

生産技術研究奨励会 主催 生産技術研究所 協力
“生研セミナー”

溶融塩科学・技術に関する“特別セミナー”のご案内

Rare Metal Research Workshop: Special Seminar I & II

Professor Kipouros' Molten Salts Short Course

for Graduate Students and Industry Professionals

Seminar I

Date: Nov 15 (Thurs.)

Time: AM 10:00 to PM 6:00

Place: Lecture room (Dw-601)
at Institute of Industrial Science, University of Tokyo

Additional events: PM 6:30- Open discussion and Exchange party (レアメタル研究会)

Topics:

- ★ From metals chemistry to materials science: was something left out?
- ★ How much water is in the molten salt?
- ★ The use of electroless deposition in the preparation of coatings and nanostructures

Seminar II

Date: Nov 22 (Thurs.)

Time: AM 10:00 to PM 6:00

Place: Lecture room (Dw-601)
at Institute of Industrial Science, University of Tokyo

Additional events: PM 6:30- Open discussion and Exchange party (レアメタル研究会)

Topics:

- ★ Molten salts: bath chemistry and process design in reactive metals production processes
- ★ On the advantages of using powder metallurgy in new light metal alloy design
- ★ Powder metallurgy of magnesium

Pre-registration required (宮寄: tmiya@iis.u-tokyo.ac.jp)

Fee: 5,000 yen for each seminar (including Lunch, handout, etc.)

Lunch will be provided to all participants.

(Free: Students who support preparation and organization)

資料やお弁当の手配の都合上、定員になり次第、締め切らせていただきます。

それぞれのセミナー(I&II)について、必ず事前に電子メールにて参加登録してください。

(運営の補助をしてくれる学生は、無料とします。岡部研秘書の宮寄に申し出てください。)

Rare Metal Research Workshop: Special Seminar I & II

About the Professor Kipouros' Molten Salts Short Course for Graduate Students and Industry Professionals

Seminar I

The first part of the seminar deals with the fundamental knowledge to prepare materials for molten salts operations. Dehydration for example is the most fundamental process in all fields. However, in the restructuring of academic programs the fundamentals are not covered in depth. Examples from the dehydration of magnesium chloride and neodymium trichloride hexahydrates will be given. On the other hand the same fundamental principles can be applied for electroless plating which is presently used for coating reactive metals and also prepare computer memory materials and nanostructures.

Seminar II

The second part of the seminar proceeds with the definition of molten salts, properties and uses. Single and multicomponents systems. Thermodynamic and kinetic considerations. Examples in the design of the electrolytic production processes of magnesium, aluminum and lithium. Tehrmochemical production processes with examples from magnesium, neodymium, calcium, tantalum and titanium industries. Technology of molten salts: production and preparation, containment, disposal, characterization and analysis. Final segments cover to some extent the powder metallurgy approach for the near-net shape production of parts made of light metals.

**No prior knowledge of molten salts is required.
The seminars cover more than just molten salts.**

Professor Georges J. Kipouros

**Professor, Materials Engineering Program
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Georges J. Kipouros obtained his Diploma of Engineering at the National Technical University of Athens (NTUA), Greece and M.A.Sc, and Ph.D. from the University of Toronto, Canada working with Professor Spiro Flengas. He then worked at the Massachusetts Institute of Technology (MIT) for three years as a Postdoctoral Research Associate with Professor Donald Sadoway. George worked for five years at the General Motors Research, Warren, Michigan as a Senior Research Scientist. He returned to academia and joined the Technical University of Nova Scotia/Dalhousie where he was for 10 years the Chair/Head of Mining and Metallurgical Engineering, Assistant Dean for 5 years and Vice-Chair of the Dalhousie University Senate. He is presently Professor of Materials Engineering in the Department of Process Engineering and Applied Science, Dalhousie University, Halifax, Nova Scotia, Canada and Director of the Minerals Engineering Centre (MEC). In 2007 he received the Canadian Materials Chemistry Award of the MetSoc (CIM).
