

**JEEP 2017 – UNIVERSITAT POLITÈCNICA DE CATALUNYA
SCIENTIFIC PROGRAMME**

Wednesday, 22 nd March, AUDITORIUM (Building A)	
14:00 – 14:05	Opening of the workshop for young scientists
14:05 – 15:05	FERROIC FIRST-ORDER PHASE TRANSITIONS AND RELATED HYSTERESIS EFFECTS <u>P. Lloveras</u> <i>Universitat Politècnica de Catalunya</i>
15:10 – 15:10	ENTROPY AND INFORMATION THEORY <u>L. C. Pardo</u> <i>Universitat Politècnica de Catalunya</i>
16:15 – 17:15	TOPOLOGICAL PRESSURE-TEMPERATURE PHASE DIAGRAMS - THERMODYNAMICS AT ITS BEST <u>I. B. Rietveld</u> <i>Université de Rouen</i>
17:30 – 19:00	Welcome Reception

Thursday, 23 rd March, AUDITORIUM (Building A)	
8:00	Registration Opening
8:30	Conference Opening: G. Coquerel
SESSION 1	Chairs: I. B. Rietveld and M. E. Eusébio
08:40 – 09:20	KN-01 THERMODYNAMIC PHASE TRANSITIONS BETWEEN EQUILIBRIUM AND OUT-OF-EQUILIBRIUM STATES <u>M. A. Ramos</u> <i>Universidad Autónoma de Madrid</i>
09:20 – 09:40	OC-01 KINETICS OF POLYMORPHIC PHASE TRANSITIONS: PROBLEMS AND PITFALLS ILLUSTRATED THROUGH THE 4'-HYDROXYACETOPHENONE SYSTEM <u>M. Minas de Piedade</u> <i>Universidade de Lisboa</i>
09:40 – 10:00	OC-02 REINVESTIGATION OF 1-FLUORO-ADAMANTANE PHASE TRANSITIONS <u>L. Yuan, S. Clevers, A. Burel, Ph. Negrier, M. Barrio, B. B. Hassine, D. Mondieig, V. Dupray, J. Ll. Tamarit and G. Coquerel</u> <i>Université de Rouen</i>
10:00 – 11:30	Poster session and coffee break

SESSION 2		Chairs: R. Céolin and A. Cristino	
11:30 – 11:50	OC-03	HIDDEN ENANTIOTROPY IN THE PRESSURE-TEMPERATURE PHASE DIAGRAM OF METACETAMOL M. Barrio, <u>I. B. Rietveld</u> , B. Robert, R. Céolin and J. Ll. Tamarit <i>Université de Rouen</i>	
11:50 – 12:10	OC-04	PHASE'S EQUILIBRIUM IN SPIN-CROSSOVER CRYSTALS: EXAMPLE OF AN UNUSUAL STRUCTURAL TRANSITION <u>E. Tailleux</u> , M. Marchivie, D. Mondieig, Ph. Negrier, G. Chastanet and Ph. Guionneau <i>Université de Bordeaux</i>	
12:10 – 12:30	OC-05	THE THERMODYNAMIC PROPERTIES OF PROPANE IN THE CRITICAL REGION S. Ladjama and <u>A. Abbaci</u> <i>Université Badji Mokhtar</i>	
12:30 – 12:50	OC-06	PARTICULARITIES OF THE HYSTERETIC BEHAVIOR IN SHAPE MEMORY ALLOYS <u>V. Torra</u> , F. Martorell, F. C. Lovey and M. Sade <i>Personal Research Group (PRG)</i>	
12:50 – 14:10	Lunch		

SESSION 3		Chairs: M. Ferriol and M. -C. Record	
14:15 – 14:35	OC-07	USING A PROJECT-BASED LEARNING APPROACH TO TEACH THE DIFFICULT CONCEPT OF PHASE-EQUILIBRIUM CALCULATION <u>R. Privat</u> and J.-N. Jaubert <i>Université de Lorraine</i>	
14:35 – 14:55	OC-08	DETECTION OF A METATECTIC INVARIANT IN THE SYSTEM 1,3-DIMETHYLUREA/WATER AND CRYSTAL STRUCTURE DETERMINATION OF DMU MONOHYDRATE <u>M. Schinler</u> , G. Baaklini, Y. Cartigny, N. Couvrat, M. Sanselme, C. Brandel and G. Coquerel <i>Université de Rouen</i>	
14:55 – 15:15	OC-09	THE BEHAVIOR OF THE THERMODYNAMIC PROPERTIES OF THE ALUMINUM-TRANSITION METAL ELEMENTS <u>R. Tamim</u> , K. Mahdouk, S. Otmani, K. Achgar, D. Moustaine and F. Z. Chrifi Alaoui <i>University Ibn Zohr</i>	
15:15 – 15:35	OC-10	A THERMODYNAMIC ASSESSMENT OF THE GALLIUM-LITHIUM PHASE DIAGRAM <u>H. Azza</u> , N. Selhaoui, K. Achgar, S. Kardellass, A. Iddaouidi and L. Bouirden <i>University Ibn Zohr</i>	
15:35 – 17:00	Poster session and coffee break		

SESSION 4		Chairs: C. E. S. Bernardes and J.-J. Counioux	
17:00 – 17:20	OC-11	UNDERSTANDING THE ELECTRON-HOLE MIGRATION IN ANATASE/TiO ₂ -II/ BROOKITE THREE-PHASE JUNCTION PHOTOCATALYST <u>D. Bedghiou</u> , A. Boumaza and E. A. Perpète <i>Université Abbés Laghrou</i>	
17:20 – 17:40	OC-12	EFFECT OF INTERLAYER MO OR W ON TEXTURE, SEQUENCE AND MECHANISM OF NI SILICIDE FORMATION <u>A. Derafa</u> , G. Tellouche and D. Mangelinck <i>University of Setif 1</i>	
17:40 – 18:00	OC-13	CLAY/ACRYLAMIDE COMPOSITES – NEW MATERIALS FOR POLLUTANTS RETENTION <u>A. Mansri</u> , B. Bouras and A. Mansri <i>University of Tlemcen</i>	
18:15	End of session		
20:30	Gala Dinner		

Friday, 24th March, AUDITORIUM (Building A)			
SESSION 5		Chairs: R. Privat and M. Minas de Piedade	
08:30 – 09:10	KN-02	ORGANIC COMPOUND SOLID STATE INVESTIGATION: CASE STUDIES <u>M. E. S. Eusébio</u> <i>University of Coimbra</i>	
09:10 – 09:30	OC-14	ATTEMPTS TO GROW β -BaB ₂ O ₄ (β -BBO) CRYSTAL FIBERS BY THE MICRO-PULLING DOWN TECHNIQUE. CHARACTERIZATION BY RAMAN MICRO-SPECTROSCOPY <u>M. Ferriol</u> , M. Cochez, M. Aillerie, A. Maillard and P. Bourson <i>Université de Lorraine</i>	
09:30 – 09:50	OC-15	SOLUBILITY OF BOROSILICATE PHASE SEPARATED GLASSES UNDER ACID CONDITION <u>F. Lizzi</u> , C. Villat, P. Jackson, I. Campbell, N. Attik, I. Mokbel, B. Grosgeat and C. Goutaudier <i>Université Claude Bernard Lyon 1</i>	
09:50 – 10:10	OC-17	THERMODYNAMIC PROPERTIES AND PITZER'S PARAMETERS DETERMINATION FOR PHOSPHORIC ACID FROM EXPERIMENTAL DATA <u>Z. Bakher</u> and M. Kaddami <i>University Hassan 1</i>	
10:10 – 11:30	Poster Session and Coffee Break		

SESSION 6		Chairs: G. Coquerel and C. Goutaudier	
11:30 – 11:50	OC-18	PROBING THE INITIAL STAGES OF CRYSTALLIZATION USING EXPERIMENTAL AND THEORETICAL METHODS <u>C.E.S. Bernardes</u> <i>Universidade de Lisboa</i>	
11:50 – 12:10	OC-19	FLUID-PHASE EQUILIBRIA PREDICTION OF FREON-CONTAINING SYSTEMS WITH A PREDICTIVE EQUATION OF STATE <u>J.-N. Jaubert</u> and R. Privat <i>Université de Lorraine</i>	
12:10 – 12:30	OC-20	VAPOR LIQUID EQUILIBRIA OF ALCOHOLIC BINARY MIXTURES <u>A. F. Cristino</u> , F. B. Bioucas, L. C. S. Nobre, F. J. V. Santos, A. M. F. Palavra and C. A. Nieto de Castro <i>Universidade de Lisboa</i>	
12:30 – 12:50	OC-21	BENEFITS OF THE MODULATED DSC IN THE STUDY OF COMPLEX PHASE TRANSITIONS <u>C. Gracia-Fernández</u> and L. Colmenero <i>TA Instruments-Waters Cromatografia</i>	
12:50 – 13:10	OC-22	ON THE STABILITY OF THE HIGHER MANGANESE SILICIDES (HMS) A. Allam, P. Boulet, C. A. Nunes and <u>M.-C. Record</u> <i>Université Aix Marseille</i>	
13:10	Closing		

POSTER PRESENTATIONS

- P-01** MODELING OF MULTICOMPONENTS MIXTURES WITH NEW METHOD BASED ON ARTIFICIAL NEURAL NETWORK AND PARTICLE SWARM OPTIMIZATION ALGORITHM (PSO)
A. Abdallah El Hadj, M. Laidi and S. Hanini
University of Saad Dahleb of Blida
- P-02** DEVELOPMENT AND CHARACTERIZATION OF UFG IN AN ALUMINIUM ALLOY DEFORMED BY ARB
Fadi Abouhilou, Kamel Tersatine, Amel Abbas, Baya Alili and Djamel Bradai
University of Sciences and Technology Houari Boumediene
- P-03** THERMODYNAMIC PROPERTIES OF THE INTERMETALLIC COMPOUNDS OF SOME GERMANIUM-RARE EARTH BINARY SYSTEMS
K. Achgar, N. Selhaoui, S. Kardellass, H. Azza and R. Tamim
Université Ibn Zohr

- P-04** EFFECT OF A GBV-C PEPTIDE, E1-94-113, ON THE PHASE BEHAVIOUR OF DMPG-DPPG MIXTURES
A. Ortiz, V. Girona, M. Muñoz-Juncosa, J. Prat, M. Pujol and M. A. Alsina
University of Barcelona, Associated Unit to CSIC
- P-05** SOLID-STATE STUDIES ON C60 SOLVATES GROWN FROM CHCl₂Br AND CH₂ClBr
J. Ye, Ph. Negrier, N. Qureshi, M. Barrio, I. B. Rietveld, R. Céolin and J. Ll. Tamarit
Universitat Politècnica de Catalunya
- P-06** THERMODYNAMIC ADSORPTIVE PROPERTIES OF EXCHANGED CHABAZITE-LIKE ALUMINOPHOSPHATE SAPO34
S. Bellatreche, M. Abdelkrim Hasnaoui, R. Ghezini and A. Bengeddach
University of Oran
- P-07** NANOCRYSTALLINE NICKEL SYNTHESIS BY PULSED CURRENT
A. Boukhouiete and J. Creus
Université Badji-Mokhtar
- P-08** EVALUATION OF THE HEALING POWER OF POLYPHENOLS EXTRACTED FROM THE MEDICINAL PLANT CYTISUS TRIFLORUS ON EXPERIMENTAL BURNS IN RABBITS MODELS
S.Khadri and N. Boutefnouchet
Université Badji Mokhtar
- P-09** REINVESTIGATION OF PHENANTHRENE-ANTHRACENE BINARY SYSTEM
A. Burel, N. Couvrat, Y. Cartigny, S. Tisse, P. Cardinaël and G. Coquerel
Université de Rouen
- P-10** POLYMORPHIC BEHAVIOUR OF PICOLINAMIDE IN MIXTURES WITH ITS PYRIDINECARBOXAMIDE ISOMERS
R. A. E. Castro, A. M. Cortesão, J. G. Henriques, T. M. R Maria, J. Canotilho and M. E. S. Eusébio
University of Coimbra
- P-11** THE ELECTRONIC SPECIFIC HEAT IN THE HIGH TC CUPRATES
F. Chibane, J-P. Maneval, A. Taoufik, A. Tirbiyine1, Y. Ait Ahmed, H. El Hamidi, M. Bghour and A. Labrag
Université Ibn Zohr
- P-12** DETERMINATION OF THE ENTHALPIES OF FORMATION OF THE INTERMETALLIC COMPOUNDS OF TERNARY PHASES IN THE AL-NI-TI SYSTEM BY DIRECT REACTION CALORIMETRY AT HIGH TEMPERATUR
F. Z. Chrifi-Alaoui, M. Nassik, F. Chibane, K. Ezzaeri, K. Achgar and R. Tamim
Université Ibn Zohr

- P-13** GROWTH OF BORATE-BASED CRYSTALS FOR UV LASER GENERATION BY THE MICRO-PULLING DOWN TECHNIQUE
M. Ferriol, M. Cochez and M. Aillerie
Université de Lorraine
- P-14** RECIPROCAL SOLUBILITY OF THE HEXAHYDRATED COBALT AND NICKEL NITRATE SOLID SOLUTION. A POLYTHERMAL DESCRIPTION FROM 615°C TO 40°C
J.-J. Counioux, A. Teyssier, M. Kaddami and C. Goutaudier
Université Claude Bernard Lyon 1
- P-15** EXPERIMENTAL INVESTIGATION OF L-S AND L-V PHASE TRANSITIONS IN LIVE CRUDE OILS UNDER HIGH PRESSURE BY USING A QUARTZ CRYSTAL RESONATOR TECHNIQUE
J. L. Daridon and H. Carrier
Université de Pau et des Pays de l'Adour
- P-16** DERACEMIZATION OF AMINO-ACIDS
F.-X. Gendron, C. De Saint Jores, M. Poupard and G. Coquerel
Université de Rouen
- P-17** A MULTI-OBJECTIVE MINIMIZATION OF THE CARNAHAN-STARLING-DESANTIS EQUATION OF STATE
M. Pierantozzi, G. Di Nicola, G. Coccia and S. Tomassetti
Università Politecnica delle Marche
- P-18** THERMODYNAMIC PROPERTIES OF DIETHYL SULFIDE WITH ALIPHATIC HYDROCARBONS
S. Didaoui and A. Ait-Kaci
Université des Sciences et de la Technologie Houari Boumediène
- P-19** INSIGHTS ON SLOW MOLECULAR MOBILITY AND THERMAL BEHAVIOUR OF THE ANTI-HYPERTENSIVE DRUG IRBESARTAN
H. P. Diogo and J. J. Moura Ramos
Universidade de Lisboa
- P-20** INFLUENCE OF THE PREPARATION METHOD ON THE PROPERTIES OF DICLOFENAC SODIUM-EXCIPIENT TERNARY SYSTEMS
F. Djellouli, A. Dahmani and A. Hassani
University of Science and Technology Houari Boumediene
- P-21** COMPATIBILITY STUDIES OF TERNARY MIXTURE CONTAINING DICLOFENAC SODIUM AND EXCIPIENTS
F. Djellouli, A. Dahmani and A. Hassani
University of Science and Technology Houari Boumediene
- P-22** STUDY OF THE INTERACTION BETWEEN WATER AND MENTHA VIRIDIS: KINETIC OF THE DRYING PROCESS
F. Taoufik, M. El Hadek, M. Benchanaa, M. El Hammioui and L. M. I. Hassani
Université Ibn Zohr

- P-23** RECOVERY OF $\text{Ca}(\text{OH})_2$, CaCO_3 AND Na_2SO_4 FROM MOROCCAN PHOSPHOGYPSUM
A. Marrouche, S. El Issiouy, M. G. Biyoune, A. Atbir and M. El Hadek
Université Ibn Zohr
- P-24** EVALUATION OF REMINERALIZATION PERFORMANCE OF OSMOSIS WATER ON THE CALCITE BED PILOT AT LABORATORY SCALE
A. Marrouche, M. G. Biyoune, A. Atbir, R. Bellajrou, E. Mongach, H. Bari, A. Khadir, L. Hassnaoui and L. Boukbir
Université Ibn Zohr
- P-25** ENERGY POTENTIAL FROM MUNICIPAL SOLID WASTE IN MOROCCO
F. Taoufik, Y. Zegzouti, M. El Hadek and A. Boukbir
Université Ibn Zohr
- P-26** DRYING OF MENTHA VIRIDIS UNDER MICROWAVE IRRADIATION: STUDY OF THERMAL AND KINETIC ASPECTS OF THE DRYING PROCESS
F. Taoufik, M. El Hadek, M. C. Hnini, M. Benchanaa, M. El Hammioui and L. M. I. Hassani
Université Ibn Zohr
- P-27** PHASE EQUILIBRIA IN AN ISOPLETH SECTION OF QUATERNARY CHIRAL SYSTEM
F.-X. Gendron, G. Coquerel and R. Kuroda
Université de Rouen
- P-28** ION-SELECTIVE ELECTRODES (ISES) FOR Cd^{2+} , Hg^{2+} AND Pb^{2+} : REQUIREMENTS FOR CORRECT MEASUREMENTS AND APPLICATION IN ANALYSIS OF POTABLE, INDUSTRIAL AND WASTE WATERS
Z. Habes, A. Boukhouiet, C. Nasr-Eddine, S. Ali-Mokhnach and D. Messadi
Laboratoire de Sécurité Environnementale et Alimentaire
- P-29** LIQUID-LIQUID EQUILIBRIUM IN TERNARY IONIC LIQUIDS SYSTEMS BY UNIFAC: PREDICTION OF NEW INTERACTION PARAMETERS
Hind Bouafia
Kasdi Merbah University
- P-30** INFLUENCE OF NANOCERAMICS LAPONITE TO POLYMORPH TRANSITIONS IN TRIPHENYLPHOSPHITE
Y. V. Horbatenko, A. I. Krivchikov, O. O. Romantsova and O. A. Korolyuk
B. Verkin Institute for Low Temperature Physics and Engineering of NAS of Ukraine
- P-31** THERMODYNAMIC MODELLING OF Al-N SYSTEM
N. Ilinykh, I. Malkova and E. Volgarev
Ural Technical Institute of Telecommunications and Informatics

- P-32** COMPARISON BETWEEN EXPERIMENTAL AND CALCULATED PHYSICAL-CHEMICAL PROPERTIES OF ORGANIC FOOD CONTAMINANT: DIMETHYL PHTHALATE
H. Ishak, J. Saab, J. Stephan, I. Mokbel¹, P. Paricaud and C. Goutaudier
University Claude Bernard Lyon 1 and Holy Spirit University of Kaslik
- P-33** NEW THERMODYNAMIC ASSESSMENT OF THE OSMIUM + SILICON BINARY SYSTEM
S. Kardellass, C. Servant and N. Selhaoui
Université Ibn Zohr
- P-34** HIGH-PRESSURE CALORIMETRY STUDY FOR 1- AND 2-ADAMANTANOL
A. Aznar, P. Lloveras, M. Barrio and J. Ll. Tamarit
Universitat Politècnica de Catalunya
- P-35** NANOSTRUCTURATION EFFECT ON THE THERMAL BEHAVIOR OF ALKYLPIRIDINIUM IONIC LIQUIDS
A. I. M. C. Lobo Ferreira, M. Vilas, A. S. M. C. Rodrigues, E. Tojo, J. N. A. Cannongia Lopes, L. P. S. N. M. Rebelo and L. M. N. B. F. Santos
Universidade do Porto
- P-36** MODELING OF THE SOLUBILITY OF SOLID DRUGS IN SUPERCRITICAL CARBON DIOXIDE USING ARTIFICIAL NEURAL NETWORK (ANN) BASED ON MOLECULAR DESCRIPTORS
L. Maamar, A. Abdallah El Hadj and H. Salah
University of Medea
- P-37** GIANT BAROCALORIC EFFECT AT SUPERIONIC PHASE TRANSITIONS
A. Aznar, P. Lloveras, M. Barrio, J. Ll. Tamarit, X. Moya, N. D. Mathur, C. Cazorla, A. Planes and L. Mañosa
Universitat de Barcelona
- P-38** CO₂ CAPTURE BY MEA (MONOETHANOLAMINE) + DES (DEEP EUTECTIC SOLVENT: ETHYLENEGLYCOL + CHOLINE CHLORIDE). GAS-LIQUID EQUILIBRIA.
M.-R. Mahi, I. Mokbel, L. Négadi, F. Dergal and J. Jose
Université de Lyon and Université de Claude Bernard Lyon 1
- P-39** EXTRACTION OF BIOBUTANOL AND FURFURAL FROM AQUEOUS SOLUTION BY 1,3,5-TRIMETHYLBENZÈNE
O. Khelidj, I. Mokbel, L. Négadi, C. Lindemann and J. Jose
Université de Lyon and Université de Claude Bernard Lyon 1
- P-40** THERMAL INVESTIGATION OF 1,3-DI-X-ADAMANTANE (X = CH₃, Br, OH)
B. Ben Hassine, Ph. Negrier, M. Barrio, D. Mondieig, A. Kallel and J. Ll. Tamarit
UMR 5798 au CNRS-Université de Bordeaux

- P-41** SPECIFIC HEAT AT LOW TEMPERATURES OF $\text{CBr}_x\text{Cl}_{4-x}$ DISORDERED CRYSTALS
M. Moratalla and M. A. Ramos
Universidad Autónoma de Madrid
- P-42** CALORIMETRIC STUDY OF THE COMPOUNDS BASED ON THE TERNARY PHASES OF THE BINARY SYSTEM Ni-Ti
M. Nassik, F. Z. Chrifi-Alaoui, K. Achgar, K. Zaeri and R. Tamim
Université Ibn Zohr
- P-43** STRUCTURE AND ENERGETICS OF CRYSTALS BASED ON 4-HOC₆H₄COR (R = H, ALKYL) MOLECULAR MOTIFS
M. F. M. Piedade, C. S. D. Lopes, C. E. S. Bernardes and M. E. Minas da Piedade
Universidade de Lisboa
- P-44** FIRST-PRINCIPLES INVESTIGATION ON THE BINARY SIGMA PHASE SYSTEMS
W. Liu, X.-G. Lu, P. Boulet and M.-C. Record
Université Aix-Marseille
- P-45** HOW STRAIGHT IS A CURVED LINE? THE P-T PHASE DIAGRAM OF MORNIFLUMATE THROUGH HIGH-PRESSURE MEASUREMENTS AND THE CLAPEYRON EQUATION
M. Barrio, J. Ll. Tamarit, R. Ceolin, B. Robert, C. Guéchet, J.-M. Teulon and I. B. Rietveld
Université de Rouen and Université Paris Descartes
- P-46** PITFALLS AND FEEDBACK IN THE CONSTRUCTION OF TOPOLOGICAL PHASE DIAGRAMS
I. B. Rietveld, R. Céolin, M. Barrio and J. Ll. Tamarit
Université de Rouen and Université Paris Descartes
- P-47** EQUILIBRIUM AND NON-EQUILIBRIUM PHASES AND H-BOND RELAXATION DYNAMICS OF MONO- AND DI-ETHANOLAMINES
M. Romanini, P. Tripathi, M. Barrio, J. Ll. Tamarit and R. Macovez
Universitat Politècnica de Catalunya
- P-48** THERMAL CONDUCTIVITY OF SOLID THIOPHENE IN INCOMMENSURATE ORIENTATIONAL PHASE
O. Romantsova, A. Krivchikov and Y. Horbatenko
B. Verkin Institute for Low Temperature Physics and Engineering of NAS of Ukraine
- P-49** INVESTIGATION OF CO-CRYSTAL FORMATION OF 2,4-DIAMINOPYRIMIDINE AND XANTHINES
M. T. S. Rosado, X. Rodiles, T. M. R. Maria, R. A. E. Castro, J. Canotilho, A. O. L. Évora and M. E. Eusébio
University of Coimbra

- P-50** GENUINE ANTIPLASTICIZING EFFECT OF WATER ON A GLASS-FORMER DRUG
G. N. Ruiz, M. Romanini, A. Hauptmann, T. Loerting, E. Shalaev, J. Ll. Tamarit, L. C. Pardo and R. Macovez
Universitat Politècnica de Catalunya
- P-51** DEPOSITION OF MESOPOROUS SILICA NANOPARTICLES SURFACE MODIFIED TITANIUM SUBSTRATES FOR DRUG DELIVERY
A. Santos, C. Mas Moruno and J. M. Manero
Universitat Politècnica de Catalunya
- P-52** MORPHOLOGY OF SODIUM BROMATE (NaBrO₃) UNDER THE INFLUENCE OF PURIFIED SODIUM DITHIONATE (Na₂S₂O₆)
M. Schindler, C. Brandel and G. Coquerel
Université de Rouen