

# ATOMIZATION FOR METAL POWDERS

## 1st & 2nd March 2012



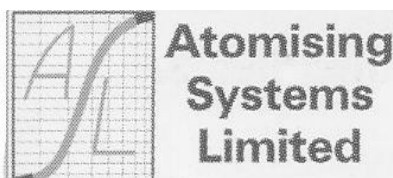
### Programme

#### Thursday 1st March

- 9.00 Registration
- 10.00 Introduction to Atomization
- 11.00 Fundamentals of Liquid Atomization
- 11.45 Historical Perspective
- 12.15 Lunch
- 13.00 Fundamentals of Melt Atomization
- 13.55 Screen Analysis and Data Interpretation
- 14.25 Gas Atomization
- 16.00 Water Atomization
- 17.30 End of Session

#### Friday 2nd March

- 9.00 Rotary, Ultrasonic & Other Techniques
- 10.30 Measurement Techniques & Modelling
- 11.30 Ancillary Equipment
- 12.30 Lunch
- 13.15 Operation & Economics of Plant
- 14.05 Needs of Different Metals
- 15.00 "Toolkit" for Atomising System Improvement
- 15.30 End of Course



### COURSE LECTURERS

John J Dunkley [Chairman, Atomising Systems Ltd, Sheffield], Dirk Aderhold [Technical Manager, Atomising Systems Ltd], Ghasem G Nasr [Director of Spray Research Group, School of Computing, Science & Engineering, University of Salford], Andrew J Yule [Emeritus Professor of Mechanical Engineering, University of Manchester]: *Authors of Atomization of Melts (AJY & JJD) Oxford University Press, and Industrial Sprays and Atomization (GGN and AJY) Springer Verlag.*

### COURSE STRUCTURE

This intensive course will be held in the Britannia Hotel Central Manchester (UK) and will include sessions covering the main methods of atomizing metals, the specific requirements for different classes of metal, the design, operation and economics of plant, measurement methods and an introduction to modelling and prediction techniques. All lunches and refreshments, printed notes and a CD containing the course material, are included. The start and finish times of the Course are 10.00 Thursday and 15.30 on Friday respectively. Registrants will have opportunities to discuss their interests with the course presenters and the presenters tailor their presentations to optimise their relevance to registrants.

### ABOUT PERDAC (<http://www.perdac.com>)

Perdac is a Campus Ventures company formed in January 2001, with the mission to organise and present high quality advanced short courses, and carry out industrial consultancy and R&D, based upon contributions from University and Industrial Scientists and Engineers who are at the highest levels in their fields.

### COURSE CONTENT

1. This course has been designed to meet the needs of industrialists, academics and researchers involved in the atomization of molten metals for powder production.
2. The technology of atomizing of metals and other melts must compete against other methods of production. The factors affecting the relative attractiveness of atomization and alternative methods will be discussed, particularly economics and quality requirements.
3. The course emphasizes both current practice and key areas of current interest in these fields, including an informative, but critical, overview of the main atomization techniques in current use.
4. The basic principles of atomization and the physical processes involved when atomizing metals are covered with clarity
5. Coverage is provided on powder and spray measurement techniques and computer modelling approaches.

### BACKGROUND OF THE COURSE

1. To satisfy requests from industry Perdac and ASL developed this course devoted entirely to Atomizing Metals for Powder Production.
2. The course has been held 6 times with updates each year, and has been attended by specialists from 15 countries and 5 continents.
3. The course provides a cohesive overview suitable for those in both the industrial and research environments. It also acts as a concise up to date introduction to those new to the field.
4. It is believed to be unique in the World in its subject matter and content



Ultrasonic Atomization of Low Melting Point Alloy and (top left) Gas Atomizer Close Coupled Nozzle

***A unique course for practitioners and researchers on the principles & practice of powder manufacture by atomization of molten metals***

## Application Slip: Atomization for Metal Powders

Please return this slip; or fax/email information; or register at [www.perdac.com](http://www.perdac.com)

Name/Title:..... Tel No: ..... Fax No.:.....  
Appointment/Occupation:..... Email:.....  
Address:.....

.....  
Name/Address for Invoice (if different from above)  
.....

Some **discounted fees** are available to bona-fide students, please enquire

The Course Fee is £890

*Accommodation: On receipt of your registration we shall provide information on recommended hotels, in different price ranges, which are near the Course Venue.:*

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**EARLY BIRD DISCOUNT £120: REGISTER BEFORE 31st JANUARY 2012**  
**MULTIPLE BOOKINGS: £150 DISCOUNT FOR 2nd AND FURTHER PERSONS FROM ONE FIRM**

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John Dunkley and Andrew Yule published their book "Atomization of Melts" in 1994 (Oxford University Press). Since that time there have been further developments in the field, and increasing industrial and research involvement for many metals and other materials. John Dunkley was recently awarded a PhD by the University of Cambridge for his outstanding contributions to the Atomization Field. Ghasem Nasr and Andrew Yule published their book "Industrial Sprays and Atomization" in 2002 (Springer-Verlag), covering manufacturing techniques, atomizer types, and measurement techniques. They bring their experience of other fields of application of atomization to bear upon the metal atomizing field to provide useful insights. **STOP PRESS:** *Newly printed softback copies of Atomization of Melts will be available to course registrants at discounted prices*

### Contact (General):

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[www.cse.salford.ac.uk/SRG](http://www.cse.salford.ac.uk/SRG)  
[www.andrewyule.co.uk](http://www.andrewyule.co.uk)

### THE VENUE

All lectures and lunches will be held in the Britannia Hotel in central Manchester. Detailed Joining Instructions will be provided. Manchester Airport has direct services to most European countries and many long haul flights throughout the World. The airport is directly linked by train to central Manchester (15min journey).

*The organisers & lecturers reserve the right to modify details of courses if required. Courses run conditional on meeting minimum delegate numbers by a deadline date; see Policy & Conditions at <http://perdac.com/2.html>*

