

# 6<sup>th</sup> World Congress of MIRCE-MECHANICS

Woodbury Park, Exeter, United Kingdom, 13 –15 June, 2017

**MIRCE Akademv Call for Papers 13<sup>th</sup> March on time**

HARTFORD	DELTA	2318	4:15P	94	ON TIME
HOUSTON	CONTINENTAL	1505	3:15P	6	ON TIME
INDIANAPOLIS	DELTA	2403	4:35P	96	ON TIME
ISLIP NY	DELTA	2310	2:55P	96	ON TIME
KANSAS CITY MO	SOUTHWEST	109	4:35P	122	ON TIME
LONDON HEATHROW	UNITED	918	2:19P	42	BOARDING
LOS ANGELES	DELTA	333	3:25P	73	ON TIME
LOS ANGELES	SOUTHWEST	143	3:40P	126	ON TIME

*“Airlines are in the transportation business; Boeing, Douglas, Lockheed, Airbus, they're in the airplane business. You must keep equipment available, you can have the shiniest looking airplane in the world, the most remarkably engineered airplane in the world, it's an academic marvel, it's an engineering marvel, but if the damned thing is not at B3 in Chicago at 9.15 to originate the trip to Cleveland, forget it.”*

**Jack Hessburg (1934-2013) Grand Fellow of the MIRCE Academy, Exeter, UK**



# A personal invitation from Dr Jezdimir Knezevic, Founder & President of the MIRCE Akademy

Since 1975 I have been actively involved in the research and teaching of numerous specialist engineering disciplines that address specific in-service characteristics of the components of maintainable systems, like reliability, maintainability, supportability, testability, availability and similar. However, in the late 1990s I became fully aware that, despite the fact all of these specialist subjects have their own specifications and contractual requirements, there was nothing to “normalise” them and predict the overall in-service performance of maintainable systems. The reality was, it was impossible to accurately calculate how many daily flights “to Cleveland” are likely to be delivered on time during the in-service life of a given aircraft design or how much electrical energy will be delivered by a given design option for a power station.

Hence, it became crystal clear to me that the purpose of every maintainable systems is **NOT** to deliver R,M,S,T,A and similar requirements . The purpose is for it to do the **WORK**. Nothing is intentionally specified, designed, produced and acquired by somebody in order to do nothing. To allow me to fully address the complicated problem of generating accurate predictions of the work done and resources consumed by maintainable systems, throughout its o life, I resigned from Exeter University, UK, in 1999 and established the MIRCE Akademy at Woodbury Park, Exeter, UK.

Tears and years of intensive research have generated a new, science-based, body of knowledge, named Mirce-mechanics. It comprises axioms, laws, mathematical equations and calculation methods that enable accurate predictions of the work done by the system<sup>1</sup> and the work require to be done on the system to maintain the flow of functionality through life. Thus, from now on, design teams will be able to “normalise” all feasible solutions using comparative analysis and then select the most suitable compromise for all stake holders, based on their through life needs. It is an imperative as a maintainable system comprises not only the entity delivering functionality but every facet of the universe that is needed to operate and maintain it. This includes, but is not limited to: the time it is intended to operate; the capacity it has to do work in a given time; the supplies and resources required to sustain and maintain its operation; the capability of the supplies and resources to provide sustainment and maintenance, the environment around it (weather, dust, contaminants), location (global and installed), access (physical and operational), financial constraints and many more.

The main objective of the Congress is to bring together scientists, mathematicians, engineers, operators, maintainers, logisticians, programmers, economists and other experts to spend a few days together and learn the complexity of the process govern by the Mirce-mechanics methods to quantify the consequences of their specialist decisions on the future performance of maintainable systems.

I am looking forward to welcoming you to the MIRCE Akademy, during this unique global event, as a paper presenter, master class presenter, exhibitor, sponsor or participant.

A handwritten signature in black ink, appearing to read 'J. Knezevic'.

**Papers, Presentations, Workshops, Exhibits, Software** and similar contributions are expected to be broadly confined within the following topics:

**Theme 1:** Science & Mathematics of functionability phenomena that cause transitions of systems to the Negative Functionability State. Some of the physical and human actions that belong to this category of phenomena are:

- **Inherent Actions:** Incorrect Material, Incorrect Design, Incorrect Assembly, Incorrect Packaging, Handling, Storage or Transportation, Incorrect Maintenance, Incorrect Part and so forth.
- **Potential Actions:** Lightening, Sand Storm, Solar radiation, Wind direction change, Foreign Object damage, No Fault Found, Puncture, Operator errors, Contamination, Volcanic Eruptions, Collisions, and similar.
- **Continuous Actions:** Wear, Corrosion, Delamination, Creep, Fatigue, Tear, Erosion and so forth.

**Theme 2:** Science & Mathematics of functionability phenomena that cause transitions of systems to the Positive Functionability State. Some of the human actions that belong to this category of phenomena are:

- **Servicing:** replenishment of consumable fluids, cleaning, washing, painting, etc.,
- **Lubrication:** installing or replenishing lubricant
- **Inspection:** Examination of an item against a defined physical standard
- **Visual Inspection** performed to detect obvious unsatisfactory conditions.
- **Detailed Visual Inspection** consists of intensive visual search for evidence of any irregularity.
- **Check:** a qualitative or quantitative assessment of function
- **Operational:** a qualitative assessment to determine if an item is fulfilling its intended function
- **Restoration:** perform to return an item to a specific standard. (cleaning, repair, replacement or overhaul.)
- **Discard:** removal from service.

**Theme 3:** Computational methods for the applications of Mirce Functionability, Operability, Maintainability or Supportability Equation to maintainable systems. Contributions that cover the following topics are particularly welcome:

- Available Software Solutions,
- Simulation Languages and Methods
- In-service Data: Acquisition, Storage and Analysis
- New ways of dealing with Convolution Integral Equations
- Relevant Case Studies

**In summary**, the challenge of Mirce-mechanics is to *predict the future state of maintainable systems, which results from very complex processes, driven by rich interactions between internal components, on one hand, and environmental and human impacts of their operation and maintenance. Mirce-mechanics is still a young science and not everything regarding in-service life of a machine is fully understood. Today, it is still part artistry, but the results of inaccurate predictions could have significant impact on human lives, habitat and business.*

**Attention: 14<sup>th</sup> March 2017** is the deadline for the submission of all presentation and exhibition intentions.

For the planning purpose, of the participants, exhibitors and presenters, the following Price structure will be applied regarding all services related to the 6<sup>th</sup> World Congress of Mirce-mechanics.

Service Available	Cost			After 15th May 2017		
	Price	VAT	Total	Price	VAT	Total
All prices are in GB Pounds						
<b>Participant for 3 Days</b>	595.00	119.00	<b>714.00</b>	645.00	129.00	<b>774.00</b>
<b>Participant per Day</b>	225.00	45.00	<b>270.00</b>	275.00	55.00	<b>330.00</b>
<b>Presenter on the day of presentation</b>	<b>Free</b>			<b>Free</b>		
<b>Presenter for 3 Days</b>	300.00	60.00	<b>360.00</b>	325.00	65.00	<b>390.00</b>
<b>Retired participants for 3 Days</b>	195.00	39.00	<b>234.00</b>	195.00	39.00	<b>234.00</b>
<b>University students for 3 Days</b>	395.00	79.00	<b>474.00</b>	495.00	99.00	<b>594.00</b>
<b>Congress Proceedings on CD</b>	175.00	35.00	<b>210.00</b>	175.00	35.00	<b>210.00</b>
<b>MIRCE Akademy Members</b>	550.00	110.00	<b>660.00</b>	575.00	115.00	<b>690.00</b>
<b>MIRCE Akademy Fellows</b>	575.00	115.00	<b>690.00</b>	595.00	119.00	<b>714.00</b>
<b>MIRCE Akademy Students</b>	495.00	99.00	<b>594.00</b>	525.00	105.00	<b>630.00</b>
<b>Partners Programme for 3 Days</b>	195.00	39.00	<b>234.00</b>	195.00	39.00	<b>234.00</b>
<b>Congress Dinner only</b>	62.50	12.50	<b>75.00</b>	62.50	12.50	<b>75.00</b>
Sherry, 3 course meal & wine						
<b>Exhibitors - Gold Package</b>	5000.00	1000.00	<b>6000.00</b>	5500.00	1100.00	<b>6600.00</b>
<b>Exhibitors - Silver Package</b>	3000.00	600.00	<b>3600.00</b>	3000.00	600.00	<b>3600.00</b>
<b>Exhibitors - Bronze Package</b>	1500.00	300.00	<b>1800.00</b>	1500.00	300.00	<b>1800.00</b>
<b>B&amp;B at Woodbury Park Hotel - single</b>	Rooms are guaranteed		<b>75.00</b>	Rooms are guaranteed		<b>75.00</b>
<b>B&amp;B at Woodbury Park Hotel - double</b>	Rooms are guaranteed		<b>95.00</b>	Rooms are guaranteed		<b>95.00</b>

#### VALUE ADDED TAX (VAT):

Unless special exemption exists, under UK Customs and Excise regulations delegates from all countries are required to pay UK VAT @ 20% on all courses taking place in the UK. Non-UK delegates may be able to recover VAT incurred via the relevant tax authority in the country of origin of the delegate.

#### Terms and Conditions

Substitution of participants may be made at any time. If you intend to do this, please advise the MIRCE Akademy ('the organiser') as soon as possible. Cancellation of a booking must be received in writing by the organiser at least 14 days before the commencement of the Congress. The MIRCE Akademy regrets that no refunds or credits will be made after the deadline unless the organiser cancels the Congress. The organiser reserves the right to alter the programme or cancel the Congress at its discretion. All places offered are subject to availability.

**For any other information please contact us:**

**+ 44 (0)1395 233 856, [quest@mirceakademy.com](mailto:quest@mirceakademy.com) [www.mirceakademy.com](http://www.mirceakademy.com)**

## About the Venue

Woodbury Park is a magnificent 500 acre complex set among rolling hills above the South West English coastline, only 5 miles from Exeter.

Communication between Exeter and other parts of the United Kingdom are excellent.

- **By road**, the M5 motorway links Exeter to London, the Midlands, Scotland and Wales. Regular rapid coaches run services to and from London and Heathrow Airport.
- **By rail**, a regular fast service is available to and from Exeter (St David's Station) and London (Paddington Station).
- **By air**, Exeter Airport offers regular flights to many British and Continental destinations and is situated near to Woodbury Park.

Travel between Exeter and Woodbury normally requires a car or taxi.

Among the outstanding leisure facilities at Woodbury Park are two golf courses including the magnificent **Oaks Championship course**, tennis courts, a swimming pool, spa, sauna and fully equipped gymnasium and well appointed lounge areas and bars.

**Woodbury Park, Exeter, EX5 1JJ, UK**

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**Exeter** is the most southwesterly Roman fortified settlement in Britain. Exeter Cathedral was founded in the early 12th century and has several notable features, including an early set of misericord, an astronomical clock and the longest uninterrupted vaulted ceiling in England. **Today**, Exeter is identified as one of the top ten most profitable locations for a business to be based.



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**Woodbury Park Hotel & Golf Club, Exeter, EX5 1JJ, UK – home of the MIRCE Academy**