



**Calculating and contemplating the future of
humankind among the stars and beyond, through
rigorous and reasoned intellectual discourse**

FISW-2019 Program Guide



27 – 30 June 2019
Charfield, United Kingdom

OPENING RECEPTION NIGHT

Time	Item	Description	Further Info	Mins
17:00	Arrivals	Final Registration & Delegate Packs, Tea & Coffee	Program Guide, Badging	60
18:00	Social	Opening Event for FISW-2, Food & Wine	"Blue Shift"	180
21:00	Close	End of Opening Event	--	60
22:00	Exit	Last Stragglers Out	--	--

All registered delegates should pick up their packs when they enter the venue which is to include their badges to be worn throughout the FISW-2 meeting. The evening open reception will feature a catered dinner and drinks and an opportunity to socialise with your friends and colleagues. We hope you have fun and enjoy the evening as our guests.

At the June 2017 workshop in New York, for the opening evening we arranged for a three-piece classical orchestra. We are pleased to announce that the opening evening on Thursday 27th June will be accompanied by the three-piece 'Blue Shift' jazz band. Blue Shift is a trio drawn from the thriving community of jazz musicians in Oxfordshire. They play popular standards from the mid-20th century in the styles of the Great American Songbook, including swing, blues, bebop, bossa nova and ballads. The name puns on the Doppler shift of an approaching astronomical body.

The members of the band include Stephen Ashworth, a member of the Initiative for Interstellar Studies and also a long time Fellow of the British Interplanetary Society. The other band members are Simon Feast and Tom Feast, who both work for a company in Oxfordshire which is a commercial effort to develop Single Stage to Orbit Spaceplanes to replace conventional rocket technology.



LIVING IN DEEP SPACE

Time	Item	Description	Further Info	Mins
08:15	Open	Tea, Coffee & Pastries	--	30
08:45	Welcome	By Kelvin F Long	I4is & Interstellar Research Centre	5
08:50	Introduction	By Chairman Rob Swinney	Initiative for Interstellar Studies	10
09:00	Keynote	Philip Mauskopf, <i>"Interplanetary & Interstellar Communication & Navigation"</i>	Arizona State University, USA	40
09:40	Speaker 1	Mark Hempself, <i>"Colonies and World Ships"</i>	British Interplanetary Society, UK	30
10:10	Break	Tea, Coffee, biscuits	--	20
10:30	Speaker 2	Kelvin F Long, <i>"Calculations for a Crewed Interstellar Dysonship Driven by Microwave Beam Propulsion"</i>	Interstellar Research Centre, Stellar Engines & Initiative for Interstellar Studies, UK	30
11:00	Speaker 3	Angelo Vermeulen, <i>"Evolving Asteroid Starships: A Bio-Inspired Approach for Designing Generation Starships"</i>	Delft University of Technology, Netherlands	30
11:30	Discussion	Communications, navigation, space colonies, world ships, evolving starships, asteroid mining	Interactive	60
12:30	Break	Catering Lunch	--	60
13:30	Speaker 4	Samar AbdelFattah, <i>"Hyperloop: Martian Operation 1"</i>	Cairo University, Egypt	30
14:00	Speaker 5	Peter Robinson, <i>"Space Elevators: The Earth, The Moon and Beyond"</i>	International Space Elevator Consortium	30
14:30	Speaker 6	Richard Osborne, <i>"The Use of Near-Term Launch Systems for Developing A Stanford Torus"</i>	StellarDyne, UK	30
15:00	Speaker 7	Patrick Mahon, <i>"Worldships – Some Ecological and Resource Constraints"</i>	Initiative for Interstellar Studies	
15:30	Break	Tea, Coffee, Biscuits	--	20
15:50	Discussion	Hyperloop, Mars, Space elevators, Stanford Torus	Interactive	50
16:40	Panel	Chaired by Rob Swinney, <i>"A Near-Term Tactical Discussion on the Build-up of an Interplanetary Infrastructure Toward the Strategic Vision of Interstellar Flight Capability"</i>	Osborne, AbdelFattah, Davis, Vermeulen, White, Ashworth	70
17:50	Social	Special Poster Session Top Floor (Long, Swinney, Bangs, Kaur, Kokkalis, Mahon, Hein)	Accompanied by Wine, Spirits & Nibbles	100
19:30	Close	End of Poster Session	--	--
19:35	Social	Dinner on own or groups	Pay for own meal	--

ADVANCED PROPULSION TECHNOLOGY & MISSIONS

Time	Item	Description	Further Info	Mins
08:15	Open	Tea, Coffee & Pastries	--	35
08:50	Introduction	By Chairman Harold 'Sonny' White	NASA Johnson Space Center, Texas, USA	10
09:00	Keynote	Alan Costley, " Development for Faster Fusion at Tokamak Energy "	Tokamak Energy Ltd	40
09:40	Speaker 1	Angelo Genovese, " Laser-Powered Electric Propulsion Precursor Mission "	Initiative for Interstellar Studies, UK	30
10:10	Break	Tea, Coffee, Biscuits	--	20
10:30	Speaker 2	Ryan Weed, " Antielectron Propulsion "	Positron Dynamics, USA	30
11:00	Speaker 3	Rob Swinney, " Project Icarus Fusion Starship Concept Design Solutions "	Initiative for Interstellar Studies, UK	30
11:30	Speaker 4	Charles Swanson, " Direct Fusion Drive for the Gravitational Lens Mission "	Satellite Systems, USA	30
12:00	Photo	Workshop Group Photograph	--	10
12:10	Break	Catering Lunch (2 nd viewing of posters opportunity)	--	60
13:10	Discussion	Fusion, antimatter catalysed fusion, laser-electric propulsion, precursor missions	Interactive	50
14:00	Speaker 5	Jeremy Munday, " Engineering Quantum Vacuum Fluctuations "	University of Maryland, USA	30
14:30	Speaker 6	Harold 'Sonny' White, " Dynamic Vacuum Propulsion "	NASA Johnson Space Center, Texas, USA	30
15:00	Break	Tea, Coffee, Biscuits	--	30
15:30	Speaker 7	Heidi Fearn, " Advances in Mach Effect Gravitational Assist (MEGA) Drive Experimentation "	CSU Fullerton, California, USA	30
16:00	Speaker 8	Mike McCulloch, " Quantised Inertia, Propellant-less Thrust and Interstellar Travel "	Plymouth University, USA	30
16:30	Speaker 9	Philip Lubin, " Directed Energy – The Path to Interstellar Flight "	University California Santa Barbara, California, USA	30
17:00	Discussion	Quantum vacuum, Mach Effect, inertia drives	Interactive	50
17:50	Close	End of Session	--	--
19:30	Social	Workshop Dinner at the Swan Hotel to include an invited after dinner speech from guest Professor Gregory Matloff	16 Market St, Wotton-under- Edge, GL12 7AE	180
22:30	Close	End of Dinner	--	--
22:45	Transport	Cars / Taxis back to Hotels	--	--

BUILDING ARCHITECTURAL MEGASTRUCTURES

Time	Item	Description	Further Info	Mins
08:15	Open	Tea, Coffee & Pastries, Doors open	--	35
08:50	Introduction	Chairman Kelvin F Long	I4is & Interstellar Research Centre	10
09:00	Keynote	James Schalkwyk, <i>"Building Breakthrough Starshot"</i>	Breakthrough Initiatives, California, USA	40
09:40	Break	Tea, Coffee & Biscuits	--	20
10:00	Speaker 1	Remo Garattini, <i>"Casimir Traversable Wormholes"</i>	Bergamo University, Italy	30
10:30	Speaker 2	Francisco Lobo, <i>"Wormholes, Warp Drives and Interstellar Travel"</i>	Institute of Astrophysics & Space Sciences, University of Lisbon	30
11:00	Discussion	Starshot, wormholes, warp drive	Interactive	30
11:30	Speaker 3	Al Jackson, <i>"Neutrino Beacons for Interstellar Communications"</i>	Triton Systems, USA	30
12:00	Speaker 4	Gregory Matloff, <i>"Is the Kuiper Belt Inhabited?"</i>	New York City College of Technology, USA	30
12:30	Discussion	SETI & interstellar communications	Interactive	30
13:00	Conclusions	Chairman Kelvin F Long, Summary of Workshop	--	30
13:30	Break	Catering Lunch (light only)	--	30
14:00	Close	End of Workshop	--	-
14:30	Transport	Cars depart for station and airport	--	-