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DR. GEORGES JOHN KIPOUROS

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CITIZENSHIP

Canadian
Greek

EDUCATION

Ph.D., University of Toronto, Toronto, Ontario, Canada, (Metallurgy and Materials Science).

M.A.Sc. University of Toronto, Toronto, Ontario, Canada, (Metallurgy and Materials Science).

D. Eng. National Technical University of Athens, Athens, Greece, (Mining and Metallurgical Engineering, School of Chemical Engineering).

ACADEMIC AND RESEARCH APPOINTMENTS

UNIVERSITY OF TOKYO, TOKYO, JAPAN

2017 Project Professor, Institute of Industrial Science (IIS), University of Tokyo, Integrated Research Center for Sustainable Energy and Materials, Building Fw 403, Tokyo, Japan

UNIVERSITY OF WATERLOO, WATERLOO, ONTARIO, CANADA

Present Adjunct Professor, Department of Mechanical Engineering and Mechatronics

UNIVERSITY OF SASKATCHEWAN, SASKATOON, CANADA

Present Emeritus Professor, Chemical and Biological Engineering
2013-2016 Dean, College of Engineering

DALHOUSIE UNIVERSITY, HALIFAX, NOVA SCOTIA, CANADA

Present Adjunct Professor, Department of Mechanical Engineering.
2000-2013 Director, Minerals Engineering Centre
2000-2005 Assistant Dean, Faculty of Engineering
2002-2003 *Visiting Professor*, Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, 1,1 Katahira, 2-Chome, Aobaku, Sendai 980-8577, Japan
1998-2001 Faculty Consultant, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan,
1997-2000 Vice-Chair, Dalhousie University Senate

TECHNICAL UNIVERSITY OF NOVA SCOTIA, HALIFAX, NOVA SCOTIA, CANADA (AMALGAMATED WITH DALHOUISE UNIVERSITY)

1994-2000 Professor and Head, Department of Mining and Metallurgical Engineering
1995-1996 *Faculty Consultant***,** Corporate Magnesium Center, General Motors Research and Development Center, Warren, Michigan 48090, U.S.A.
1990-1994 Chair, Metallurgical Engineering Program
1989-1994 Associate Professor, Department of Mining and Metallurgical Engineering
1993 *Visiting Professor***,** Institute of Inorganic Chemistry, Norwegian Institute of Technology, University of Trondheim, Trondheim, Norway
1993 *Visiting Professor*, Department of Chemical Engineering & Institute of Chemical Engineering and High Temperature Chemical Processes, University of Patras, Patras, Greece

GENERAL MOTORS RESEARCH AND DEVELOPMENT CENTER, WARREN, MICHIGAN, USA

1985-1989 Senior Research Scientist, Department of Physical Chemistry

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT), CAMBRIDGE, MA, USA

1982-1985 Postdoctoral Research Associate (with Dr. Donald R. Sadoway), Department of Materials Science and Engineering

PYRKAL LTD., ATHENS, GREECE

1972-1974 Acting Head, Bureau of Studies, Permanent Committee for Receiving Ammunition, Greek Armed Forces at PYRKAL Ltd., Athens, Greece

FELLOWSHIPS AWARDS AND HONOURS

2016 Canadian Academy of Engineering Fellowship Award, FCAE
2016 Canadian Institute of Mining, Metallurgy and Petroleum Fellowship Award, FCIM
2013 Life member, Engineers Nova Scotia
2010 CIM Distinguished Lecturer
2007 Japan Society for Promotion of Science (JSPS/NSERC Award), Invitation Fellowship, 2007, 2017
2007 20th Canadian Metal Chemistry Award, MetSoc of CIM, 2007
2004 Best CIM Paper in *CMQ 2004*

1994 Best Reactive Metals Paper in *Light Metals '93.*
1982 Patino Mines (Quebec) Ltd Research Fellowship.
1978-1981 Ontario Graduate Scholarship, Ontario Government.
1977-1978 National Research Council Postgraduate Scholarship.
1975-1976 George A. Guess Fellowship, University of Toronto.
1971 1st in rank among 23 graduates of the National Technical University of Athens, Athens, Greece.
1967-1971 Four year Scholarship, State Foundation of Scholarships, Greek Government.
Cited in: Canadian Who's Who
American Men & Women in Science

EXPERIENCE: ADMINISTRATIVE

2013-2016 **Dean, College of Engineering,** University of Saskatchewan, Saskatoon, S.K., Canada
As Dean, College of Engineering at the University of Saskatchewan, worked diligently and strategically to further the interests of the College of Engineering and the University.

Major Accomplishments:

- Raised funds and filled 8 faculty positions, 5 of them endowed research chairs in 18 months, and worked to fill 6 additional positions.
- In 2014, introduced, with the support and sponsorship of industry and APEGS, the first ever, College of Engineering annual Safety Training Program for undergraduate and graduate students to instill in them the culture of safety. Also introduced safety training and monitoring for every laboratory in which students participate.
- Established a Hard Hat Ceremony for students as an induction into their various engineering disciplines and as a way to reinforce the high priority placed on safety as well as to remind students of their responsibilities as trained professionals to protect employees and society.
- Led the College to achieve a full, six year unconditional and maximum accreditation term from the Canadian Engineering Accreditation Board (CEAB) for seven undergraduate engineering programs under the CEAB new outcome-based method of accreditation. A major factor was closing the loop of necessary information, which was achieved by the involvement of alumni, internship employers, and permanent employers, in assessing the outcome attributes of the University of Saskatchewan Engineering graduates.
- Inaugurated the Ron and Jane Graham School of Professional Development with two options - Professional Communication Option (PCO) and Engineering Entrepreneurship Option (EEO).
- Created and filled the Endowed Jerry G. Huff Chair in Innovative Teaching in the Ron and Jane Graham School of Professional Development.
- Created the Endowed George La Borde Chair in Engineering Entrepreneurship in the Ron and Jane Graham School of Professional Development. The Chair is now advertised.
- Initiated the development of a M. Eng. degree in Project Management (Technical) in the professional school.

- Raised the funds, created and filled the SaskPower Endowed Chair.
- Developed the NSERC/SaskPower IRC Chair in Smart Grid Technology in Electrical Engineering.
- Established an Endowed SISCO Chair in Mining Solutions, currently advertised.
- Provided leadership in hiring professors and creating three Mining Engineering options in the Departments of Chemical Engineering, Mechanical Engineering and Geological Engineering.
- Created the Indigenous Peoples Initiatives Office in the College of Engineering and hired its first coordinator.
- Worked with industry to create secured student internship employment for indigenous students.
- Hired the first aboriginal professor in the College of Engineering, University of Saskatchewan.
- Raised over 2.7 million dollars in scholarship funds from contributions of various donors.
- Introduced Donor and Student Scholarship Night for the College of Engineering where students meet with the donors as a way to thank donors and foster further opportunities for students and the College.
- Increased student enrollment and doubled the number of students participating in internships.
- Facilitated and implemented international exchange agreements with a number of international Universities globally.
- Facilitated and signed transfer agreements with a number of Colleges and Universities in Saskatchewan and Alberta and established satellite engineering campuses in Saskatchewan in order to further increase enrollment for the College.
- In 2014, inaugurated an annual month long program of visits, (now in its third year) by students from Pandit Deendayal Petroleum University (PDPU) of India in order to showcase our facilities and recruit graduate students from India.
- Established new means of communicating directly with undergraduate and graduate students by instituting town hall meetings held during each academic term.
- Revitalized and staffed the Saskatchewan Centre of Excellence in Transportation and Infrastructure (SCETI) which is the main funding agency for innovative research regarding transportation and road infrastructure. It is located in the College of Engineering and its Director report to the Dean.
- Created the University's first "Search for Experts" public searchable database engine, available for the College of Engineering.
- Started the process of engineering building renewal and expansion planning by selecting a team of architectural firms to draft the master plan that will allow the reconfiguration and expansion of the 100 year old building in a way to accommodate the student number expansion that started during my tenure in the position.

2000-2005 **Assistant Dean, Faculty of Engineering,** Dalhousie University, Halifax, N.S.

Major Accomplishments:

- Coordinated and prepared the succesful application to the Canadian Engineering

Accreditation Board (CEAB) for all undergaraduate engineering programs. The application resulted in achieving unconditionally the maximum accreditation term (6 years).

- Coordinated and prepared the self study for the Dalhousie University Senate review of the Faculty of Engineering. The resulting Senate Review Report was very favourable to the achievements and the stability of the Faculty of Engineering.
- Prepared for the approval of the Faculty Council the "Handbook of the Rules and Procedures" which establishes the governance policy of the Faculty of Engineering. Continued to update, amend and improve the Handbook.
- Developed with the help of the Director, Facilities Management, the first ever space study of the Faculty of Engineering which resulted in a plan for space development.
- Directed, as Chair of the Space Committee, the successful construction of the Biological Engineering "N" Building and continued the efforts to complete the internal structure of the building.
- Developed with the help of the Director, Facilities Management, the options for Engineering campus redevelopment to create the space for the future needs of the Faculty of Engineering. These options were to be used for fundraising on the occasion of the 100th Anniversary of the Engineering education in Nova Scotia.
- Organized and Chaired the meetings for the reorganization of the Department structure of the Faculty of Engineering.

1997-2000 **Vice-Chair, Dalhousie University Senate,** Dalhousie University, Halifax, N.S.
The Dalhousie University Senate is the governing academic body of the university. It is comprised of 73 ex-officio and elected members from the Faculties of the university. The three officers of the Senate are the Chair, Vice-Chair and the Secretary. The Senate, as the elected governing body of the university, approves new programs, oversees the review of existing programs and ensures that comprehensive budget policies are followed.

Major Accomplishments:

- My tenure in the Dalhousie University Senate (1997-2000) provided me with the opportunity to obtain a strong understanding of how the university works and to exercise fairness, equity and openness. I have also developed a better understanding and appreciation of the position of Faculties other than Engineering, within the university community.
- As Vice-Chair of the Senate of Dalhousie University, in addition to other duties, I was in charge of organizing and carrying, through the Senate Academic Priorities and Budget Committee (SAPBC), the reviews of the Faculties of the university and other affiliated universities.
- During my tenure, I oversaw the reviews of the Faculties of Medicine, Science, Arts and Social Sciences, Graduate Studies, and I initiated the review of the Faculties of Architecture and Engineering. These reviews involved Faculty self studies, submissions and interviews to review committees, visits, by invitation, of external referees who advised the Senate on the status of the specific Faculty in Canadian and International Academia. The Senate reviews the final report and its recommendations are implemented within 18 months.
- I was also responsible for overseeing the reviews of the Institutions affiliated with Dalhousie that offer Dalhousie degrees. During my term as Vice-Chair, we conducted

the review of the Nova Scotia Agricultural College and King's College. I also had an opportunity to participate as a committee member in the review of the Department of Chemistry.

- My participation in, and occasional chairing of the Senate and the Senate Academic Priorities and Budget Committee (SAPBC), has resulted in enhancing my knowledge on the academic and budgetary approval of academic programs as well as the management of multi-faculty and multidisciplinary programs, which, I feel, will become very important in the future.

1994-2000 **Professor and Head, Department of Mining and Metallurgical Engineering,** TUNS (DalTech), Halifax, N.S.
Duties involved providing leadership in fiscal (annual budget of $1,200,000) and administrative matters for a two-program Department (10 faculty members, approximately 120 students), including undergraduate and graduate recruitment. The two programs of the Department are the only accredited such discipline programs in Atlantic Canada.

Major Accomplishments:

- Established an Industry Advisory Committee to create an environment attracting industrial support for the Department.
- Expanded the co-op program and combined it with internship to create 16 and 20 month work term periods.
- Expanded the B. Eng co-op program and combined it with the graduate degrees of M.Eng. and M.A. Sc. This combined B.Eng./M.A.Sc. degree is now used as a model by the Associate Dean of Graduate Studies and Research to extend the co-op program to all engineering disciplines.

1990-1994 **Chair, Metallurgical Engineering Program,** TUNS, Halifax, N.S

Major Accomplishments:

- Established an Industry Advisory Committee to create an environment attracting industrial support for the program.
- Introduced innovative industrial design courses which include entepreneurship, industry collaboration in the delivery of the course and a corporate "Board" approach in evaluating the final design as part of the undergraduate curriculum.
- Expanded the co-op program and combined it with intership to create 16 and 20 month work term periods.
- Worked with the students to form the first in North America combined CIM/TMS Student Chapter.

EXPERIENCE: INDUSTRIAL

2000-2013 **Director, Minerals Engineering Centre,** DalTech, Halifax, N.S
As Director, Minerals Engineering Centre, reporting to the Dean of Engineering responsibilities included the fiscal and administrative matters of the centre and providing leadership in a wide variety of research and service activities related to resource and minerals industries. Focus was on expanding the research activities of the centre in the areas of materials, offshore drilling, environmental and power generation sectors.

Major Accomplishments:

- Established an industry university partnership for a pilot plant to be used for heavy metals separation.
- Established a web page for the Minerals Engineering Centre to promote the business and expand its clientelle beyond the Atlantic region.
- Signed a long term contract with industry (Titanium Corporation) that provided the Minerals Engineering Centre with new equipment worth $1,000,000 in the field of magnetic heavy metals separation. Titanium Corporation is presently part of a consortium with Suncrude and another pigment manufacturer to apply the method developed at Dalhousie to Athabasca oil sands.
- Through a metallurgical investigation plan for Steel Dynamics Inc. a program of modifying metallurgical slags using recycled materials from the aluminum production industry has been established. Two undergraduate Co-op students have helped transfer the laboratory results to the steel casting plant.

1999- **Consultant,** Carbide/Graphite Group, Louisville, Kentucky, U.S.A.

- Project on the use of alternative admixtures in blast furnace iron desulfurizers used for industrial hot metal treatment processes.
- Analysis of the magnesium technology processes and their effect into the desulphurization market.

1998-2002 **Consultant,** GKN Sinter Metals

- Various consulting activities related to the quality of the aluminum powder and the manufacturingof powder metallurgical automotive parts.

1996-2002 **Consultant,** Physical Chemistry Department, General Motors Research and Development Center, Warren, Michigan 48090, U.S.A.

- Directed large scale industrial trials to explore the possibility of developing new processes to produce magnesium metal and alloys and to purify recycled metal and make it suitable for re-use.
- Continued to evaluate technologies for producing magnesium metals.

1995-1996 **Faculty Consultant,** Corporate Magnesium Center, General Motors Research and Development Center, Warren, Michigan 48090, U.S.A.

Major Accomplishments:

- Developed a process to produce high purity magnesium and magnesium alloys
- Designed and conducted scale-up experiments to determine the parameters necessary for technology transfer.
- Directed the efforts to tranfer the process to the industrial plant by partnership with an aluminum producer.
- Evaluated alternative processes for the production of magnesium chloride.

1989- **Consulting Research** activities involving:

- Carbide Industries PLC
- GTT, Italy (Development of new electrolytic process to produce titanium metal).
- Allvac, Monroe, NC, U.S.A. (Removing oxygen from nickel-based alloys).
- Transgear Manufacturing Inc., Guelph, Ontario (Production of protective refractory metal coatings on tool steels).
- Maritime Steel, New Glascow, N.S., (Controlling the "hot spots" in steel railcastings).
- Nova Aluminum Atlantic Ltd

1985-1989 **Senior Research Scientist,** Department of Physical Chemistry, General Motors Research and Development Center, Warren, Michigan 48090, U.S.A.

Major Accomplishments:

- Developed a process to produce neodymium-iron alloy which is essential in the production of neodymium-iron-boron permanent magnets for the innovative switched reluctance and permanent magnet motors.
- Designed and conducted scale-up experiments to determine the parameters necessary for technology transfer.
- Developed methods for regenerating and recycling the reactants and treating the by products.
- Tranferred successfully the process to the plant of MAGNEQUENCH SBU in Anderson, Indiana.

1982-1985 **Postdoctoral Research Associate,** Department of Materials Science and Engineering, Massachusetts Institute of Technology (MIT), Cambridge, MA, U.S.A.

Carried out consulting services for members of the Industrial Liaison Office on a continuous basis such as:

- Dow Chemical Co., Development of molybdenum coatings for corrosion control.
- Corning Glass, Electrodeposition of molybdenum coatings on carbon electrodes for use in glass making operations.

1972-1974 **Acting Head, Bureau of Studies,** Permanent Committee for Receiving Ammunition, Greek Armed Forces at PYRKAL Ltd., Athens, Greece.

Responsibilities:

- Supervise the quality control team for the testing of materials and final products.
- Attend acceptance tests of the final products according to specifications (FED-STD and MIL-STD).
- Inspect and approve revisions of original drawings requested by production manager.
- Act as liaison between the Permanent Committee for the Receiving Ammunition (MEPP) and the Joint U.S. Military Advisory Group in Greece (JUSMAGG) on technical matters

EXPERIENCE: INTERNATIONAL

2017 **Visiting Professor**, International Center for Sustainable Materials, Institute of Industrial Science, the **University of Tokyo**.

2007 **Japan Society for the Promotion of Science, Fellowship, Visiting Professor,** Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, 1,1 Katahira, 2-Chome, Aoba-ku, Sendai 980-8577, Japan;
Institute of Industrial Science, The University of Tokyo, Tokyo, Japan;
Space Energy and Resources, Kyoto University, Kyoto, Japan.

2006-present **Foreign Cooperative Researcher**, International Research Center for Sustainable Materials, Institute of Industrial Science, The University of Tokyo, Tokyo, Japan.

2002-2003 **Visiting Professor,** Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, 1,1 Katahira, 2-Chome, Aoba-ku, Sendai 980-8577, Japan.

2001-2005 **Technical Advisor,** Canadian International Development Agency (CIDA), "Boiler Emission Upgrade Project", partnership between a consortium of Dalhousie University/GRI Research and CIDA to improve the efficiency and environmental performance of existing boilers in India. Budget of $2,500,000.

1998-2004 **Advisor**, NATO Science for Peace Program, 971858, "Improvement of theTechnological Parameters in the Electrochemical Production of Mg-Nd Alloys from oxyfluoride media (Hitech Alloys", a partnership involving, FORTH (Greece), IMNR (Romania), NEFERAL (End-User Romania), GIREDMET (Russia). A project budgeted for $2,500,000.

1998-2005 **Faculty Consultant,** Mehran University of Engineering and Technology (MUET), Jamshoro, Sindh, Pakistan.
At the invitation of Vice-Chancellor, Dr. Memon, I visited MUET and helped

solidify the scientific collaboration of two institutions, namely MUET and Pakistan Steel, and I initiated graduate students exchange between MUET and DalTech. I remain a faculty consultant for MUET and we now plan to expand the collaboration in other than metallurgical areas of research.

1995-1996 **Faculty Consultant,** Corporate Magnesium Center, General Motors Research and Development Center, Warren, MI 48090, USA

PROFESSIONAL INVOLVEMENT

(i) SPECIAL PROFESSIONAL DEVELOPMENT CONTRIBUTIONS

1994 G.J. Kipouros and D.R. Sadoway, **"Molten Salts: Chemistry and Practice", TMS Tutorial Luncheon Lecture**, February 28, 1994, TMS Annual Meeting, February 27-March 2, 1994, Moscone Center-San Francisco, California.

1995 G.J. Kipouros and D.R. Sadoway, **"Molten Salts: Fundamentals and Industrial Applications",** TMS Short Course, Sponsored by Light Metals Division, February 11, 1995, TMS Annual Meeting, Las Vegas, Nevada.

1996 G.J. Kipouros, **"Magnesium Industrial Practice"**, A week long course to Professionals and Managers at General Motors Research and Development Center, Warren, Michigan.

1997 G.J. Kipouros and D.R. Sadoway, **"Molten Salts: Fundamentals and Industrial Applications",** TMS Short Course, Sponsored by Light Metals Division, February 3, 1996, TMS Annual Meeting, Anaheim, California.
Evaluation of the short course material and presentation by the attendees was the highest ever reported in the TMS Short Course history.

1998 G.J. Kipouros and D.R. Sadoway, "**Molten Salts: Bath Chemistry and Process Design in Aluminum, Magnesium and Lithium** ", TMS short course, sponsored by Light Metals Division, February 14, 1998. TMS Annual Meeting San Antonio, Texas

1999 G.J. Kipouros and D.R. Sadoway, "**Molten Salts: Bath Chemistry and Process Design in Aluminum, Magnesium and Lithium** ", TMS short course, sponsored by Light Metals Division, February 27, 1999. TMS Annual Meeting, San Diego, California.

2000 G.J. Kipouros, D.R. Sadoway, and C. Edward Eckert, **"Molten Salts Chemistry and Process Design: from Smelter to Foundry"** TMS short course, sponsored by Light Metals Division, March 11-12, 2000 , 129th TMS Annual Meeting, in Nashville, Tennessee.

2007 G.J. Kipouros **"Molten Salt Chemistry and Process Design in Aluminum, Magnesium, Calcium and Lithium Production".** A two day short course organized by the University of Tokyo for professionals and executives from industry, October 2007.

(ii) PARTICIPATION IN PROFESSIONAL ACTIVITIES

The Minerals, Metals and Materials Society (TMS) of the American Institute of Mining, Metallurgical and Petroleum Engineers (AIME), and Canadian Institute of Mining, Metallurgy and Petroleum (CIM):

2002-present	Materials Science Committee, MetSoc, CIM
1997-2002	Chair, Education Committee, Light Metals Division, TMS (ABET 2000)
1994-1997	Student Affairs Committee, Light Metals Division,TMS
1993-2002	Light Metals Division, Council member, TMS
1993-1995	Chair, Reactive Metals Committee, TMS
1992-1993	Vice-Chair, Reactive Metals Committee, TMS

(iii) AFFILIATIONS

American Institute of Steel and Technology (AIST)
Engineers Nova Scotia, Life MemberAssociation of Professional Engineers and Geoscientists of Saskatchewan (APEGS)
The Minerals, Metals and Materials Society (TMS/AIME)
Canadian Institute of Mining and Metallurgy (CIM)
The Electrochemical Society (ECS)
International Society of Electrochemistry (ISE)
APMI International - Metal Powder Industry Federation
European Rare Earth and Actinide Society (ERES)
Chamber of Technology of Greece (TEE)

(iv) BOARD MEMBERSHIPS

Visiting Committees: Chair, in many NSERC IRC, Design and APC visiting committees and Department/Program review committees in Canadian and International universities.

2017-	Member, Editorial Board of the journal Metals (http://www.mdpi.com/journal/metals, ISSN 2075-4701; IF: 1.574),
2012	Chair, Short courses, COM 2012, Niagara Falls, ON, September 30-October 3, 2012.
2012	Co-Chair, COM 2012, Corrosion and Degradation, Niagara Falls, Ontario, September 30 – October 3, 2012.
2010	Co-Chair, COM 2010, Vancouver, British Columbia, October 3 – 6, 2010.
2008	Chair, Short courses, COM 2008, Winnipeg, Manitoba, August 24 – 28, 2008.
2003	Chair, 15th Canadian Materials Science Conference, Dalhousie University, Halifax, Nova Scotia, June 6-10, 2003.
2002	Vice-Chair, 14th Canadian Materials Science Conference, University of Manitoba, Winnipeg, Manitoba, June 7-9, 2002.
2000-03	Founder and steering committee member, Institute for Research in Materials (IRM), Board comprising the founding members of an interdisciplinary group of researchers (about 60 at the time from five Faculties of Dalhousie University) whose research interests include materials.
1999-2001and 2017-present	Advisor to the Editorial Board, Mehran University Research Journal of Engineering and Technology (Quarterly).
1999-2002	American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) Environmental Conservation Distinguished Award Board.
1997-present	International Editorial Board, High Temperature Materials and Processes, Freund Publishing House Ltd, London, England.
1997-2000	Founder and Chair, Canadian Metallurgy/Materials Education Council. Board

	comprising the Department Heads, Chairpersons, Directors and Group Leaders of Metallurgy/Materials Academic Programs in Canadian Universities.
1998-1999	Founder, Canadian Mining Education Council. Board comprising the Department Heads, Chairpersons, Directors and Group Leaders of Mining Academic Programs in Canadian Universities.
1997-2002	Member, Board of Examiners, Association of Professional Engineers of Nova Scotia (APENS).
1993-1997	JOM (formerly Journal of Metals) Special Advisor.
1993-present	Key Reviewer, Materials and Metallurgical Transactions.
1993-1995	Member, Executive, TUNS Faculty Association (TUNSFA).

EXPERIENCE: ACADEMIC/RESEARCH

COURSES TAUGHT

UNDERGRADUATE

Thermodynamics of Materials
Materials Process Design
Non-Metallic Materials
Electrochemical Processing of Materials (at MIT, TUNS, DalTech, Dalhousie)
Kinetics of Materials Processing
Materials Engineering Project (supervised 200 B.Eng. project students to date)
Extraction of Materials

GRADUATE

Electrochemical Processing of Materials
Advanced Materials Science
Selected Topics in Process Metallurgy
Directed Studies in Metallurgical Engineering
Advanced Process Metallurgy

FACULTY/UNIVERSITY COMMITTEES

1990-1998	Undergraduate Studies Committee
1990-2005	Department Heads Committee
1992-1993	Graduate Studies Committee
1994	CIDA Programs, TUNS Grant Review Committee
1994-1997	Senate, TUNS
1997-2000	Academic Council Steering, DalTech
1997-1998	TUNS/Dalhousie Amalgamation Coordinating Committee
1997-2000	Vice-Chair, Senate, Dalhousie University
1997-2000	Academic Priorities and Budget Committee, Senate, Dalhousie University
1997-2000	Steering Committee, Senate, Dalhousie University
2000-present	Chair, Committee of the Directors of the Faculty Research Centres

2000-2003	Founding member, Steering Committee, Institute for Research in Materials (IRM), Dalhousie University
2001-2002	Senate Academic Appeals Committee
2001-2005	Chair, Faculty of Engineering Space Committee (proposed and designed a signature building for Engineering Innovation)
2009-2013	Chair, Faculty of Engineering Graduate Studies Committee
2010-2013	Elected member, Faculty Council, Faculty of Graduate Studies.
2009-2013	Coordinator, Graduate Studies, Department of Process Engineering and Applied Science (Department comprises Biological Engineering, Chemical Engineering, Environmental Engineering, Materials Engineering, and Food Science)

RESEARCH INTERESTS

The research interests of Prof. G.J. Kipouros lie in the fields of **Materials and Metallurgical Engineering** - both in fundamental science and engineering applications, in the field of value-added metallurgy, and in the area of Chemistry and Processing of Materials.

Primary interest is the electrochemical engineering of molten salt electrolysis. Specific areas of fundamental research are the thermodynamic, electrochemical and spectroscopic properties of reactive metal halide systems as apply to the production of the metals or coating of the metals. Recycling of reactive metals. Utilization of minerals in metal matrix composites. Metals of interest include the light, refractory and rare earth groups.

Electrochemical aspects of copper and nickel production from aqueous solutions. Application of potentiodynamic techniques, cyclic voltammetry and electrochemical impedance spectroscopy in the investigation of passivation and corrosion of materials.

A major interest is also the development and processing of powder metallurgy (P/M) light metals alloys as a means to sustainability of parts manufacturing. Modeling of processes used in the production of P/M automotive components as well as study of mechanical properties are areas of interest. Surface engineering and its role in the corrosion protection of reactive metals P/M alloys is examined.

Secondary interest in the engineering applications include the development of electrochemical sensors for use in the process control and optimization of high temperature chemical processes.

In the area of **materials science and engineering** the interest is in the study of the chemical stability of the interface between the second phase modification agent and the metal matrix in the composites and powder metallurgy alloys. The application of potentiodynamic techniques, cyclic voltammetry and impedance spectroscopy in the investigation of the corrosion of boride coatings on the sufrace of powder metallurgy alloys.

Also the application of the scientific principles in the study and the development of phase-change materials. As a corollary of these studies the electrodeposition of metal matrix composites is also under investigation.

The **primary** value-added metallurgy component of the research explores the potential application of certain naturally-occurring industrial mineral fibres/whiskers/particulates as reinforcement in metal-matrix composites. The use of certain minerals benification wastes as additives to metallurgical

processes or as reinforcement in metal-matrix composites are also investigated. A **secondary** component of the research interests refer to the use of minerals in the development of inexpensive phase-change materials **(PCM)** for thermal storage.

GRANT AND CONTRACT HISTORY

Agency	Year	Amount
University of Saskatchewan		
Start up grant	2013	$ 5,000
Equipment grant	2013	$ 30,000
Research grant	2013-2017	$ 25,000/y
NSERC Operating/Discovery	1990-1993	$18,000/y
	1993-1997	$18,000/y
	1997-1999	$24,600/y
	1999-2001	$25,757/y
	2001-2006	$29,600/y
	2006-2010	$29,600/y
	2010-2017	$30,000/y
On the materials and processes for additive metallurgy	**2017-2022**	**$28,000/y**
NSERC Equipment	1990	$ 31,500
	1998	$ 27,545
(with J.M. Lee)	2002	$184,539
NSERC, Strategic grant	2007	$ 116,458
Hot Forging of Emerging Aluminum Powder Metallurgy	2008	$ 104,500
(with D.P. Bishop, W.F. Caley and GKN Metals)	2009	$ 101,985
NSERC, MFA grant	2002	$ 133,000
Materials Characterization Facility (with M.A.White & others)	2003	$ 160,000
	2004	$ 160,000
Industry Grants		
Carbide/Graphite Group (with W.F. Caley)	2005-2006	$10,000 US
Carbide/Graphite Group (with W.F. Caley)	1999-2000	$10,141
GKN Sinter Metals (with W.F. Caley)	1999-2001	$30,000
Steel Dynamics	2009-2011	$15,000
Travel Grant:Going Global Europe 1992	1993	$ 4,000
	2003	$ 5,000
Greek Ministry of Research	1996-1998	$10,000/y
NATO Science for peace	1999-2001	$10,000/y
Atlantic Innovation Fund		
Passivation layers	2001-2006	$102,000
Alloy Development (with D.P. Bishop and W.F. Caley)	2004-2006	$ 60,000
Materials Network, Alloy Development		
(with D.P. Bishop and W.F. Caley)	2006-2007	$ 13,000
User Access Facility to Materials Technology Laboratory of	2003	$265,000
CANMET (with David Wilkinson, McMaster & others)	2004	$265,000
Pilot project	2005	$265,000
Petroleum Research Atlantic Canada (PRAC)	2009	$151,900

Advanced Ceramic-Metal Composites for Demanding Corrosion-Wear Environments (with K. Plucknett, Z, Farhat)		

SUPERVISION

Name	***Degree***	Title	***Year***
(i) Currently			
Afolabi Ayeni	Ph.D.	Extraction of rare metals	2019
William Judge	Ph.D.	Extraction of Rare Earth Elements	2016 **(Moved to U of T)**
Abulmaali Taher	Visiting Professor	Corrosion of pipelines	2017
Yuan Ding	M.A.Sc,	Electroplatin/electrolees plating	2017, Dalhousie U.
(ii) Graduated Recently			
Zhengwei Xiao	Visiting professor	Electroplating coatings for pipelines	2016
Dan Cluff (at Dalhousie)	Ph.D.	NiTi Shape Memory Alloy	2016
Simon Lavergne	Visiting	Energy recovering from wastes	2016
Pierre-Marie Bonduaeux	Visiting	Environmental Engineering	2016 France
William Judge	M.A.Sc.	Electrochemistry of aluminum PM alloy	2015
Arthur Guillemot	Visiting	Tissue Engineering	France
Charles Galliot	Visiting	Lap splices study	France
Maxence Dubos	Visiting	SEM analysis of EIS	France
Nicolas Gardies	Visiting	Surface Engineering and EIS	France
Natacha Rostomov	Visiting	EIS of aluminum PM alloys	Areva, Germany
Cyril Moulene	Visiting	BET surface analysis in solids	France
Abdulwahab Ibrahim	Ph.D.	Powder Metallurgy alloys	Dalhousie
Chukwuma Candidus Onuoha	Ph.D.	Corrosion, Wear and Mechanical Properties of Titanium Cermets	Alberta, Canada
Joulien Gervais	Visiting	Surface Engineering	France
Clement Romero	Visiting	Surface Engineering of PM alloys	Connectible, France
Remy Tisseyre	Visiting	EIS of aluminum PM alloys	Bosch France
Aurelien Kitiaschvili	Visiting	EIS of magnesium PM alloys	Bosch France
Sebastien Demouron	Visiting	Surface Engineering	ATR aerospace

Cui Lin	Professor	Electrochemistry – Corrosion (Sabbatical Leave from Nanchang Hangkong University, China)	Nova Scotia, Canada
D. Clark Murray	M.A.Sc.	Nickel Based Superalloys	Dalhousie
Stephen Buchholz	M.A.Sc.	Melt Infiltration of Titanium Carbonitride Cermets	Ontario
Melanie Holmes	M.A.Sc.	Corrosion of Titanium Carbonitride Cermets	Mining Equipment
Paul Burke	Ph.D.	Development of PM magnesium alloys	Post Doctor MIT
Julien Roy	Visiting	Corrosion of powder metallurgy alloys	Airbus Toulouse
Claire Rigaud	Visiting	Surface engineering - metrology	France
Florian Saint-Febes	Visiting	Thermal effects on sintering	Latec Toulouse
Gavin Steedman	Res. Assoc.	Pycnometry of PM alloys	Alberta, Canada
Winston Mosher	M.A.Sc.	Powder Metallurgy alloys	Alberta Innovates
Chris Boland	M.A.Sc.	Powder Metallurgy alloys	Ontario
Sonia Yakoubi	Visiting	Thermal effects by DSC	Nexans, Draveil France
Mathieu Leto	Visiting	Intermetallics by DSC	THALES ALENIA SPACE
David Walker	M.A.Sc.	Slag modification for steelmaking	PhD, McGill
Chloe Petit	Visiting	Fundamentals of powder forging	Ratier-Figeac, France
Vincent Vuaroqueaux	Visiting	Role of inert gas in Mg powder metallurgy	OTV France Ouest
Michael Mosher	M.A.Sc.	Cr additions to aluminum PM alloys	Alberta Innovates
Guillaume Lamy	Visiting	Fundamentals of powder forging	Hydro Building Systems, France
Abu Taher	Ph.D.	Development of Cu-Ni alloys	Corrosion Research Alberta
Jason Milligan	Res. Assoc	Development of heat treatment of aluminum PM alloys	PhD, McGill
Paul Burke	M.A.Sc.	Development of PM magnesium alloys	Post Doctor MIT
Khalid Shartal	M.A.Sc.	Anodization of light metals	Libya
Miguel Lamsaki	M. Eng.	Corrosion under insulation	Oil, Nova Scotia
Vianney Laverdiere	Visiting	Magnesium powder sintering	France
Damien Fancelli	Visiting	Magnesium powder sintering	Airbus Toulouse
Xichang Shi,	Visiting Professor	Electrochemical techniques-anodization	Faculty, South Central University
George Jarjoura	Post Doctor	EIS- Electrochemical measurements	Faculty Dal

Brent Paton	M.A.Sc	Development of Bearing P/M alloys	2004
George Jarjoura	Ph. D	Electrochemical Impedance Spectroscopy	Faculty Dal
Nazila Dadvand	Ph.D.	Corrosion of Electroless Ni-P and Ni-B Coatings	Cobain, MA
Paul Bishop,	Ph.D.	Diffusion based Micro Alloying of Aluminum Alloy 2O14 with Trace Additions of Tin	Faculty Dal
Vivek Rosario	M.A.Sc	Production of Functionally Graded Material by Combustion Synthesis Techniques	Enkei USA
George Jarjoura	M.A.Sc	Effect of Nickel on Copper Anode Passivation	Ph.D.
Paul Bishop	M.A.Sc	Reaction Sintering of Alloy 2O14/Mineral Mixtures	GKN Metals

(iii) Undergraduate NSERC Awards (selected)

Yuan Ding	Undergraduate Student Research Assistant (USRA)	EIS instrumentation
Ilias Lekkas	USRA	EIS of Cu/Ni alloys
Andrew Spencer	USRA	Continuous casting mold powders
Taylor MacLellan	USRA	Magnesium PM sintering
Greg Sweet	Slag modification for steelmaking	M.A.Sc.
Adam Doyle	Powder metallurgy of magnesium	Carbide Industries, USA
Eric Moreau	Carbide production research	Ph.D., MUN
Xavier Michaud	Rheology of aluminum alloys	M.A.Sc, McMaster
Jason Milligan	Electrochemical Impedance Spectroscopy	PhD, McGill
Kendall Dunnett	Development of P/M alloys	M.A.Sc, McMaster
Anne Marie Lampow	Development of P/M alloys	2002
David Wiesgerber	Development of Steelmaking admixtures	Alberta
Ian Nener, B.Eng.	The processing of P/M alloys	XTRATA
Christian Prest, B.Eng.	Development of Steelmaking admixtures	Nova Forge, NS
Melanie MacDonald, B.Eng.	Electrorefining of Copper	Ontario

George Jarjoura, B.Eng.	The processing of Alloy 2O14/Spodumene Composites	DAL Faculty
Nina Sampson , B.Eng.	Prediction of Thermodynamic Properties Using Binary Systems Information	Linamar Ontario
Moira MacLeod, B.Eng.	An Equilibrium Transient Study of Neodymium Trichloride	USA
Joann Lawless , B.Eng.	The Reinforcement of Zinc Aluminum Alloys with Wollastonite	MBA

PUBLICATIONS SUMMARY

Refereed Scientific Journals	**over 100**
Refereed Conference Proceedings	**55**
Books (Chapters, Editor)	**9**
Invited Plenary Presentations	**24**
Confidential Research Publications*	**14**
General Motors Publications	**5**
Special Professional Contributions	**10**

Patent: G.J. Kipouros, "Sub-coating coated metal corrosion measurement", U.S. Patent 8,926,823, January 6, 2015. A patent on the detection of corrosion under insulation (CUI) of pipelines.

RESEARCH SUPERVISION SUMMARY

21 Undergraduate Student Research Assistants
37 Master Students
14 PhD Students
4 Visiting Professors

***GENERAL MOTORS PUBLICATIONS**

Author or co-author in fourteen (14) research reports or memoranda prepared for General Motors Corporation the quality of which is equivalent to publications in a refereed journal. These reports are on the subject of the development of processes to produce rare earth metals or alloys which are strategic to the manufacturing of (Rare Earth)-Fe-B permanent magnets and on the development of electrolytic processes for the production of magnesium metal. Due to propriatory confidential information contained in these reports the titles of the reports **cannot** be announced outside the General Motors Corporation (Letters supporting this statement are available).

PUBLICATIONS

Patents

G.J. Kipouros, "Sub-coating coated metal corrosion measurement", U.S. Patent 8,926,823, January 6, 2015. A patent on the corrosion detection under insulation (CUI) of pipelines.

Books

1. "Direct Reduction of Iron Oxide from the Residue of FeS_2 Roasting", Dipl. Eng. Thesis, Mining and Metallurgical Engineering, National Technical University of Athens, Athens, Greece (1971).
2. "Separation of Hafnium from Zirconium by Reaction of Mixed Tetrachloride Vapours with Solid Potassium Chloride", **M.A.Sc. ,**Metallurgy and Materials Science, University of Toronto, Toronto, Ontario, Canada (1977).
3. "Electrorefining of Zirconium Metal in Alkali Chloride and Alkali Fluoride Electrolytes and Thermodynamic Properties of Some Alkali Metal Hexachlorozirconate and Hexachlorohafnate Compounds", Ph.D., Metallurgy and Materials Science, University of Toronto, Toronto, Ontario, Canada (1982).
4. B. Mishra, and G.J. Kipouros (Editors), "Titanium: Extraction and Processing", TMS, *Warrendale, Pennsylvania, U.S.A* (1997).
5. S.K. Das and G.J. Kipouros (Editors), "Automotive Alloys", TMS, Warrendale, Pennsylvania, U.S.A, (1997).
6. B. Mishra, G. J. Kipouros and R. G. Reddy, "Reactive Metals: Processing and Applications", pp. 1075-1220, Light Metals, W. Hale (editor), TMS Publication, Warrandale, pp. 1279 (1996).
7. G.J. Kipouros and D.R. Sadoway, "The Chemistry and Electrochemistry of Magnesium Production" in Advances in Molten Salt Chemistry, Vol. 6, Edited by G. Mamantov, C.B. Mamantov and J. Braunstein, Elsevier, Amsterdam, pp. 127-209 (1987).
8. G.J. Kipouros (G. Mamantov), "Fused Salt Solution", in AccessScience@McGraw-Hill, McGraw-Hill Encyclopedia of Science and Technology (2005).
9. W.D. Judge and G.J. Kipouros, "Aluminum PM Alloys: Structure and Porosity", in Encyclopedia of Aluminum and Its Alloys (EAIA), Manuscript number EAIA 1498 (2016) Taylor and Francis, **(in print)**

Manuscripts

10. G.J. Kipouros and S.N. Flengas, "Equilibrium Decomposition Pressures of the Compounds K_2ZrCl_6 and K_2HfCl_6 ", Can. J. Chem., 56, 1549-1554 (1978).
11. G.J. Kipouros, "Comparison of the Conductivity in Ionic Solids and Liquids", Internal Report, University of Toronto, February 16 (1978).

12. C.M. Paleos, G.P. Evangelatos, P. Dais and G. Kipouros, "Polymerization of Vinylpyridinium Salts. III. Further Studies on the Interfacial and Isotropic Polymerization of 4-Vinyl-N-Methylpyridinium Methylsulfate", J. of Polym. Sc: Pol. Chem. Ed., 17, 1611-1618 (1979).
13. G.J. Kipouros and S.N. Flengas, "Equilibrium Decomposition Pressures of the Compounds Na_2ZrCl_6 and Na_2HfCl_6 ", Can. J. Chem., 59, 990-995 (1981).
14. C.A. Pickles, G.J. Kipouros, R.G.V. Hancock and S.N. Flengas, "Quantitative Determination of Hafnium in Mixtures of Zirconium-Hafnium Hexachloro Alkali Compounds by Neutron Activation Analysis and X-ray Fluorescence", Can. J. Chem, 61, 2189-2191 (1983).
15. G.J. Kipouros and S.N. Flengas, "Equilibrium Decomposition Pressures of the Compounds Cs_2ZrCl_6 and Cs_2HfCl_6 and X-ray Identification of Na_2HfCl_6, K_2HfCl 6 and Cs_2HfCl_6", Can. J. Chem., 61, 2183-2189 (1983).
16. G.J. Kipouros and D.R. Sadoway, "Electroplating of Refractory Metals", 30th Sagamore Army Materials Research Conference, Innovations in Materials Processing, Lake Luzerne, N.Y., Aug. 1-5 (1983).
17. G.J. Kipouros, "Background Information on the Electrodeposition of Molybdenum, Backgound paper prepared for Dow Chemical Co., M.I.T (1983).
18. G.J. Kipouros and S.N. Flengas, "Electrorefining of Zirconium Metal in Alkali Chloride and Alkali Fluoride Fused Salts", 164th Meeting, Electrochemical Society, Washington D.C., Oct. 9-14 (1984).
19. S-Y. Yoon, J.H. Flint, G.J. Kipouros and D.R. Sadoway,"Raman Scattering Studies of Molten Salt Electrolysis of Light Metals", Spring Meeting, Electrochemical Society, Cincinnati, Ohio, May 6-11 (1984).
20. S-Y. Yoon, J.H. Flint, G.J. Kipouros and D.R. Sadoway,"Raman Scattering Studies of Light Metal Electrolysis", Plenary lecture, EUCHEM Conference on Molten Salts 1984, Elsinore, Denmark, Aug. 19-24 (1984).
21. G.J. Kipouros and S.N. Flengas, "Electrorefining of Zirconium Metal in Alkali Chloride and Alkali Fluoride Fused Electrolytes", J. Electrochem. Soc., 132, 1087-1098 (1985).
22. G.J. Kipouros, J.H. Flint and D.R. Sadoway, "Raman Spectroscopic Investigation of Some Alkali-Metal Hexachlorocompounds of Refractory Metals", Inorgan. Chem., 24, 3881-3884 (1985).
23. G.J. Kipouros and D.R. Sadoway, "Electroplating of Refractory Metals" in Innovations in Materials Processing, Edited by G. Bruggeman and V. Weiss, Plenum Publishing, N.Y., pp. 493-503 (1985).
24. G.J. Kipouros and D.R. Sadoway, "Molybdenum Coatings by Molten Salt Electrolysis", 114th AIME Annual Meeting, New York City, Feb. 24-28 (1985).
25. S-Y. Yoon, J. H. Flint, G.J. Kipouros and D.R. Sadoway, "Raman Scattering Studies of Molten Salt Electrolysis of Light Metals", 114th AIME Annual Meeting, New York City, Feb. 24-28 (1985).
26. G.J. Kipouros and D.R. Sadoway, "Molybdenum Coatings by Molten Salt Electrolysis" in Energy Reduction Techniques in Metal Electrochemical Processes, Edited by R.G. Bautista and R. Wesely, TMS/AIME, Warrendale, PA, pp.471-478 (1985).
27. S.-Y. Yoon, G.J. Kipouros, J.H. Flint and D.R. Sadoway, "Raman Scattering Studies of Molten Salt Electrolysis of Light Metals", in Energy Reduction Techniques in Metal Electrochemical Processes, Edited by R.G. Bautista and R. Wesely, TMS/AIME, Warrendale, PA, pp. 479-490 (1985).
28. D.R. Sadoway and G.J. Kipouros, "Final Report on the Electrodeposition of Molybdenum from Molten Salts", Report to Dow Chemical Co., M.I.T, July 24 (1985).
29. G.J. Kipouros and D.R. Sadoway, "Phase Diagram Studies Related to Electrodeposition of Molybdenum Metal from Molten Salts", Metall. Trans. B, 17B, 231-232 (1986).

30. S-Y. Yoon, J.H. Flint, G.J. Kipouros and D.R. Sadoway, "Raman Scattering Studies of Magnesium Electrolysis, 115th AIME Annual Meeting, New Orleans, March 2-6 (1986).
31. S-Y. Yoon, Y. Liu, J.H. Flint, G.J. Kipouros and D.R. Sadoway, "*In-situ* Raman Spectroscopic Investigation of Melt Chemistry and Electrode Processes in Laboratory-Scale Aluminum Cells", 115th AIME Annual Meeting, New Orleans, March 2-6 (1986).
32. S.-Y. Yoon, J.H. Flint, G.J. Kipouros and D.R. Sadoway, "Raman Scattering Studies of Magnesium Electrolysis", Light Metals 1986, Edited by R.E. Miller, TMS/AIME, Warrendale, PA, pp. 1009-1012 (1986).
33. S.-Y. Yoon, Y. Liu, J.H. Flint, G.J. Kipouros and D.R. Sadoway, "In-situ Raman Spectroscopic Investigation of Melt Chemistry and Electrode Processes in Laboratory-Scale Aluminum Cells", Light Metals 1986, Edited by R.E. Miller, TMS/AIME, Warrendale, PA, pp. 479-482 (1986).
34. G.J. Kipouros and D.R. Sadoway, "The Chemistry and Electrochemistry of Magnesium Production" in Advances in Molten Salt Chemistry, Vol. 6, Edited by G. Mamantov, C.B. Mamantov and J. Braunstein, Elsevier, Amsterdam, pp. 127-209 (1987).
35. G.J. Kipouros and D.R. Sadoway, "The Electrodeposition of Improved Molybdenum Coatings from Molten Salts by the Use of Electrolyte Additives", J. of Appl. Electrochem., 18, 823-830 (1988).
36. S.N. Flengas, G.J. Kipouros and P. Tumidajski, "Thermodynamic and Electrochemical Behaviour of Charge Fused Salt Solutions Suitable for the Electrolytic Recovery of Reactive Metals", International Symposium on Thermodynamics and Electrochemistry, November 20-22, Indira Ghandi Atomic Research Center, Kalpakkam, India (1989).
37. G.J. Kipouros and R.A. Sharma, "Characterization of Neodymium Trichloride Hydrates and Neodymium Hydroxychloride", General Motors Research Report, GMR-6765, August 1 (1989).
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39. G.J. Kipouros and D.R. Sharma, "Electrolytic Regeneration of the Neodymium Oxide Reduction Spent Salt", J. Electrochem. Soc., 137, 3333-38 (1990).
40. G.J. Kipouros and S.N. Flengas, "On the Mechanism of the Production of Zirconium and Hafnium Metals by Fused Salt Electrolysis", Seventh International Symposium on Molten Salts, Montreal, Quebec, Canada, May 6-11 (1990).
41. R.J. Roy and G.J. Kipouros, "Estimation of Vapour Pressures of Neodymium Trichloride Hydrates", EUCHEM Conference on Molten Salts 1990, Patras, Greece, September 2-8 (1990).
42. S.N. Flengas, G.J. Kipouros and P. Tumidajski, "Thermodynamic and Electrochemical Behaviour of Charge Asymmetric Fused Salt Solutions Suitable for the Electrolytic Recovery of Reactive Metals", Metals, Materials and Processes, Meshap Science Publishers, Bombay, India, Vol. 2, No. 3, pp. 151-178 (1990).
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44. G.J. Kipouros, "Bibliography of Electrochemistry", Internal Report, M.I.T., April 1983 (Revised, Dalhousie, January 2000).
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46. R.J. Roy and G.J. Kipouros, "Estimation of Vapour Pressures of Neodymium Trichloride Hydrates", Thermochimica Acta, 178, 169-183 (1991).

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52. G.J. Kipouros, R.N. Seefurth and R.A. Sharma, "Regeneration of Neodymium Oxide Reduction Spent Salt: Chlorination and Materials Compatibility", Light Metals 1993, Edited S.K. Das, TMS/AIME, Warrendale, PA, pp. 1105-1117, (1993) **(Best Reactive Metals Paper related to practice Award in *Light Metals '93*, Light Metals Division, The Minerals, Metals & Materials Society).**
53. M.V. Chaubal, J.L. Anjier, B.J. Welch, R.D. Peterson, M.A. Smith, J.H. van Linden and G.J. Kipouros, "Light Metals 1994: Advances in Aluminum production", JOM, 46, (7), 14-23 (1994).
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57. G.J. Kipouros and D.R. Sadoway, "Selected Bibliography of Molten Salts", Report produced for distribution at the **TMS Tutorial Luncheon Lecture** on **Molten Salts: Chemistry and Practice,** Monday, February 28, 1994, Moscone Center-San Fransisco, California (1994).
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59. G.J. Kipouros, "Magnesium and Other Reactive Metals: Have they Matured?", JOM, 47(12), 38-9 (1995).
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62. G.J. Kipouros, " The Processing and Application of Magnesium and Titanium: What is new?", JOM, 48(10), 36, (1996).
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66. M.Y. Demeri and G.J. Kipouros, " Processing Titanium and Lithium for Reduced-Cost Application", JOM, 49(6), 20, (1997).
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72. V. Rosario, G.J. Kipouros, M.C. Chaturvedi, and W.F. Caley, "Production of a Functionally Graded Material by Combustion Synthesis/Reactive Sintering", Energy and the Environment, TIEES-98, Ed. I. Dincer and T.Ayhan, Begell House, N.Y., (1998).
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