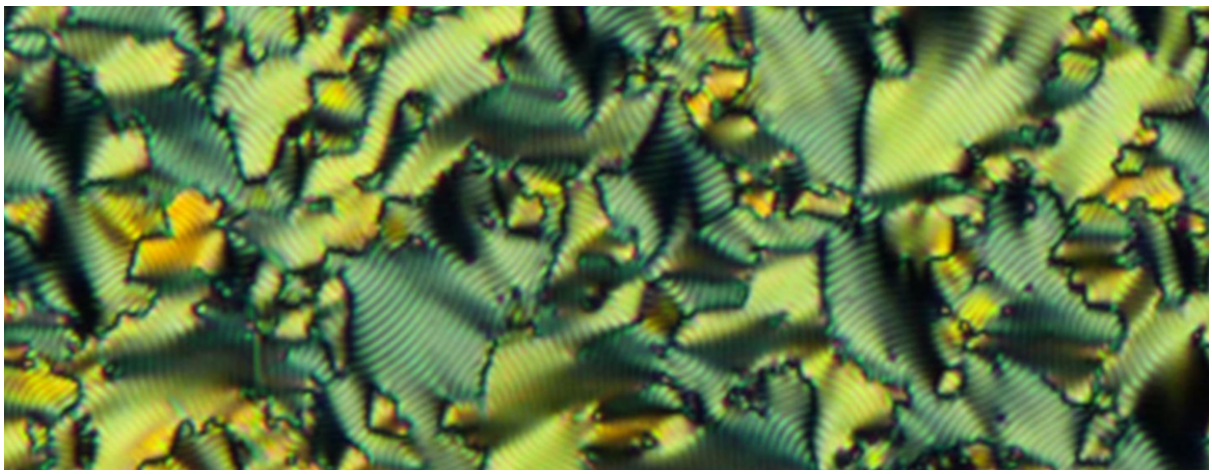
National University of Science
and Technology
POLITEHNICA Bucharest
Department of Physics

ACADEMY OF ROMANIAN
SCIENTISTS
Section of Physical Sciences

THE 9th INTERNATIONAL COLLOQUIUM "PHYSICS OF MATERIALS" (PM-9)



NOVEMBER 11-13, 2026

BUCHAREST, ROMANIA

PROGRAM

Wednesday, November, 11

Important: The displayed schedule is based on Bucharest time, i.e., Eastern European Time (EET).

9:30 Connection test

9:40 -- 10:00 OPENING: Wellcome to the 9th conference "International Colloquium Physics of Materials PM-9"
D. Manaila-Maximean, D. Delion

10:00 - 12:00 Session 1: Invited communications

	Chairs:	**Doina Manaila-Maximean, Doru Delion**
1	**10:00-10:30**	**I.1. Development of Centru pentru Optica de Mare Putere (COMP) at ELI-NP** T. Jitsuno[1,2*], S. Aikawa[1,2], S. Das[1], G. Bleotu[1], O. Danila[1,3], T. Mikami[2,4], T. Nambu[2], A. Yogo[2], R. Schmelz[1], R. Stefan[1], I. Dancus[1], D. Ursescu[1], K. A. Tanaka[1,2], F. Tinker[5], R. Kodama[2], and C. Ur[1] [1] Extreme Light Infrastructure-Nuclear Physics (ELI-NP), 30 Reactorului, Magurele, Romania 077125 Email: takahisa.jitsuno@eli-np.ro [2] Institute of Laser Engineering, The Univ. of Osaka (ILE Osaka), 2-6 Yamada-oka, Suita, Osaka, Japan 565-0871 [3]National University of Science and Technology Polithechnica Bucharest, 313 Spl. Independentei, Bucharest, Romania 060082 [4]Okamoto Optics, Inc., 8-34 Haramachi, Isogoku, Yokohama, Kanagawa, Japan 235-0008 [5]Aperture Optical Sciences, Inc., 170 Pond View Dr., Meriden, Connecticut, United States of America 06450
2	**10:30-11:00**	**I.2. Near electromagnetic field in the vicinity of spherical particles of two-dimensional imperfect lattice: semi-analytical description** V.A. Loiko*, A.A. Miskevich, and N.A. Loiko Institute of Physics, National Academy of Sciences of Belarus, Minsk, Belarus E-mail: loiko@ifanbel.bas-net.by
3	**11:00-11:30**	**I. 3. Functional Architectures for Complex Water Treatment: From Staged Adsorption to Reactive Regeneration** I. Fierăscu[1,2], R.I. Matei[1], T. Fistoş[1], A.M. Baroi[1], I.S. Hosu[1], I.E. Chican[1], V. Rădiţoiu[1], T.B. Paraschiv[1,3], C.E. Enascuta[1] and R.C. Fierăscu[1,3,4*] [1] National Institute for Research & Development in Chemistry and Petrochemistry - ICECHIM Bucharest, Romania

		[2] University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania [3] National University of Science and Technology POLITEHNICA Bucharest, Romania [4] Academy of Romanian Scientists, Bucharest, Romania email: fierascu.radu@icechim.ro
4	**11:30-12:00**	**I.4. Surface Tension Studies of Mixtures formed between Ionic Liquids bearing Hydrocarbon or Semiperfluorocarbon Chains and between related Neutral Imidazoles** Joshua Lai, Aanshee V. Shambharkar, Nell Williams, Naomi S. Elstone, Seishi Shimizu, John M. Slattery* and Duncan W. Bruce* Department of Chemistry, University of York, Heslington, YORK YO10 5EE, UK. Email: duncan.bruce@york.ac.uk

12:00 - 13:00 LUNCH

13:00 - 14:40 Session 2: Invited and Oral communications

	Chairs: **Teodora Staicu, Marian Micutz**	
5	**13:00-13:20**	**I.5. Studies of Nanonaterials and of Nanostructured Materials Using Classical Investigation Methods: Characterization of Textiles Functionalized by Superconducting Oxide Nanoparticles** L. Frunza[1*], I. Zgura[1], C.P. Ganea[1], D. Manaila-Maximean[2] [1]National Institute of Materials Physics, Magurele, Romania Email: lfrunza@infim.ro, Irina.Zgura@infim.ro, paul.ganea@infim.ro [2]National University of Science and Technology Politehnica Bucharest, 313 Spl. Independentei, 060042 Bucharest, Romania, Academy of Romanian Scientists, Email: doina.manaila@upb.ro
6	**13:20-13:35**	**O1. Electrospun collagen type I (CI) – based fibers as potential biocompatible scaffolds** I.V. Tudose[1], O. Brincoveanu[2], T. Staicu[3], V. Circu[4], M. Suchea[1,2] and M. Micutz[3*] [1]Center of Materials Technology and Photonics, School of Engineering and Center for Research, Hellenic Mediterranean University (HMU), 71410 Heraklion, Crete, Greece Email: tudose_valentin@yahoo.com [2]National Institute for Research and Development in Microtechnologies - IMT Bucharest, 126A, Erou Iancu Nicolae Street, 077190, Voluntari-Bucharest, Romania Email: oana.brincoveanu@imt.ro; mira.suchea@imt.ro [3]Department of Analytical and Physical Chemistry, University of Bucharest, 4-12 Regina Elisabeta Blvd, Bucharest 030018, Romania Email: teos@gw-chimie.math.unibuc.ro; micutz@gw-chimie.math.unibuc.ro [4]Department of Inorganic and Organic Chemistry, Biochemistry and Catalysis, University of Bucharest, 4-12 Regina Elisabeta Blvd., Bucharest 030018, Romania Email: viorel.circu@chimie.unibuc.ro

7	**13:35-13:50**	**O.2. Tumoral Area Detection via Automated Classification on Hyperspectral and Spatial Dataset** Ana Cotoarba [1*], Mona Mihailescu [2], Peter. E. Andersen [1], Nicolae Taraba [2], Henry Sansom[1], George Petrescu [3,4], Violeta. L. Calin [4] [1] Technical University of Denmark, Copenhagen, Denmark. [2] National University of Science and Technology Politehnica Bucharest, Bucharest, Romania. [3] Bagdasar-Arseni Clinical Emergency Hospital, Bucharest Romania [4] Carol Davila University of Medicine and Pharmacy, Bucharest, Romania
8	**13:50-14:10**	**O.3. Behavioral Profiling of Fe_3O_4@Glucose Nanoparticle Exposure in Zebrafish** M.C. Ardeleanu[1,2*], H. Ardeleanu [1], M.N. Nicoară[1] and A.S. Ciobîcă[1,2] [1] University „ Alexandru Ioan Cuza”, Iași, Romania Email: ardeleanumaria425@yahoo.com; ardeleanu_helmina@yahoo.com; mirmag@uaic.ro; alin.ciobica@uaic.ro [2] Institute „Ioan Hăulică”, University Apollonia, Iasi, Romania Email: ardeleanumaria425@yahoo.com; alin.ciobica@uaic.ro
9	**14:10-14:25**	**O.4. Hydrotalcite-Based Materials as Versatile Platforms for Catalysis and Bioactive Molecule Delivery** Z. Abdelsadek[1,2,3*] [1]Institute of Electrical and Electronics Engineering, University of M’hamed-Bougara, Independence Avenue, 35000, Boumerdès, Algeria [2] Laboratory of Sciences of Materials and Chemical Processes (LSMPC), USTHB, B.P. 32 El-Alia, 16111 Bab-Ezzouar, Algeria [3] Process Engineering Department, Petrochemical Synthesis Laboratory, M’hamed Bougara University, 35000 Boumerdes, Algeria Email: z.abdelsadek@univ-boumerdes.dz, zoulisabrina@yahoo.fr
10	**14:25-14:40**	**O.5. Pre-Damage Detection Spatial Mapping for Next-Generation High-Power Laser Health** Susobhan Das[1*], Priyanka Nandy[1], Cristina Gheorghiu[1], Victor Leca[1], Takahisa Jitsuno[1], Daniel Ursescu[1] [1] Extreme Light Infrastructure-Nuclear Physics (ELI-NP), 30 Reactorului, Magurele, Romania 077125 Email: susobhan.das@eli-np.ro

15:00 -17:00 POSTER Session

Chairs: Andrei Dragulinescu, Stefan Postelnicu

The authors will be connected online in the order of the posters. (The poster should be sent one week in advance preferable) for five minutes and the interested scientists might also contact the authors directly.)

Thursday, November, 12

10:00-12:00 Session 3: Invited and Oral communications

	10:00-12:00	**Chairs: Magdalena Ciurea, Silviu Polosan, Eduard Monaico**
11	**10:00-10:30**	**I.6. Engineering Charge Storage in SiGeSn Nanocrystal Floating-Gate Memories with High-k Oxide Matrices** C. Palade[1], I. Stavarache[1], A.-M. Lepadatu[1], A. Slav[1], O. Cojocaru[1], V. A. Maraloiu[1], V. S. Teodorescu[1,2,3], T. Stoica[1], and M. L. Ciurea[1,2,3*] [1] National Institute of Materials Physics, 077125 Magurele, Romania [2] University of Bucharest, Faculty of Physics, 077125 Magurele, Romania [3] Academy of Romanian Scientists, 050094 Bucharest, Romania Email: ciurea@infim.ro
12	**10:30-10:50**	**I.7. Electrochemically Engineered GaAs Architectures for Template-Based Materials Engineering** E. V. Monaico[*] National Center for Materials Study and Testing, Technical University of Moldova, Bd. Stefan cel Mare 168, Chisinau, Republic of Moldova Email: eduard.monaico@cnstm.utm.md
13	**10:50-11:10**	**I.8. Electrostatic complexation of oppositely charged polyelectrolytes in aqueous solution** W. Essafi[1*], N. Jemili[1] and M. Fehri[1], [1] Laboratoire Matériaux, Traitement et Analyse, Institut National de Recherche et d'Analyse Physico-Chimique, Pôle Technologique de Sidi Thabet, 2020 Sidi Thabet, Tunisia. Email: essafi.wafa@inrap.rnrt.tn
14	**11:10-11:25**	**O.6. From ZnO–CuO Nanoparticles to Reusable 3D Photocatalysts: Performance and Ecotoxicological Safety** I. Zgura[1*], M. Enculescu[1], N. Preda[1], L. Nedelcu[1], O. Rasoga[1], V.-A. Maraloiu[1], C. Nichita[2], M.-E. Barbinta-Patrascu[2], A. Udaondo[3], P. Miranda[3], A. Pajares[3], J. Háhn[4], Z. Csenki-Bakos[4], F. Littorie[5], P. Gillon[5] [1]National Institute of Materials Physics, Magurele, Romania [2]University of Bucharest, Faculty of Physics, Magurele, Romania [3]Universidad de Extremadura, Badajoz, Spain [4]Hungarian University of Agriculture and Life Sciences, Gödöllő, Hungary [5]GEPEA, UMR 6144, CNRS, Nantes Université, Saint-Nazaire, France Email: irina.zgura@infim.ro
15	**11:25-11:40**	**O.7. Organic light-emitting diodes (OLEDs) and perovskite light-emitting diodes (PeLEDs)** C. I. Ciobotaru[1], C. C. Ciobotaru[1] and S. Polosan[1,2]* [1] National Institute of Materials Physics, P.O. Box MG-7, Bucharest-Măgurele 077125, Romania Email: silviu.polosan@infim.ro [2] Academy of Romanian Scientists, Ilfov Street No. 3, Bucharest 050094, Romania

16	**11:40-11:55**	**O.8. Effect of Cationic Composition of SDS-Modified Layered Double Hydroxides on the Thermal and Viscoelastic Properties of PMMA Nanocomposites** W. Haffaf [1*], Z. Abdelsadek[2,3,4], and M. Hamouni [1] [1] Macromolecular Research Laboratory, Department of Physics, Faculty of Sciences, University Abou Bekr Belkaid, Tlemcen, Algeria [2] Institute of Electrical and Electronics Engineering, University of M'hamed-Bougara,Independence Avenue, 35000 Boumerdès, Algeria [3] Laboratory of Sciences of Materials and Chemical Processes (LSMPC), USTHB, B.P. 32El-Alia, 16111 Bab-Ezzouar, Algeria [4] Process Engineering Department, Petrochemical Synthesis Laboratory, M'hamed BougaraUniversity, 35000 Boumerdes, Algeria *Email: wissemhaffafdz@gmail.com

12:00 - 13:00 LUNCH

13:00-15:00 Session 4: Invited and Oral communications

	13:00-15:00	**Chairs: Camelia Stanciu, Andrei Dragulinescu, Octavian Danila**
17	**13:00-13:20**	**I.9. Radiative cooling materials, a solution for sustainable roofs summer cooling** C. Stanciu[1*], and Al. V. Goga[1] [1] National University of Science and Technology POLITEHNICA Bucharest, Romania Email: camelia.stanciu@upb.ro, alexandru.goga1507@stud.mec.upb.ro
18	**13:20-13:40**	**I.10. Thin-Film Solar Cells: Materials, Recent Advances, Modeling and Emerging Applications** A. Drăgulinescu [1*] [1] Electronic Technology and Reliability Department, 'Politehnica' Univ. of Bucharest, 1-3 Iuliu Maniu Blvd., Bucharest, Romania, RO-060032 Email: dragulinescu@yahoo.com
19	**13:40-13:55**	**O.9. Si, GaAs, InGaAs and InGaN as Photovoltaic and Optoelectronic Materials: A Unified Study of Structure, Junction Behaviors and Thermal–Electrical Transport** Viorel Popescu[1*], Octavian Danila[1], Doina Manaila-Maximean[1,2] [1]National University of Science and Technology Bucharest, Romania Email: Viorel.popescu@stud.etti.upb.ro, octavian.danila@upb.ro; doina.manaila@upb.ro [2] Academy of Romanian Scientists, Bucharest, Romania

20	**13:55-14:10**	**O.10. Thermal and Photovoltaic Properties of Silicon and Perovskite/Silicon Tandem Materials under Mediterranean Climatic Conditions: A Numerical Study for Tlemcen, Algeria** I.Sari-Ali[1], B.Chikh-Bled[1], D.Kherbouche [1] , C.Zidani[1] , A.Ghomri[2] [1]Materials and Renewable Energy Research Unit (URMER) Abou-Bekr Belkaïd University, Faculty of Sciences, Department of Physics, Tlemcen Algeria [2]Laboratory of Natural Substances and Bioactive (LASNABIO)-Tlemcen Email: sinchirah@yahoo.fr; bachikhbled@yahoo.fr; djamila_kh@yahoo.fr; czidani10@yahoo.fr; ghomriamina@yahoo.fr
21	**14:10-14:20**	**O.11. An Analysis on the Hydrogen-like Atomic Orbitals** Diana R. Radnef-Constantin[1] *, Liliana Preda[2], S. Stefan Radnef[3], Valentin I.R. Niculescu[4], Agneta Mocanu[5], Dumitru Popescu [6] [1] Astronomical Institute of the Romanian Academy, 5 Cutitul de Argint Street, București 040557, Romania Email: ghe12constantin@yahoo.com [2] National University of Science and Technology Politehnica Bucharest, 060042 Bucharest, Romania [3] INCAS – National Institute for Aerospace Research "Elie Carafoli", Bucharest 061126, Romania [4] National Institute for Lasers, Plasma and Radiation Physics, Magurele, Romania [5] Hyperion University, București, Romania [6] "Gheorghe Mihoc - Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy, 13 Calea 13 Septembrie Street, București, Romania
22	**14:20-14:30**	**O.12. Pulsatory Liposome Evolution according to the Trigonometric Hypotesis** Diana R. Radnef-Constantin[1] *, Dumitru Popescu [2], Agneta Mocanu[3] [1] Astronomical Institute of the Romanian Academy, 5 Cutitul de Argint Street, București 040557, Romania Email: ghe12constantin@yahoo.com [2] "Gheorghe Mihoc - Caius Iacob" Institute of Mathematical Statistics and Applied Mathematics of Romanian Academy, 13 Calea 13 Septembrie Street, București, Romania [3] Hyperion University of Bucharest, Romania
23	**14:30-14:45**	**O.13. Combined 3D Documentation and Aerial Thermal Imaging for Extraction of new Archaeological Features** Maria-Andreea Pătrașcu*, Lucian-Cristian Ratoiu, Laurețiu-Marian Angheluță National Institute for Research & Development in Optoelectronics – INOE 2000, Romania Email: andreeamaria.patrascu@inoe.ro
24	**14:45-15:00**	**O.14. Memcapacitive and Memristive Behavior of Nematic Liquid Crystal Cells under Segmented Sinusoidal Excitation** Ș. Postelnicu*, C. Cirtoaje National University of Science and Technology POLITEHNICA Bucharest, Romania Email: stefan.postelnicu@upb.ro

Friday, November, 13

10:00-12:20 Session 5: Invited and Oral communications

	10:00-12:20	**Chairs: Lamia Bedjaoui-Alachaher, Viorel Cîrcu, UlrichMaschke**
25	**10:00-10:20**	**I.11. Structural Tuning and Helical Induction in E7 Liquid Crystals Doped with Chiral Copper(I) Complexes** V. Cîrcu[1*], M. Alkali[1], C. A. Tudor, D. Mănăilă-Maximean[2] and M. Iliş[2] [1]Department of Inorganic and Organic Chemistry, Biochemistry and Catalysis, University of Bucharest, Bucharest, Romania [2] Department of Physics, National University of Science and Technology Politehnica Bucharest, Bucharest, Romania Email: viorel.circu@chimie.unibuc.ro
26	**10:20-10:40**	**I.12. UV-Visible Photodegradation of Brominated Flame Retardants in Polymer Systems:** **From Model Granules and Films to Real WEEE Plastics** F. Z. Bouberka [1,2], W. Larbi [1], Z. Bouberka [1,2], N. Tlili [3], A. Barrera [1], J.-N. Staelens [1], Y. Carpentier [4], M. Ziskind [4], C. Focsa [4], P. Supiot [1], C. Foissac [1], and U. Maschke [1]* [1] UMET, UMR 8207, CNRS, INRAE, Université de Lille, France [2] LPMCE, USTO-MB, 31000 Oran, Algeria [3] ENIGA, LR21ES15, Université de Gafsa, Tunisia [4] PhLAM, UMR 8523, CNRS, Université de Lille, 59000 Lille
27	**10:40-11:00**	**I.13. Screening critical issues in the aquaculture sector using liquid crystal sensors** M. Simone Soares[1,2], Nuno Santos[2], Carlos Marques[1], and Pedro L. Almeida[3,4*] [1] CICECO – Aveiro Institute of Materials & Physics Department, University of Aveiro, Aveiro, Portugal [2] I3N & Physics Department, University of Aveiro, Aveiro, Portugal [3] I3N – CENIMAT, School of Sciences and Technology, NOVA University of Lisbon, Lisbon, Portugal [4] UnIRE/ISEL, Mechanical Engineering Depart., ISEL, Polytechnic University of Lisbon, Lisbon, Portugal Email: pedro.almeida@isel.pt
28	**11:00-11:15**	**O.15. From Rigid to Elastic: Tailoring the Properties of Linear Poly(IBOA-co-2EHA) Copolymers Synthesized by UV Polymerization** D. Bendeddouche[1]*, L. Bedjaoui-Alachaher[1], A. Jover[2], M. A. Zehouani[1], C. Zenagui[1], N. Bouchikhi[1], A. Bouriche[1], A-S. Schuller[3], Ch. Delaite[3], and U. Maschke[4] [1]Laboratoire de Recherche sur les Macromolécules (LRM), Faculté des Sciences, Université Abou bekr Belkaid de Tlemcen, BP 119, 13000 Tlemcen, Algeria [2]Departamento de Química Física, Facultad de Ciencias, Universidad de Santiago de Compostela, Avda. Alfonso X El Sabio s/n, 27002 Lugo, Spain

		[3]Laboratoire de Photochimie et d'Ingénierie Macromoléculaires (LPIM) EA 4567, Institut de Recherche Jean-Baptiste Donnet, Université de Haute-Alsace, 68000 Mulhouse, France [4]UMR 8207 - UMET - Unité Matériaux Et Transformations, Université de Lille, CNRS, INRAE, Centrale Lille, 59000 Lille, France Email*: djazia.bendeddouche@univ-tlemcen.dz
29	**11:15-11:30**	**O.16. Mechanically Induced Helical Reorganization in Chiral Copper(I) Benzoyl Thiourea Cholesteric Liquid Crystals.** Muhammed Alkali [1*], and Viorel Circu [1] [1] Department of Inorganic and Organic Chemistry, Biochemistry and Catalysis, University of Bucharest, Boulevard Regina Elisabeta Nr. 4-12, 030018 Bucharest, Romania. Email: manlialkali@gmail.com
30	**11:30-11:45**	**O.17. Hybrid Polymer–MOF Materials for Dye Removal from Water** Mohammed Aymen ZEHOUANI[1], Anne-Sophie Schuller[2] , Lamia BEDJAOUI-ALACHAHER[1] [1]Laboratory of Research on Macromolecules (LRM), Faculty of Sciences,University of Abou Bekr Belkaid, 13000, Tlemcen, Algeria [2]Laboratory of Photochemistry and Macromolecular Engineering (LPIM), UR 4567, École Nationale Supérieure de Chimie de Mulhouse (ENSCMu), University of Upper Alsace (UHA), Mulhouse, France. Email: aymen_zehouani@yahoo.com
31	**11:45-12:00**	**O.18. Structural Study and Characterization of Acrylic Polymers Obtained by UV Photopolymerization** Ghizlene Fatima Zohra HAKEM[1*], Mohammed Aymen ZEHOUANI[1], Chaimaa ROSTANE[1], Christelle DELAITE[2], Anne-Sophie SCHULLER[2], Amina BOURICHE[1], Lamia BEDJAOUI-ALACHAHER[1]. [1]Laboratory of Research on Macromolecules (LRM), Faculty of Sciences, University of Abou Bekr Belkaid, 13000, Tlemcen, Algeria [2]Laboratory of Photochemistry and Macromolecular Engineering (LPIM), National School of Chemistry – University of Haute Alsace – France Email[1]* : ghizlenefatimazahra.hakem@univ-tlemcen.dz
32	**12:00-12:20**	**I.14. Polymerization-Induced Liquid Crystallinity in Photoresponsive 4-Cyanoazobenzene-Based Side-Chain Polymers** Susanta K. Nayak[1]*, Omkar Dash[1], Jyoti S. Thakur[1] and Pradip K. Mondal[2] [1]Department of Chemistry, Visvesvaraya National Institute of Technology (VNIT), Nagpur, Maharashtra, 440010, India [2]Elettra-Sincrotrone Trieste, S.C.p.A, S. S. 14, Km 163.5 in Area Science Park, Basovizza, 34149, Italy Email: sknayak@chm.vnit.ac.in
	12:20	**Closing: Doina Manaila-Maximean, Doru Delion**