

MIRCE Academy

Go To BOOKING FORM

DALLAS/FT WORTH	AMERICAN	1281	6:32A	17	ON TIME
HARTFORD	US AIRWAYS	2712	3:35P	52	ON TIME
HARTFORD	DELTA	2318	4:15P	94	ON TIME

2nd World Congress of MIRCE MECHANICS*

Woodbury Park, Exeter, United Kingdom, 10 – 12 June 2013

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
LOS ANGELES	UNITED	231	4:25P	40	ON TIME
LOUISVILLE	DELTA	2409	2:20P	94	ON TIME
MEMPHIS	NORTHWEST	961	2:40P	36	CHECK IN

*** MIRCE Mechanics is a scientific theory for the predicting the Motion of In-service Reliability, Cost and Effectiveness**



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

All engineering disciplines have been developed, several decades or even centuries, after the development of the relevant science discipline. Thus, mechanical, electrical, nuclear, chemical, aeronautical and other types of well recognised and proven engineering disciplines have grown on the foundations made of mechanics, electrodynamics, fluid mechanics, thermodynamics, quantum mechanics and similar scientific disciplines, fully defined by the proven laws and equations named after their creators like Newton, Maxwell, Hamilton, Lagrange, Euler, Bernoulli, Boltzman, Planck Schrödinger, Heisenberg and other giants of science.

However, the story of reliability, operability, maintainability, supportability, testability and other related engineering disciplines, known as “ility” engineering, is completely the opposite. They came on the scene in the second half of twentieth century in direct response to the customers’ demands for reliable, maintainable, supportable, operable and available machines, which existing engineering disciplines were not able to deliver. Under those circumstances thousands of dedicated professionals within aerospace, defence, automotive, power and other industries tried to do their best to rise to the challenge. Industrial standards were created, best practices were observed and prescribed to satisfy contractual requirements, but no significant progress has been made in establishing it as a well-recognised and proved discipline of engineering.

In summary, for the first time in engineering history the process of the creation of an engineering profession has preceded the process of the creation of scientifically proven theories, laws and formulas. Hence, to put “ility” engineering on a par with other proven and respected engineering disciplines it was necessary to create a science based foundation and make it compatible with other engineering disciplines regarding terminology, definitions, physical units and prediction accuracy on one hand and also to develop publishing, education and training opportunities

With that in mind I established the MIRCE Akademy in 1999, where we created **Mirce Mechanics**, the scientific theory of the motion of functionability through the life of machines. Its axioms, laws, formulas and methods have been developed to enable accurate predictions of the motion of reliability, maintainability, supportability, operability, availability and similar measurable functionability characteristics, of human made and maintained systems, to be made with probabilistic regularity.

Consequently, I wish to invite you to join us in June when the methods, tools and applications of the Mirce Mechanics will be discussed and shared among world experts who are coming from a wide spectrum of contributing disciplines.

Also, I wish to encourage you to become an active Member of the MIRCE Akademy that is engaged in scientific, educational, training, literary and professional endeavours related to Mirce Mechanics.

(<http://www.mirceakademy.com/index.php?page=Membership>)

I am convinced that without the knowledge of Mirce Mechanics it is impossible to successfully perform design engineering tasks whose main objectives are the creation of machines that are:

- operable, reliable, maintainable, supportable and available as required by users
- demanding the least investment in in-service resources like personnel, material, equipment, facilities, information and others
- generating the least possible harmful impact on humans and natural environment.

I hope you find this Programme interesting and will consider attending the Congress.

A handwritten signature in black ink that reads "Knezevic". The signature is stylized, with a large, looped initial 'K'.

Monday 10th June 2013

0830- 0915	Registration and welcome coffee, Woodbury Park Hotel,
0900 - 0905	Welcome by Dr Jezdimir Knezevic, Founder & President, Mirce Academy, UK
0905 - 1030	<i>Opening Remarks by Dr Knezevic</i> Mirce Mechanics:: Philosophy, Science, Mathematics, Computation, Technology, Applications, Education, Training and Research Opportunities.
1030-1100	Morning Coffee
1100-1200	RICHTERS, Anja, Airbus, Germany <i>"Airbus Methods for Ensuring Functionability for the Change Process of an Aircraft"</i>
1200-1300	Chris Rijdsdijk, Hogeschool Zeeland/ International Maintenance Academy, Holland <i>The Effects of Maintenance Decision Making</i> An item's quality is generally not seen as a faith that is beyond our control. Decisions to maintain should typically contribute to an item's quality. This presentation aims to outline a formalism to extend conventional reliability engineering to reveal the effects of maintenance decisions. An implementation of this formalism will be presented.
1300 -1400	Lunch
1400-1530	Justin Taylor, Ipolytech, Telford, UK The Role of Plastics Manufacturing Processes in the Failure of Polymer Products. Whilst design parameters and service conditions play key roles in the life expectancy of manufactured products, the role of manufacturing in failure is often overlooked. Polymeric materials allow a broad range of conversion processes to be used. This paper will look at the key processes and common faults arising from materials, operators, machinery and process conditions. The contribution of manufacturing faults in a number of real-life failures will be reviewed.
1530-1600	Afternoon Tea Break
1600 -1700	Professor Chris Harris, University of Plymouth, UK <i>"Metaphor Traps and the Brain"</i> This presentation addresses mechanisms of human behaviour, as a part of the functionability system, from the neuroscience point of view.
1700 -1815	Richard F.W. Bader 2013 Memorial Lecture Professor Gernot FRENKING Hans-Hellmann Professor, University of Marburg, Germany
1900 - 1930	Get Together Sherry Reception at Woodbury Park Golf Club Terrace
1930 -2300	Gala Dinner of the 2nd World Congress of Mirce Mechanics Guest Speaker: Tommi Mäkinen, 1996, 1997, 1998, 1999 World Rally Champion MIRCE Academy Fellowship Award Ceremony



Exeter

It 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 a county town of Devon, and it is identified as one of the top ten, United Kingdom's most profitable locations for a business to be based.

Exeter is also a home of 20,000 students of the Exeter University



Richard F.W. Bader

(15 October 1931 – 15 January 2012)

BSc (1953) and MSc (1955) from McMaster University, Hamilton, Ontario, Canada and PhD (1958) from the Massachusetts Institute of Technology (MIT), in USA. 1966-1996, a full Professor, at McMaster University.
1980 Elected a Fellow of the Royal Society of Canada
2010 Elected a Grand Fellow of the MIRCE Akademy, UK.

“The goal of a scientist is to uncover new ideas, concepts and tools, practical or theoretical, that extend our understanding of the world around us and enable us to do new things. In chemistry, the theory of Atoms In Molecules (AIM) developed in my laboratory, is being increasingly used by workers in all fields of chemistry and also in solid state physics. Because AIM has increased our understanding of how atoms behave, it is used in many ways - to develop new alloys and new and better drugs, for example. Nothing pleases me more than the knowledge that each year sees an ever increasing use of AIM by other scientists in the pursuit of their own research.” Thank you Richard, for being an inspiration for all of us, Dr K.
For more information go to <http://www.mirceakademy.com/index.php?page=grand-fellows/#bader>

Richard F.W. Bader 2013 Memorial Lecture



Dr Gernot FRENKING

Hans-Hellmann Professor

University of Marburg, Germany

“The Chemical Bond - Sphinx and Lucky Bag”

Recent Awards and Recognitions

- 2007: Elhuyar-Goldschmidt Prize of the Royal Society of Chemistry of Spain
- 2008: Appointed to Fellow of the Royal Society of Chemistry (FSRC)
- 2009: Schrödinger Medal of the WATOC (World Association of Theoretical and Computational Chemists)
- 2010: The Hofman Distinguished Lecture, Imperial College, London
- 2011: The Lise-Meitner Lecturer, The Hebrew University of Jerusalem, Israel
- 2012: Hans-Hellman Research Professurship Award of the Philipps Universität Marburg

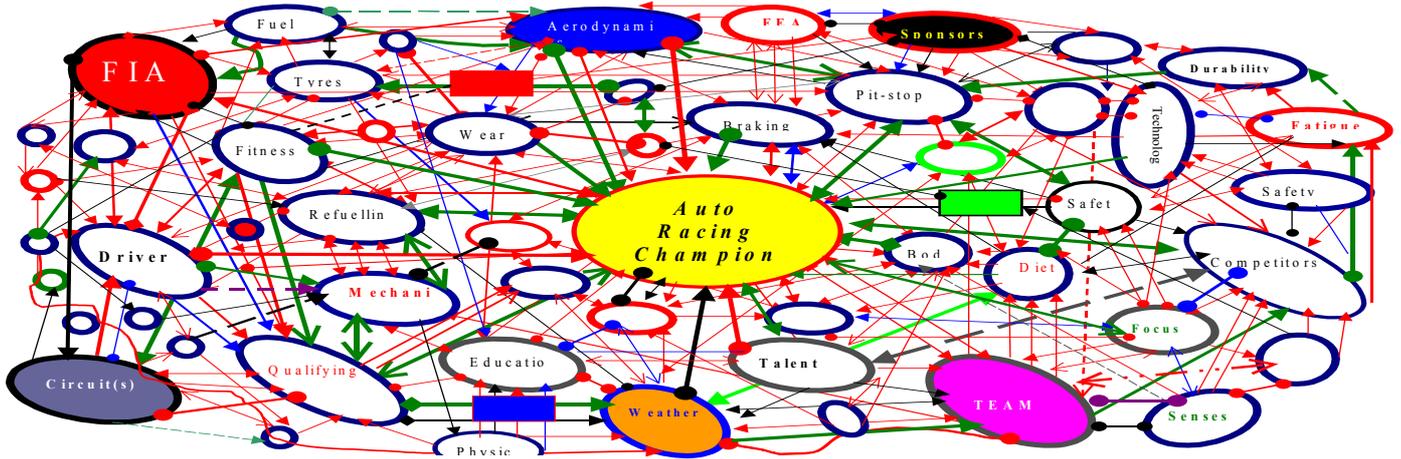
Gala Dinner Guest Speaker

Tommi Makinen

World Rally Champion 1996, 1997, 1998, 1999



Monday 10th June 2013
Official Opening of the MIRCE Akademy Auto Racing Championship Centre



Tuesday 11th June 2013

0830- 0900	Registration and welcome coffee, Woodbury Park Hotel,
0900 - 1000	Key Note Presentation Dr Das Diganta , CALCE Centre of University of Maryland, USA, will present a paper <i>How to Improve LED Lifetime Assessment Method</i> , which focuses on how NOT to assess reliability of LEDs
1000 - 1045	Professor George Rzevsky , Complexity Science and Design Research Group, The Open University, UK <i>Complexity Science and Mirce Mechanics</i> Concepts and principles of Complexity Science has been applied to construct a novel model of aircraft life in terms of patterns of functionality event, taking into account failure interdependence and specific operating and servicing conditions for each individual aircraft. Multi-agent technology has been used to implement the model.
1045-1115	Morning Coffee
11.15-1200	Doug Owen , LR Scandpower Ltd, Bristol, UK <i>First Eleven – Design Organization Guidance for Delivering Enhanced Human Performance in Maintenance</i>
1200-1300	John Thompson , Science Fellow of the MIRCE Akademy <i>Prediction of the Impact of the In-service Support on System Functionality</i>
1300 -1400	Lunch Break
1400 -1500	Orlando Chiarello , Secondo Mona, Somma Lombardo, Italy <i>Impact of Accuracy of Technical Communication on the Motion of Functionability</i> This paper analyses impact of the Simplified Technical English on the reductions of the maintenance and operational errors caused by the misunderstandings in communications between designers and in-service personnel.
1500-1530	Afternoon Tea Break
1530-1645	Ian Zaczyk , Reliance Limited, Southampton, UK <i>Natural World: Negative Functionability Phenomena investigation</i> A case study based on Airbus A330-303 In Flight Upset, Western Australia, 7 October 2008. This presentation is based on 4 year long research project performed at the MIRCE Akademy related to the Analysis of the Influence of Atmospheric Radiation Induced Single Event Effects on Avionics Failures.
1645-1730	Stuart Peake , Quorsym Ltd, Newton, Dorset, UK <i>Mirce Mechanics Based Predictions of Virgin Galactic In-service Support</i> The objective of the Virgin Galactic company is to provide suborbital space flights to the paying public, sub orbital science missions and small satellite launches. This paper presents the results of the theoretical analysis of the demand for the logistics support resources required to deliver continuous level of despatch reliability and safety.
1900 -2200	Traditional English Fish & Chips in the Traditional English Pub XVII Century English Pub, Topsham (15mls from Woodbury Park, transport provided)

Wednesday 12th June 2013

0830- 0900	Registration and welcome coffee, Woodbury Park Hotel,
0900 - 1700	<p align="center">Master Class: Counterfeit Part Avoidance and Detection <i>Dr Das Diganta, CALCE Centre of University of Maryland, USA</i></p> <p>Counterfeit electronics components continue to make news. In recent years, the prevalence of these fake parts has only increased, with reports of parts discovered in military systems, medical devices and process control equipment. The elements of the methods that broadly define the methods of protecting your organization include:</p> <ul style="list-style-type: none"> • Supply chain management (proper procurement policies) • Supply chain level authentication • Law enforcement and government policies <p>The first half of this course will take the attendees through the steps of assessment of parts, manufacturers, and distributors; the various tagging and serializing techniques that are proposed and in use, the impacts of the government and law enforcement policies in the counterfeit part avoidance process</p> <p>This increased risk has not only focused the spotlight on counterfeit component detection methods, but the ability of these techniques to uncover suspect parts that are produced using sophisticated counterfeit creation techniques. Second half of this workshop will be on parts inspection and materials characterization begins with a primer on the diverse counterfeit part creation techniques, including the recently discovered “media-blasting” method. It then discusses the effectiveness of various non-destructive techniques and destructive processing steps for inspecting suspect counterfeit components. This part emphasizes on the materials characterization tools and techniques that are increasingly being deployed by numerous for positive identification of suspect parts. Techniques such as Fourier transform infrared spectroscopy (FTIR), thermo-mechanical analysis and x-ray fluorescence spectroscopy (XRF) have recently found new applications for counterfeit part detection in addition to more traditional laboratory analytical uses.</p> <p>The master class coverage will prepare the attendees for adherence to SAE Aerospace Standards on counterfeit parts on policy, distributors and test laboratories, respectively the SAE 5553 (adopted), SAE 6081 (in ballot), and SAE 6171 (in development). The presenter has been closely involved with the development of these standards and the attendees to the class will have insight on how best to adopt and utilize these standards to the advantage of your organization.</p>
1030-1100	Morning Coffee
1300 -1400	Lunch and Departure
1515-1530	Afternoon Tea
17.00	Official Closure and Group Photo

All prices are in GB Pounds		Before 25th May 2013			After 25th May 2013		
Package	Price	VAT	Total	Price	VAT	Total	
Participant for 3 Days	695.00	139.00	834.00	795.00	159.00	954.00	
Participant per Day	275.00	55.00	330.00	325.00	65.00	390.00	
Presenter on the day of presentation	Free			Free			
Presenter for 3 Days	325.00	65.00	390.00	395.00	79.00	474.00	
Retired participants for 3 Days	195.00	39.00	234.00	195.00	39.00	234.00	
Congress Proceedings on CD	175.00	35.00	210.00	225.00	45.00	270.00	
MIRCE Akademy Members	645.00	129.00	774.00	745.00	149.00	894.00	
MIRCE Akademy Fellows	625.00	125.00	750.00	725.00	145.00	870.00	
MIRCE Akademy Students	595.00	119.00	714.00	695.00	139.00	834.00	
Partners Programme for 3 Days	195.00	39.00	234.00	245.00	49.00	294.00	
Congress Dinner only	75.00	15.00	90.00	75.00	15.00	90.00	
B&B at Woodbury Park Hotel - single	Rooms are		75.00	Rooms are		75.00	
B&B at Woodbury Park Hotel - double	Guaranteed		95.00	not guaranteed		95.00	

About the Venue

Woodbury Park is a magnificent 500 acre complex set among rolling hills above the South West English coastline, only a few 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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www.woodburvark.co.uk

About the MIRCE Akademy

The MIRCE Akademy is an independent research and education institution, established in 1999 by Dr J. Knezevic, to engage in scientific, educational, training, literary and professional endeavours for **Managing In-service Reliability, Cost and Effectiveness, MIRCE**, based on the scientific principles of Mirce Mechanics. Our contribution to humanity is the body of unique knowledge that is essential for creating, managing and maintaining systems that deliver maximum functionability, with least possible investment in resources and impact on environment, while maximising economic and social benefit to the society.



*MIRCE Akademy is a division of Mirce Science Limited, which is a private company registered in England and Wales. Company Reg. No. 3675242. Registered Office, Woodbury Park, Exeter, EX5 1JJ, UK. **MIRCE** is a trademark registered in the United Kingdom under No. 2338979 in respect of printed training materials, books, education, training, scientific research and consultancy in the name of Mirce Science.*



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

2nd World Congress of Mirce Mechanics 10 – 12 June 2013

BOOKING FORM

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Web site: www.mirceakademy.com

THIS FORM MAY BE COPIED

Please select appropriate level of service and corresponding fee.

Group discounts are available please contact us.

The Symposium Fees includes:

- Attendance
- Congress Papers and Supporting Materials
- Lunches and Light Refreshments
- Gala Dinner on 10th May
- Richard Bader Memorial Lecture
- Fish & Chips Event on 11th May

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.

PERSONAL DETAILS (Please print clearly)

Surname _____

First name _____

Organisation _____

Department _____

Position _____

Address _____

Postcode _____ Country _____

Tel _____ Fax _____

E-mail _____

Special requirements Yes No

Please specify _____

I understand and accept the registration terms and conditions as shown

Signature _____ Date _____

PAYMENT DETAILS

Please invoice my organisation (**Note: UK MOD personnel can pay by BACS through the DBA – Contractor Number will be supplied with invoice**)

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Terms and Conditions

Substitution of participants may be made at any time. If you intend to do this, please advise the MIRCE Science ('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 Symposium. MIRCE Science regrets that no refunds or credits will be made after the deadline unless the organiser cancels the Event.

The organiser reserves the right to alter the programme or cancel the Summer School at its discretion. All places offered are subject to availability.