. 63, pp.136-144, 2010.
88. "Space Stations Using The Skylon Launch System", 61st International Astronautical Congress, Prague, October 2010. Paper No. IAC-10.B3.7.3, later published in *Journal of the British Interplanetary Society* Vol 65 pp392-401, 2012
89. (with Robert Bond, Roger Longstaff, Richard Varvill) "The SKYLON D1 Configuration" presented at the 61st International Astronautical Congress October 2010 Prague Czech Republic, Paper No IAC-10.D2.4.7
90. "A Potential Route to Certification of SKYLON for Public Flights"; Presented at IAA Conference on Private Human Access to Space Arcachon, France. May 30th - June 1st 2011
91. "Space Station Element Commonality Between LEO and Lunar Infrastructures", presented at 62nd International Astronautical Congress Cape Town, South Africa, October 2011 Paper No.: IAC-11.B3.2.6 later published in the *Journal of the British Interplanetary Society* Vol 65 pp402-409, 2012
92. (with Alan Bond, Richard Varvill, Robert Bond) "Progress on the SKYLON and SABRE Development Programme", Presented at 62nd International Astronautical Congress, Cape Town, South Africa, October 2011 Paper No. IAC-11.D 2.4.2
93. (with Alan Bond) "SKYLON: An Example of Commercial Launch System Development", Italian Association of Aeronautics and Astronautics XXII Conference, Napoli, 9-12 September 2013, Later published in the *Journal of the British Interplanetary Society* Vol 67, pp 434, 2014
94. "Progress on the SKYLON and SABRE". Presented at the 64th International Astronautical Congress Beijing, China, September 2013, Paper No. IAC-13,D2.4
95. (with Roger Longstaff and Bob Parkinson) "The Potential of SKYLON to Support Space Exploration" Presented at the 65th International Astronautical Congress, Toronto October 2014, Paper No. IAC-14-A3,P.4
96. (with multiple other authors) "A Technical Overview of a SKYLON Based European Launch Service Operator", Presented at the 65th International Astronautical Congress, Toronto, October 2014, Paper No. IAC-14.D2.4.5. Later published in the *Journal of the British Interplanetary Society* Vol 68, pp 224-241, 2014
97. (with multiple other authors) "A Business Analysis of a SKYLON Based European Launch Service Operator", Presented at the 65th International Astronautical Congress, Toronto, October, 2014. Paper No. IAC-14.E6.3.8

98. (with Philippa Davis and Richard Varvill), “Progress on SKYLON and SABRE”, , Presented at the 66th International Astronautical Congress, Jerusalem, October 2015, Paper No. IAC-15.D2.1.8
99. “Creating a Universal Space Interface Standard”, Presented at the 66th International Astronautical Congress, Jerusalem, October 2015, Paper No. IAC-15.D3.2.6, Later published in the *Journal of the British Interplanetary Society* Vol 69, pp 163-174, 2016
100. “A Concept Study into a Post ISS Architecture”, Presented at the 66th International Astronautical Congress, Jerusalem, October 2015, Paper No. IAC-15.B3.7.1, Later published in the *Journal of the British Interplanetary Society* Vol 69, pp 175-182, 2016
101. (with R. Longstaff) “A Mission to Demonstrate the Preservation of the Geostationary Orbit” presented at the 7th European Conference on Space Debris - ESA/ESOC, Darmstadt/Germany - 18 - 21 April 2017