

Ioan BALINT

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Sexul Masculin | Data nașterii | Naționalitatea Română

EXPERIENȚA PROFESIONALĂ

1982 – 1984	Chimist la "Institutul de reactori Nucleari" Pitești , România
1984 – 1988	Chimist la "Institutul de Chimie Fizică" Ilie Murgulescu, București
1988 – 1997	Cercetator la "Institutul de Chimie Fizică" Ilie Murgulescu".
1997 – 2005	CS II la "Institutul de Chimie Fizică" Ilie Murgulescu".
2005 – în prezent	CS I la "Institutul de Chimie Fizică" Ilie Murgulescu".

EDUCAȚIE ȘI FORMARE

1981	Chimist - Facultatea de Chimie Bucuresti
1982	Specializare (Master) - Chimie Fizica-conducator lucrare diploma Prof. E. Segal
1996	Doctorat - conducator de doctorat dr. M. Vass, Academia Romana

COMPETENTE PERSONALE

Limba(i) maternă(e) Romana

Alte limbi străine cunoscute

	INTELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversație	Discurs oral	
Engleza	C2	C2	C2	C2	C2
Franceza	C2	C2	C2	C2	C2
Maghiara	C2	C2	C2	C2	C2
Japoneza	C2	C2	C2	C2	C2

Niveluri: A1/A2: Utilizator elementar - B1/B2: Utilizator independent - C1/C2: Utilizator experimentat
[Cadrul european comun de referință pentru limbi străine](#)

Stagii științifice în străinătate

1991 (Oct.) - 1992 (Aug.)	Bursa UNESCO la Tokyo Institute of Technology, Japonia, Prof. Ken-ichi Aika.
1997 (Oct.) - 1998 (Ian.)	Profesor invitat la Tokyo Institute of Technology, Departamentul de Chimie a Mediului si Cataliza.
1998 (Apr.) - 1999 (Ian.)	Post-doc la Universitatea Pierre et Marie Marie Curie, Paris, Franta, laboratorul Prof. Jacques Fraissard.
1999 (Dec.) – 2000 (Mar.)	Profesor invitat la Tokyo Institute of Technology, Departamentul de Chimie a Mediului si Cataliza.
2000 (Mai) – 2002 (Mai)	Post-doc JSPS la Tokyo Institute of Technology, Japonia, Prof. Ken-ichi Aika.
2002 (Iul.) – 2005 (Mar.)	Post-doc Grant in Aid Scientific Research acordat de Ministerul Educatiei, Culturii si Sportului, Stiintei si Tehnologiei, Departamentul de Chimie a Mediului si Cataliza al Professor Ken-ichi Aika.
2004 (Noi.) – 2005 (Feb.)	Profesor invitat la Tokyo Technical University (Tokyo Rikka Daigaku), Tokyo, Japonia

Experiența de cercetare

(A) Chimia suprafeței	<ul style="list-style-type: none"> - cinetica și mecanismul desorbției de gaze de pe metalele depuse pe oxizi. - chimia defectelor oxizilor ionici și neionici (MgO, Li/MgO, Ti/MgO, Zr/MgO, HZSM-5). - rute de reacție în reformarea catalitică a apei pe oxizi ionici simpli și dopați.
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- (B) Cataliză
 - oxidarea hidrocarburilor alifatice C1-C4 pe oxizi simpli și dopați
 - cuplarea oxidativă a metanului pe oxizi ionici simplii și dopați
 - conversia catalitică în fază lichidă și gazoasă a COS
 - reducerea NO pe nanocristale de Pt depusă pe oxizi
 - oxidarea parțială a CH₄ pe nanoparticule de Ru, Rh suportate pe oxizi
 - reducerea selectivă a nitraților și nitriților în fază lichidă.
 - rute de degradare oxidativă fotocatalitică a alcoolilor.
- (C) Fotocataliza/generare de energie
 - degradarea oxidativă a compușilor organici din apă și aer.
 - descompunerea fotocatalitică a apei;
 - generarea de specii active de oxigen sub acțiunea luminii.
 - celule solare.
- (D) Nanomateriale
 - prepararea și proprietățile nano oxizilor cu suprafață mare și rezistență termică ridicată cu ajutorul microemulsiilor
 - aplicații în conversia oxidativă a hidrocarburilor, sinteza amoniacului.
 - materiale fotoactive cu aplicații în depoluare și generare de energie (perovskiti, materiale pe bază de TiO₂, materiale izolatoare cu defecte optic active (nanotuburi de SiO₂) și celule solare.

- Experiența de laborator**
- termodesorbție programată
 - reacții de schimb izotopic
 - rezonanță magnetică nucleară pentru solide (¹²⁹Xe-NMR)
 - preparare de nanomateriale (metale, oxizi simpli și amestecuri) cu aplicații în cataliză, fotocataliză, celule solare, etc
 - proiectarea de instalații experimentale de laborator pentru studiul reacțiilor catalitice/fotocatalitice în apă și în aer
 - construire de senzori pentru gazele combustibile

Competențe digitale

AUTOEVALUARE				
Procesarea informației	Comunicare	Creare de conținut	Securitate	Rezolvarea de probleme
Utilizator experimentat	Utilizator experimentat	Utilizator experimentat	Utilizator experimentat	Utilizator experimentat

Niveluri: Utilizator elementar - Utilizator independent - Utilizator experimentat

[Competențele digitale - Grilă de auto-evaluare](#)

Scrieți denumirea certificatului.

Utilizator experimentat cu sistemele de operare WINDOWS (98, 2000, Me, XP, VISTA, 7,8,10), Microsoft Office, browser web (INTERNET EXPLORER, GOOGLE CHROME, MICROSOFT EDGE, OPERA, MOZILLA FIREFOX, NETSCAPE NAVIGATOR), e-mail (MICROSOFT OUTLOOK, PEGASUS MAIL), servicii de comunicare web (ZOOM, GOOGLE MEET, MICROSOFT TEAMS), etc.

Alte competențe Secretar Științific al Institutului de Chimie Fizică „Ilie Murgulescu” al Academiei Române

Permis de conducere Categoria B

INFORMATII SUPLIMENTARE

Publicații	93
Director de Proiecte	5
Prezentări	12
Conferințe	22
Seminarii	6
Distincții	1

<i>h</i> -index SCOPUS	19
Citări SCOPUS	1254
SCOPUS web page	https://www.scopus.com/authid/detail.uri?authorId=7005612136
Certificări	

ANEXE

Director de proiecte

1. Grant ANSTI nr. 5206 / 1999 – 2001 “Investigation of active centers formed in zeolites at high temperatures”
2. Grant CNCSIS nr. 724/2006 – 2008 “Preparation of morphological controlled metal nanocrystals and their application for structure sensitive catalytic reactions”, a research project with National Council of Scientific Research in Universities.
3. Grant 32-116 CNMP – “Architectures of advanced materials with applications for the treatment of waste waters” Grant CNMP (National Center of Programs Management) - Program 4 -Partenerhip in priority domains
4. Grant PN II, BICLEANBIOS 46/2012, 2012-2015, “New bimetallic nanoparticles with applications for removal of chlorinated compound in water and for biosensors”.
5. Grant 46PCCDI/2018 (MALASENT), “Materiale avansate și tehnologii laser/plasma de procesare pentru energie și depoluare: creșterea potențialului aplicativ și al interconectării științifice în domeniul eco-nanotehnologiilor”, „Aplicații ale materialelor optic active în procese de depoluare fotocatalitică complexă a aerului și apei, în generarea de H₂ și în dezvoltarea de celule solare.

Cărți

1. **Ioan Balint** and Akane Miyazaki,
“Nanocrystal dispersed platinum particles: preparation and catalytic properties”
Encyclopedia of nanoscience and nanotechnology, Editors: J. A. Schwarz C. Contescu and K. Putyera, Publisher: Marcel Dekker Inc., 2004, pp 2259-2268.
2. **Ioan Balint**, Akane Miyazaki,
“Leading Edge Catalysis Research; "Preparation of nanodispersed Ru Supported on γ - Al₂O₃ and its Catalytic Activity for ammonia synthesis and for methane oxidative conversion”
Editors: Lawrence P. Bevy; Publisher: Nova Science Publishers, Inc., 2006, pp 98-128. ISSN 1-59454-496-4.
3. Akane Miyazaki, **Ioan Balint**
“Metal nanoclusters in catalysis and material science; The issue of size control; Part B (Methodologies), Chapter 16, "Synthesis of morphologically controlled Pt nanoparticles and their application in catalytic reactions"
Editors: B. Corain, G. Schmid, and N. Toshima, Elsevier 2008, pp 301-305, ISBN-13: 978-0-444-53057-8.
4. Akane Miyazaki, **Ioan Balint**
“Purification of waste water using alumina as catalysts support and as an adsorbent”
in Waste Water, Edited by F. S. G. Einshlag, INTECH, Vienna, Austria, pp 277-298 (2011).
5. C. Anastasescu, M. Anastasescu, **I. Balint** and M. Zaharescu,
"SiO₂-Based Materials for Immobilization of Enzymes" Nanomaterials - Toxicity, Human Health and Environment" IntechOpen_2019. DOI: <http://dx.doi.org/10.5772/intechopen.87046>

Lista de publicații

1. **Ioan Balint**, Eugen Segal, T. Bucur and Titus Chirulescu,
"Non-isothermal kinetics in thermal desorption",
Thermochim. Acta, **67**, 103-106 (1983).
2. Mihail Vass, **Ioan Balint** and Vlad Popa,
"Methane oxidation on supported palladium catalysts",
Rev. Roum. Chim., **34**(2), 683-688 (1989).
3. Mihail Vass and **Ioan Balint**,
"Oxidative coupling of methane. Influence of reactants diffusion on the reaction.",
Rev. Roum. Chim., **36**(4-7), 829-842 (1991).
4. **Ioan Balint** and Mihail Vass,
"Methane oxidative coupling reaction. Main features of the catalysts used in the oxidative coupling of methane."
Rev. Chim., **44**(1), 53-56 (1993).

5. **Ioan Balint** and Ken-ichi Aika,
"Study of surface dc conductivity of various MgO catalyts: Nature of defects and their role in methane activation",
Studies in Surface Science and Catalysis, 81(Natural Gas Conversion II), Eds. H. E. Curry and R. F. Howe, Elsevier Science B. V., 177-86, 1994.
6. **Ioan Balint** and Ken-ichi Aika,
"Interaction of water with 1% Li/MgO: dc conductivity of Li/MgO catalyst for methane selective activation.",
J. Chem. Soc. Faraday Trans., **91**(12), 1805-1811 (1995).
7. **Ioan Balint** and Mihail Vass,
"Investigation of 5% K/BaO₂ catalytic system in methane oxidative coupling reaction"
Rev. Roum. Chim., **42**(10), 1009-1017 (1997).
8. **Ioan Balint** and Ken-ichi Aika,
"The defect chemistry of lithium-doped magnesium oxide"
J. Chem. Soc. Faraday Trans., **93**, 1797-1801 (1997).
9. Mihail Vass, **Ioan Balint** and Ken-ichi Aika,
"The defect chemistry of MgO"
Rev. Roum. Chim., **43**(5), 367-376, 1998.
10. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika
"The alumina dissolution promoted by CuSO₄ precipitation"
Chem. Mater., **11**(2), 378-383 (1999).
11. **Ioan Balint**, Marie-Anne Springuel-Huet, Ken-ichi Aika and Jacques Fraissard,
"Evidence for oxygen vacancy formation in HZSM-5 at high temperature"
Phys. Chem. Chem. Phys., **1**, 3845-3851 (1999).
11. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
Alumina dissolution promoted by the adsorption of Cu(II) ion.
Proceeding of the Annual Meeting of the Geochemical Society of Japan, p 208, 1999.
12. **Ioan Balint** and K. Aika,
Temperature-programmed desorption study of water-gas shift and methane steam reforming reactions over Li/MgO catalyst.
Appl. Catal. A: General, **196**(2), 209-215 (2000).
13. **Ioan Balint** and Ken-ichi Aika,
"Specific defect sites creation by doping MgO with lithium and titanium"
Applied Surf. Sci., **173** (3-4), 296-306 (2001).
14. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
"Alumina dissolution during impregnation with PdCl₄²⁻ in acid pH range"
Chem. Mater., **13**(3), 932-938 (2001).
15. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
"NO reduction by CH₄ over well-structured Pt nanocrystals supported on γ -Al₂O₃"
Chem. Lett., (10), 1024-1025 (2001).
16. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
"NO reduction by CH₄ over well-structured Pt nanocrystals supported on γ -Al₂O₃"
Catalysts & Catalysis, **43**(6), 419-421 (2001).
17. Akane Miyazaki, **Ioan Balint**, Ken-ichi Aika and Yoshio Nakano,
"Preparation of high activity catalyst for ammonia synthesis by supporting well-defined Ru nanoparticles on γ -Al₂O₃"
Chem. Lett., (12), 1332 (2001).
18. Akane Miyazaki, **Ioan Balint**, Ken-ichi Aika and Yoshio Nakano,
"Preparation of Ru nanoparticles supported on γ -Al₂O₃ and its novel catalytic activity for ammonia synthesis"
J. Catal., **204**, 364-371 (2001).

19. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
“The catalytic activity of the alumina supported Ru nanoparticles for NO/CH₄ reaction”
Chem. Commun. (6), 630-631 (2002).
20. **Ioan Balint**, Zhixiong You, and Ken-ichi Aika,
“Microemulsion mediated preparation of high thermal stability alumina nanoparticles stabilized with variable amounts of barium”
Catalysts & Catalysis, **44** (2), 149-151 (2002).
21. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
“NO reduction by CH₄ over well-structured Pt nanocrystals supported on γ -Al₂O₃”
Appl. Catal. B, **37** (3), 217-229 (2002).
22. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
“Methane reaction with NO over alumina supported Ru nanoparticles”
J. Catal. **207** (1), 66-75 (2002).
23. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
“Investigation of the morphology-catalytic reactivity relationship for the Pt nanoparticles supported on alumina by using the reduction of NO with CH₄ as a model reaction”
Chem. Commun., (10), 1044-1045 (2002).
24. **Ioan Balint**, Zhixiong You and Ken-ichi Aika
“Morphology and oxide phase control in the microemulsion mediated synthesis of barium stabilized alumina nanoparticles”
Phys. Chem. Chem. Phys., **4**, 2501 – 2503 (2002).
25. Zhixiong You, **Ioan Balint**, and Ken-ichi Aika
“Synthesis of thermally stable Cs-doped alumina nanoparticles by microemulsion method”
Chem. Lett., (11), 1090-1091 (2002).
26. Akane Miyazaki, Ken-ichi Aika, Yoshio Nakano and **Ioan Balint**
“Cubic platinum nano particle effective for waste gas catalyst”
Engineering Materials (Kogyo Zairyo), **50** (10), 41 – 44 (2002).
27. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika,
“NO reduction by CH₄ over well-structured Pt nanocrystals supported on γ -Al₂O₃”
Studies in Surface Science and Catalysis, **145**; 239-242 (2002).
28. Zhixiong You, **Ioan Balint**, and Ken-ichi Aika
“Mesostructured alumina nanocomposites synthesis via reverse microemulsion route”
Chem. Lett., **32** (7), 630-631 (2003).
29. **Ioan Balint**, Akane Miyazaki, Ken-ichi Aika
“The relevance of Ru nanoparticles morphology and oxidation state to the partial oxidation of methane”
J. Catal., **220** (1), 74-83 (2003)
30. Akane Miyazaki, **Ioan Balint**, Ken-ichi Aika and Yoshio Nakano,
“Solid-liquid interfacial reaction of Zn²⁺ ions on the surface of amorphous aluminosilicates with various Al/Si ratios”
Geochim. Cosmochim. Acta, **67**(20), 3833-3844 (2003).
31. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika
“Chemical and morphological evolution of the supported Ru nanoparticles during oxidative conversion of methane.”
React. Kinet. Catal. Lett. **80**(1), 81-87 (2003).
32. Akane Miyazaki, **Ioan Balint** and Yoshio Nakano,
“Morphology control of Pt nanoparticles and their catalytic properties.”
J. Nanoparticles Res., **5** (1-2), 69-80 (2003).
33. Akane Miyazaki, Kazumasa Shibasaki, Yoshio Nakano, Mitsuteru Ogawa, **Ioan Balint**
“Efficient catalytic reduction of concentrated nitric acid on the adsorption sites of activated carbon”

Chem. Lett., **33** (4), 418-419 (2004).

34. **Ioan Balint**, Akane Miyazaki
"NO/CH₄ reaction over nanodispersed Pt particles"
Topics in Catalysis., **30/31**, 123-126 (2004).

35. **Ioan Balint**, Akane Miyazaki and Ken-ichi Aika
"Effect of platinum morphology on lean reduction of NO with C₃H₆"
Phys. Chem. Chem. Phys., **6** (9), 2000 – 2002 (2004).

36. Zhixiong You, **Ioan Balint**, Ken-ichi Aika
"Catalytic combustion of methane over microemulsion-derived MnO_x-Cs₂O-Al₂O₃ nanocomposites"
Applied Catalysis B: **53**(4), 233–244 (2004).

37. **Balint Ioan**, Miyazaki Akane, Aika Ken-ichi
"The chemical state of the Ru nanoparticles during partial oxidation of methane"
Annals of West University of Timisoara, Series of Chemistry, **12**(3, Pt. 4), 1325-1344 (2003).

38. Akane Miyazaki, Shuichiro Yoshida, Yoshio Nakano and **Ioan Balint**,
"Preparation of tetrahedral Pt nanoparticles having {111} facet on their surface"
Chem. Lett., **43** (1), 74-75 (2005).

39. **Ioan Balint**, Akane Miyazaki, Ken-ichi Aika,
"Kinetic aspects associated with the lean reduction of NO with C₃H₆ over well-structured Pt nanocrystals"
React. Kinet. Catal. Lett., **85** (1), 189-196 (2005).

40. **Ioan Balint**, Akane Miyazaki, Ken-ichi Aika,
"On the kinetic and structure sensitivity of lean reduction of NO with C₃H₆ over nanodispersed Pt crystals"
Appl. Catal. B, **59**, 72-81 (2005).

41. Dana Gingasu, Luminita Patron, Ioana Mindru, Nicolae Stanica, **Ioan Balint**,
"Copper ferrite prepared by the soft chemical method"
Rev. Roumaine Chim., **49**(8), 669-674 (2004).

42. Zhixiong You, Koji Inazu, **Ioan Balint** and Ken-ichi Aika,
"Barium hexaaluminate as a novel promising support for ruthenium-based ammonia synthesis catalysts"
Chem. Lett., **34** (5), 692-693 (2005).

43. Luminita Patron, Oana Carp, Ioana Mandru, G. Marinescu, Nicolae Stanica and **Ioan Balint**
"Polynuclear coordination precursor compounds for M₃Fe₅O₁₂ garnets (M = Y, Eu, Er, Gd). Part I. Synthesis of precursors.
J. Serb. Chem. Soc., **70** (8-9), 1049-1056 (2005).

44. Akane Miyazaki, M. Asakawa, **Ioan Balint**,
"Nitrite reduction on the morphologically controlled Pt nanoparticles"
Chem. Com., **44**, 3730-3732 (2005).

45. Akane Miyazaki, Kazumasa Shibasaki; **Ioan Balint**
"The effect of active carbon on the reduction of concentrated nitric acid by HCOOH"
J. Coll. Interface Sci., **293** (1), 43-51 (2006).

46. Dana Gingasu, Luminita Patron, Ioana Mandru, **Ioan Balint**, Nicolae Stanica,
"Lithium ferrite from polynuclear coordination compounds with glycine as ligands"
Rev. Roumaine Chim., **50**, 11-12 (2005).

47. Dana Gingasu, Ioana Mandru, Luminita Patron, Oana Carp, Dorina Matei, Cristian Neagoe, **Ioan Balint**
"Copper ferrite obtained by two soft chemistry routes"
J. Alloy. Comp., **425**, 357-361 (2006).

48. Gabriela Marinescu, Luminita Patron, Daniela C. Culita, Cristian Neagoe, Costinel I.

- Lepadatu, **Ioan Balint**, Lofti Bessais, Corneliu B. Cizmas
“Synthesis of magnetite nanoparticles in the presence of aminoacids”
Journal of Nanoparticles Research, **8**, 1045-1051 (2006).
49. Daniela C. Culita, Luminita Patron, Valentin S. Teodorescu, **Ioan Balint**
“Synthesis and characterization of spinelic ferrites obtained from coordination compounds as precursors”
Journal of Alloy and Compounds **432**(1-2), 211-216 (2007).
50. **Ioan Balint**, Akane Miyazaki,
“Minimization of metal-support interaction by using Ru nanoparticles for ammonia synthesis”
Transaction of the Materials Research Society of Japan, **32** (2), 387-390 (2007).
51. **Ioan Balint**, Akane Miyazaki,
“The influence of Rh addition on the catalytic activity of cubic Pt nanocrystals supported on alumina for NO/CH₄”
Catal. Lett., **122** (1-2), 183-187 (2008).
52. Flori Papa, Luminita Patron, Oana Carp, Carmen Paraschiv, **Balint Ioan**
“Catalytic activity of neodymium substituted zinc ferrites for oxidative conversion of methane”
J. Mol. Catal., **299** (1-2), 93-97 (2009).
53. **Ioan Balint**, Akane Miyazaki,
“Novel preparation method of well-defined mesostructured nanoaluminas via carbon-alumina composites”
Microporous and mesoporous materials, **122**, 216-222 (2009).
54. Akane Miyazaki, Toru Asakawa and **Ioan Balint**
“NO₂⁻ adsorption onto denitration catalysts”
Appl. Catalysis A, **363**, 81-85 (2009).
55. Crina Anastasescu, Maria Zaharescu, **Ioan Balint**
“Unexpected photocatalytic activity of simple and platinum modified tubular SiO₂ for the oxidation of oxalic acid to CO₂”
Catal. Lett., **132** (1-2), 81-86 (2009).
56. Florica Papa, Dana Gingasu, Luminita Patron, Akane Miyazaki, **Ioan Balint**
“On the nature of active sites and catalytic activity for OCM reaction of alkaline-earth oxides-neodymia catalytic systems”
Appl. Catal. A, **375** (1), 172–178 (2010).
57. Florica Papa, Luminita Patron, Oana Carp, Carmen Paraschiv, **Ioan Balint**
“Catalytic activity of neodymium substituted zinc ferrites for oxidative conversion of methane”
Rev. Roum. Chim., **55** (1), 27-32 (2010).
58. Akane Miyazaki, Toru Asakawa, **Ioan Balint**
“Reply to the comments on “NO₂⁻ adsorption onto denitration catalysts””
Appl. Catal. A, **380**, 186 (2010).
59. F. Papa, D. Gingasu, L. Patron, A. Miyazaki, **Ioan Balint**
“Impact of the catalyst basicity on the mechanism of OCM reaction performed over alkaline earth-Nd₂O₃ mixed oxides”
Rev. Roum. Chim., **56** (3), 203-208 (2011).
60. F. Papa, C. Negrila, G. Dobrescu, A. Miyazaki, **Ioan Balint**
“Preparation, characterization and catalytic behavior of Pt-Cu nanoparticles in methane combustion”
Journal of Natural Gas Chemistry, **20**, 537-542 (2011).
61. Florica Papa, Patron Luminita, Petre Osiceanu, Ruxandra Barjega, Miyazaki Akane, **Ioan Balint**
“Acid-base properties of the active sites responsible for C₂⁺ and CO₂ formation over MO-Sm₂O₃ (M=Zn, Mg, Ca and Sr) mixed oxides in OCM reaction”
J. Mol. Catal., **346**, 46-54 (2011).
62. Florica Papa, Catalin Negrila, Akane Miyazaki, **Ioan Balint**

"Morphology and chemical state of PVP-protected Pt, Pt-Cu and Pt-Ag nanoparticles prepared by alkaline polyol method"
Journal of Nanoparticle Research, **13**(10) 5057-5064 (2011).

63. **Ioan Balint**, Akane Miyazaki, Dana Gingasu and Florica Papa
"Relevance of MO-Sm₂O₃ (M= Zn, Mg, Ca, Sr) mixed oxides basicity on the efficiency of methane conversion to C₂⁺ hydrocarbons"
Reaction Kinetics, Mechanisms and Catalysis, **105**(1), 5-11 (2012).

64. Crina Anastasescu, Mihai Anastasescu, Maria Zaharescu, **Ioan Balint**
"Platinum-modified SiO₂ with tubular morphology as efficient membrane-type microreactors for mineralization of formic acid"
Journal of Nanoparticle Research, **14**(10), 1198-1209 (2012).

65. Miyazaki Akane, **Balint Ioan**,
"Evidence for tetrahedral AlO₄ formation induced by Zn²⁺ adsorption onto Al(OH)₃ gel"
Colloids and Surfaces A: Physicochemical and Engineering Aspects, 420, 115– 121 (2013).

66. Diana Visinescu, Florica Papa, Adelina C. Ianculescu, **Ioan Balint**, Oana Carp
"Nickel-doped zinc aluminate oxides: starch-assisted synthesis, structural, optical properties, and their catalytic activity in oxidative coupling of methane"
J. Nanopart. Res. 15:1456 (2013).

67. Raluca Dumitru, Florica Papa, **Ioan Balint**, Daniela C. Culita, Cornel Munteanu, Nicolae Stanica, Adelina Ianculescu, Lucian Diamandescu, Oana Carp
"Mesoporous cobalt ferrite: A rival of platinum catalyst in methane combustion reaction"
Applied Catalysis A: General, 467, 178-185 (2013).

68. Florica Papa, Akane Miyazaki, Mariana Scurtu, Adelina C. Ianculescu, **Ioan Balint**
"Morphology, chemical state of nanometric-sized Pt–Cu and Pt–Ag particles, and their photocatalytic activity for mineralization of methanol"
J. Nanopart. Res. 16:2249 (2014).

69. F. Papa, **I. Balint**, C. Negrila, Elena O., I. Zgura, C. Bradu,
"Supported Pd-Cu nanoparticles for water phase reduction of nitrates. Influence of the support and of the pH conditions"
Ind. & Eng. Chem. Res., 53, 19094–19103 (2014).

70. G. Dobrescu, F. Papa, R. State, I. Fangli, **I. Balint**
"Particle size distribution of Pt-Cu bimetallic nanoparticles by fractal analysis"
Powder Technology, 269, 532-540 (2015).

71. Akane Miyazaki, Kahori Matsuda, Florica Papa, Mariana Scurtu, Catalin Negrila, Gianina Dobrescu, **Ioan Balint**
"Impact of particle size and metal-support interaction on denitration behavior of well-defined Pt-Cu nanoparticles"
Catal. Sci. & Technology, 5 (1), 492 - 503 (2015).

72. R. State, F. Papa, G. Dobrescu, C. Munteanu, I. Atkinson, **Ioan Balint**, A. Volceanov
"Green synthesis and characterization of gold nanoparticles obtained by a direct reduction method and their fractal dimensions"
Environmental Engineering and Management Journal, 14, 587-593 (2015).

73. C. Anastasescu, N. Spataru, D. Culita, I. Atkinson, T. Spataru, V. Bratan, C. Munteanu, M. Anastasescu, C. Negrila, **I. Balint**
"Chemically assembled light harvesting CuO_x-TiO₂ p-n heterostructures"
Chem. Eng. J., 281, 303-311 (2015).

74. I. Stanciu, L. Predoana, C. Anastasescu, D. C. Culita, S. Preda, J. Pandele Cusu, C. Munteanu, A. Rusu, **I. Balint**, M. Zaharescu
"Structure and properties of vanadium doped TiO₂ powders prepared by sol-gel method"
Rev. Roum. Chim. 59, 919-929 (2014).

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Premii

Premiul Academiei Nicolae Teclu - 1987 pentru contribuții științifice la tematica: "Senzori catalitici pentru detecția gazelor combustibile".

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