



**First NPU-POLITO WORKSHOP
ON AEROSPACE ENGINEERING**

Final Programme



**Xi'an, China
26-29 September 2016**



Welcome message

On behalf of the Local Organizing Committee, we take a great pleasure to welcome you to the 1st NPU-POLITO workshop on aerospace engineering held in Xi'an, China from September 26-29, 2016.

It is the first time that Northwestern Polytechnical University was granted as the host of NPU-POLITO workshop on aerospace engineering. Xi'an is one of the oldest cities in China with more than 3,100 years of history. As one of the Four Great Ancient capitals in the world, Xi'an has held the position under several of the most important dynasties in Chinese history. It is also known as the starting point of the Silk Road, it is this road that connected Xi'an and Rome 2,000 years ago. Nowadays, Xi'an serves as the new starting point of the Silk Road Economic Belt and attracts more attention from the world.

Based on the existing cooperation, the NPU-POLITO workshop on aerospace engineering is aimed at expanding the exchanges and cooperation at all levels, enhancing mutual understanding and promoting substantial international scientific research cooperation. Together with POLITO, We are willing to cultivate more talents in aerospace engineering and make contributions to the progress of science and technology.

I sincerely hope you have a wonderful time in Xi'an, and wish the first NPU-POLITO workshop on aerospace engineering a great success!

Chair Prof. Peijin LIU
Vice-Dean of the School of Astronautics NPU.

刘佩进



Conference Schedule

Sep. 26th, 2016		
16:00 pm to 18:00 pm	Gathering and Visiting Laboratories	
Sep. 27th, 2016		
7:30 am to 8:15 am	Breakfast	Le Garden Hotel
8:30 am to 9:40 am	Welcome AddressOverview of NPUOverview of POLITO	International Conference Center Room I, NPU
9:40 am to 10:00 am	Coffee Break	
10:00 am to 11:40pm	Session: Micro-Satellite	International Conference Center Room I, NPU
12:00 pm to 1:30 pm	Lunch Break	Le Garden Hotel
2:00 pm to 3:40 pm	Session: Structural Mechanics-1	International Conference Center Room I, NPU
3:40 pm to 4:00 pm	Coffee Break	
4:00 pm to 6:30 pm	Session: Structural Mechanics-2	International Conference Center Room I, NPU
6:30 pm to 8:00 pm	Workshop Dinner	Le Garden Hotel
Sep. 28th, 2016		
7:30 am to 8:15 am	Breakfast	Le Garden Hotel
8:30 am to 9:40 am	Session: Aerospace Propulsion -1	International Conference Center Room I, NPU
9:40 am to 10:00 am	Coffee Break	
10:00 am to 11:40pm	Session: Aerospace Propulsion -2	International Conference Center Room I, NPU
12:00 pm to 1:30 pm	Lunch Break	Le Garden Hotel
2:00 pm to 3:40 pm	Session: Flight Dynamics and Control	International Conference Center Room II, NPU
3:40 pm to 4:00 pm	Coffee Break	
4:00 pm to 6:30 pm	Discussion on teaching and research cooperation Closing remarks	International Conference Center Room II, NPU
6:30 pm to 8:00 pm	Garden BBQ, Closing of the workshop	Le Garden Hotel
Sep. 29th, 2016		
7:30 am to 8:00 am	Breakfast	Le Garden Hotel
8:00 am to 2:00 pm	City Sightseeing	The Terracotta Army
2:00 pm and after	Free Time	



27 Sep 2016, Tuesday
International Conference Center
Northwestern Polytechnical University
西工大国际会议中心

Time	Session 1: Workshop opening & overview	Chaired by
08:30-08:35	Welcome Address and Declare the Workshop Open	Prof. Peijin LIU
08:35-08:50	VCR: An Overview of Northwestern Polytechnical University	
08:50-09:00	An Overview of School of Aeronautics of NPU	
09:00-09:10	An Overview of School of Astronautics of NPU	
09:10-09:20	An Overview of School of Power and Energy of NPU	
09:20-09:30	An Overview of POLITO Prof. Muzio GOLA, POLITO	
09:30-09:40	An Overview of Department of Mechanical and Aerospace Engineering Prof. Muzio GOLA, POLITO	
09:40-10:00	Group photo and coffee break	
Time	Session 2: Micro-Satellite	Chaired by
10:00-10:50	CubeSat missions at PoliTo: lessons learned and future perspective By Prof. Sabrina CORPINO, POLITO	Prof. Giorgio GUGLIERI
10:50-11:40	AOXIANG STAR-a 12U CubeSat developed at NPU By Associate Prof. He HUANG, School of Astronautics, NPU	
12:00-14:00	Lunch break	
Time	Session 3-1: Structural Mechanics	Chaired by
14:00-14:50	Advances in methods for the dynamics of turbine Components with localized non-linearities Prof. Stefano ZUCCA, POLITO	Prof. Daniele BOTTO
14:50-15:40	Multi-scale failure characterization and modeling of composites for aerospace application Prof. Chao ZHANG, School of Aeronautics, NPU	
15:40-16:00	Coffee break	
Time	Session 3-2: Structural Mechanics	Chaired by
16:00-16:50	Outline of research activities in computational structural mechanics at NPU Associate Prof. Jin-you XIAO, School of Astronautics, NPU	Prof. Muzio GOLA
16:50-17:40	Advances in contact mechanics and wear for vibration mitigation Prof. Daniele BOTTO and Dr. Mario LAVELLA, POLITO	
17:40-18:30	Nonlinear structural dynamics and health monitoring of bolt-jointed structures Prof. Chao XU, School of Astronautics, NPU	
18:30-20:00	Workshop Dinner	



28 Sep 2016, Wednesday
International Conference Center
Northwestern Polytechnical University
西工大国际会议中心

Time	Session 4-1: Aerospace Propulsion	Chaired by
08:30-09:20	Advances in numerical and experimental damper Micromechanics By Prof. Muzio GOLA, POLITO Developments in predicting blade-damper coupling Prof. Teresa BERRUTI and Dr. Chiara GASTALDI, POLITO	Prof. Dingxi WANG
09:20-10:10	Understanding the flow characteristics of micro bio-inspired propulsors Associate Prof. Shuanghou DENG, School of Power and Energy, NPU	
10:10-10:30	Coffee break	
Time	Session 4-2: Aerospace Propulsion	Chaired by
10:30-11:20	Aero-elasticity in blade arrays: numerical techniques for blade flutter suppression Dr. Christian FIRRONE, POLITO	Prof. Stefano ZUCCA
11:20-12:10	Numerical methods for flutter prediction Prof. Dingxi WANG, School of Power and Energy, NPU	
12:10-14:00	Lunch break	
Time	Session 5: Flight Dynamics and Control	Chaired by
14:00-14:50	Outline of research activities in guidance navigation and control systems Prof. Giorgio GUGLIERI, POLITO	Prof. Sabrina CORPINO
14:50-15:40	Flight dynamics and control of space maneuver vehicles Prof. Jianjun LUO, School of Astronautics, NPU	
15:40-16:00	Coffee break	
Time	Session 6: Discussions and closing remarks	Chaired by
16:00-17:00	Topic 1: Academic research cooperation Exchange master and phd students; Launch a joint phd programme; Research projects and international funding application	Prof. Peijin LIU
17:00-18:00	Topic 2: Undergraduate teaching cooperation Dr. Chunna LI from NPU introduce the experiences of how they do innovation education for undergraduates Exchange the ideas on this and discuss the possibility to launch a year 3-4 undergraduate exchange programme	
18:30-20:00	Garden BBQ, Closing of the workshop	