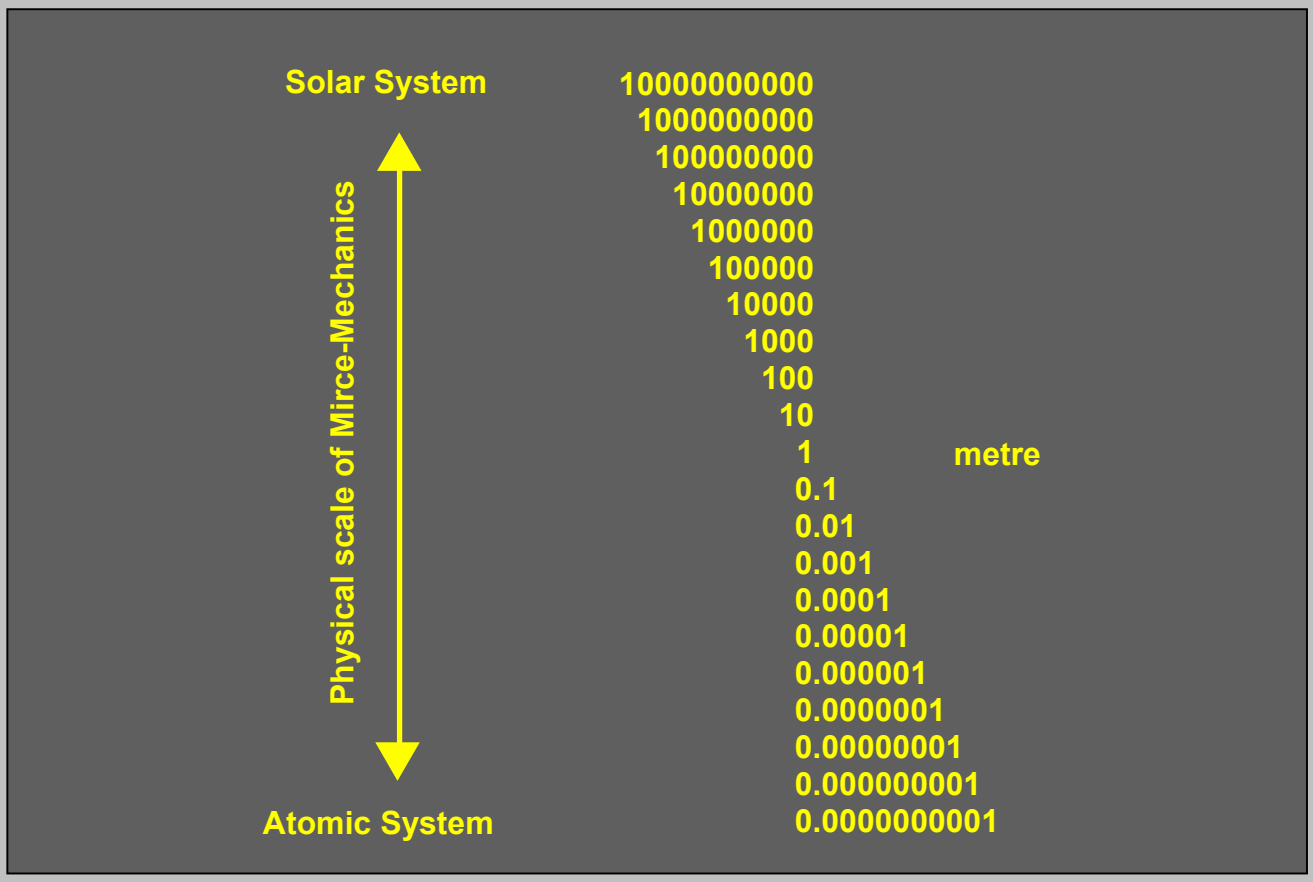
17th International MIRCE Symposium

The World First Presentation Of

Mirce-Mechanics©

Science and Application



Be among the first to benefit from 25 years of continuous development that has resulted in the formulation of the Mirce-Mechanics, a science that will become the foundation for Mirce-Engineering (designing and managing the life of machines) in the same way as fluid mechanics, thermodynamics, quantum mechanics, hydro-mechanics and similar science-based disciplines are the foundation of mechanical, electrical, nuclear and other well recognised engineering domains.

Woodbury Park
Exeter
United Kingdom
6 – 7 December 2007

Register Now

Email quest@mirceakademy.com
Fax +44 (0) 1395 233 899
Phone +44 (0) 1395 233 856

The 17th International MIRCE Symposium

6 – 7 December 2007

Science predicts the future

The development of science started when people began to study phenomena not merely observing them. People developed instruments and learned to trust their readings, rather than to rely on their own perceptions. They recorded the results of their measurements in the form of numbers. Supplied with these numbers they began to seek relationships between them and to write down in the form of formulas. Then the formulas became the only things they came to trust when they began to predict things they could not physically experience.

At the MIRCE Akademy we have observed and analysed large numbers of functionability phenomena - inherent failures, inspections, demands for spares, operational tests, visual checks, scheduled maintenance tasks, foreign object damage, as-bad-as-old repairs, not fault found, aging processes, non distractive tests, storage and transport issues and many, many more. We have understood the mechanisms, the frequencies, and the consequences of their occurrences in the life of large number of machines in order to determine and formulate their relationships. Finally, their physical relationships have been captured and described through mathematical means that enable accurate predictions to be made. This has given birth to *Mirce-Mechanics: the science of the motion of functionability through the life of a machine.*

The main objective of the first day of the Symposium is to present the concept, main principles, and equations of Mirce-Mechanics.

Day One – Thursday 6 December 2007
Mirce-Mechanics: The Science

0900 – 0930	Registration
0930 – 1030	From Newton to Quantum Mechanics
1030 – 1100 Morning Coffee	
1100 – 1200	MIRCE-Mechanics: • Concept of the motion • Causes of the motion • Functionability States • Axioms of the Motion
1200– 1300	Motion to Initial Functionable State Mechanics of Design, Production, Integration, Installation Processes
1300– 1400 Lunch	
1400 - 1500	Motion to the Fail State • Mechanics of the Motion • Speed of the Motion • Equation of the Motion
1500 – 1600 Afternoon Tea	
1600 – 1730	Sequence of the Motion Between Functionability States • Mechanics of the Motion • Speed of the Motion • Equation of the Motion
1800 – 1915	2007 MIRCE Akademy Annual Lecture Solving Engineering Problems using Framework and Tools of Complexity Science Prof George Rzevski Professor Emeritus, Open University
1930 - 2000 Sherry Reception	
2000 – 2300	Gala Dinner • Fellowship Awards • Formula 1 Reliability Awards

Dr Jezdimir Knezevic

The Symposium host is Dr Jezdimir Knezevic, the Founder and President of the Akademy. He is well known as a scientist and engineer whose passion for fundamental development of the subject, based on scientific principles, has been the driving force for the development of Mirce Mechanics over the past 25 years. His in depth knowledge of the needs of engineers and managers to gain a practical benefit from science based principles has helped thousands of students to overcome their fear of maths and help them to be what they are - good engineers, planners, modellers, analysts or project managers.

Formula 1 Reliability and Effectiveness Centre Awards

presented to the

Reliability Champion, Team and Driver, for the 2007 F1 Season

The 17th International MIRCE Symposium

6 – 7 December 2007

Engineering creates 'what never was'

The main task of engineers, planners or managers is to make decisions. At every stage and every level in the life of a machine, they have to take a single decision from the number of alternatives they are presented with. A great deal of help is obtained from the application of the laws of science.

In the areas of physical functions and performance predictions, a large number of well-known laws of science are used daily (Newton, Maxwell, Hook, Faraday, Kirchhoff and so forth).

However, there are no known laws of science that are able to assist engineers to quantitatively predict the answer to the following, often asked questions:

- **What will the machine availability be?**
- **What will the operational reliability be?**
- **What will the operational revenue be?**
- **What will the expected cost of the operational machine be?**
- **How many maintenance tasks will be needed?**
- **How durable will the machine be?**
- **How many and what types of failures will occur?**
- **When should the machine be maintained?**
- **Which spares should be ordered, when and how many?**
- **What is the total time that the machine will be in a maintenance state?**
- **What is the total time that the machine will be in any given state?**

Consequently, the main objective of the second day of the Symposium is to apply the axioms and equations of Mirce-Mechanics presented on day one to engineering predictions. This will enable accurate prediction of the main measures of the motion of functionability phenomena through the life of future machines at a time when it is possible to "engineer their future" and when design changes are possible with the least time and cost penalties.

Day Two – Friday 7 December 2007
Mirce-Mechanics: Engineering Applications

0900 – 0945	Accurate Prediction of Durability Measures • Durability Function • Mean time to failure • Hazard Function
0945 – 1030	Accurate Prediction of Reliability Measures • Reliability Function • Mission Reliability
1030 – 1100 Morning Coffee	
1100 – 1200	Accurate Prediction of Maintainability Measures • Maintainability function • Mean Time To Repair • Maximum Time To repair • Minim Time To Repair
1200– 1300	Accurate Prediction of Supportability measures • Supportability Function • Mean Time To Support • Maximum Time To Support • Minim Time To Support
1300 – 1400 Lunch	
1400 – 1445	Accurate Prediction of Availability • Inherent Availability • Operational Availability • Average Availability
1445-1530	Accurate Prediction of Whole Life Cost • Acquisition Cost • Operational Cost • Disposal cost
1530 – 1600 Afternoon Tea	
1600 - 1700	Technical Tour F1 Reliability and Effectiveness Centre, A technical visit to the MIRCE Akademy F1 Reliability and Effectiveness Centre followed by a visit to the Nigel Mansell World of Racing (1992 F1 and 1993 Indy Champion)

The Venue

The Symposium will be held at **Woodbury Park Hotel, Golf and Country Club**, which is approximately eight miles from Exeter by road.

Delegates are responsible for the arrangement and payment of their own travel and accommodation. Delegates wishing to take advantage of preferential room rates should contact Woodbury Park Hotel Reservations quoting 'MIRCE Akademy'.

Woodbury Park Hotel, Golf and Country Club, Woodbury, Exeter, EX5 1JJ, United Kingdom

Tel +44 (0) 1395 233 382
Fax +44 (0) 1395 233 384
Email enquiries@woodburypark.co.uk
Web www.woodburypark.co.uk

A list of alternative accommodation in other hotels and guesthouses in the vicinity is available on request.

17th International MIRCE Symposium 2007
Registration Form

Email quest@mirceakademy.com
Fax +44 (0) 1395 233 899
Phone +44 (0) 1395 233 856
Mail MIRCE Akademy, Woodbury Park, Woodbury, Exeter, EX5 1JJ, United Kingdom

SYMPOSIUM PRICES (in GB Pounds £)

Package (please tick box)	✓	Fee	VAT	Payable
Full Three Day Symposium		495.00	86.63	**581.63**
MIRCE Akademy Fellows		445.00	77.88	**522.88**
MIRCE Akademy Students		395.00	69.13	**464.13**
Retired Professional		345.00	60.36	**405.36**
The prices listed above include Symposium attendance, proceedings, refreshments, lunches and Symposium Dinner.				
Symposium Christmas Dinner and Awards Ceremony		42.55	7.45	**50.00**

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 Symposium. MIRCE Akademy regrets that no refunds or credits will be made after the deadline unless the Symposium is cancelled by the organiser. The organiser reserves the right to alter the programme or cancel the Symposium at its discretion. All places offered are subject to availability.

PAYMENT DETAILS

☐ Please invoice my organisation

For the attention of _____

Purchase Order No. _____

☐ Please find enclosed a cheque for £ _____
(made payable to MIRCE Akademy)

☐ Please charge credit card

☐ Visa ☐ MasterCard ☐ Amex

Cardholder _____

Card No. _____

Expiry Date _____

Security Code _____

Cardholder's Signature _____

PERSONAL DETAILS

Please print clearly

Surname _____

First name _____

Position _____

Department _____

Organisation _____

Address _____

_____

_____

Postcode _____ Country _____

Tel _____ Fax _____

E-mail _____

Home Address _____

_____

_____

Tel _____ Fax _____

E-mail _____

Address for correspondence Home ☐ Work ☐

Special requirements Yes ☐ No ☐
Please specify

I understand and accept the registration terms and conditions as shown

Signature _____ Date _____

VALUE ADDED TAX (VAT)

Unless special exemption exists, under UK Customs and Excise regulations delegates from all countries are required to pay UK VAT @ 17.5% 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.