

CONSORTIUL SI DESCRIEREA INSTITUTIILOR PARTICIPANTE

Participant Organization									
Coordinator (CO) / Partner (P1 – Pn)		COORDONATOR (CO)							
Organization name		WEST UNIVERSITY OF TIMISOARA							
Legal representant		Prof.univ.dr. MARILEN GABRIEL PIRTEA, Rector							
Type of organization	R&D Organization	X	Small	Medium	Big				
	Private Company								
	Unique registration code (CUI)	4250670			Type of organization ¹	UNI	CAEN code ³	8542 7219	
Address	V.Parvan Ave, no4,			City / District	300223 Timisoara				
Phone	+40256/592300	Fax	+40256/592310	Email	marilen.pirtea@rectorat.uvt.ro				
Web site									
Project manager (CO) /Person incharge from partners (P1-P4)									
Second name	VULCANOV			First name	DUMITRU		CNP	1541125354839	
e-mail	vulcan@physics.uvt.ro			Phone:	+40755240169		Fax	+40256592108	

Participant OrganizationTolo									
Coordinator (CO) / Partner (P1 – Pn)		PARTNER 1 (P1)							
Organization name		UNIVERSITY OF CRAIOVA							
Legal representant		Prof.univ.dr. Dan Claudiu DANISOR, Rector							
Type of organization	R&D Organization	X	Small	Medium	Big				
	Private Company								
	Unique registration code (CUI)	4553380			Type of organization ²	UNI	CAEN code ³	8542 7219	
Address	13 A.I.Cuza			City/ District	200585 Craiova				
Phone	+40 251413844	Fax	+40 251418803	Email	icst@central.ucv.ro				
Web site		www.ucv.ro							
Project manager (CO) /Person incharge from partners (P1-P4)									
Second name	LUNGU			First name	MIHAI-AURELIU		CNP	1801213160011	
e-mail	Lma1312@yahoo.com			Phone:	+40 744 344529		Fax	+40 251 418803	

Participant Organization							
Coordonator (CO) / Partner (P1 – Pn)		PARNER 2 (P2)					
Organization name		“BABES-BOLYAI” UNIVERSITY OF CLUJ-NAPOCA					
Legal representant		Acad.Prof.univ.dr. IOAN AUREL POP, Rector					
Type of organization	R&D Organization	X	Small	Medium	Big		
	Private Company						
	Unique registration code (CUI)	4305849		Type of organization³	UNI	CAEN code³	8542 7219
Address	M.Kogalniceanu, no.1		City / District	Cluj-Napoca 400084			
Phone	+40-0264 405300	Fax	+40-0264 591906	Email	rector@ubbcluj.ro		
Web site	www.ubbcluj.ro						
Project manager (CO) /Person incharge from partners (P1-P4)							
Second name	MARCU		First name	ALEXANDRU		CNP	1550929120766
e-mail	alexandru.marcu@ phys.ubbcluj.ro		Phone:	+40-0264 405300 int 5161		Fax	+40-0264 591906

2.2. Individual participants

For each participant in the proposed project, provide a brief description of the legal entity, the main tasks they have been attributed, and the previous experience relevant to those tasks. Provide also a short profile of the key persons who will be undertaking the work (please use key persons list).

The Project coordinator (CO) institution is The West University of Timisoara (UVT)

UVT is the main higher education institution and research pole in Western Romania. Its community comprises roughly 16000 students and over 700 academic staff. It is a comprehensive university in character and includes 11 faculties with their respective departments, as well as a Department of Teacher Training. The faculties functioning within the framework of UVT are: Arts and Design; Chemistry, Biology, Geography; Economics and Business Administration; Law and Administrative Sciences; Letters, History and Theology; Mathematics and Informatics; Music; Physical Education and Sports; Physics; Political Sciences, Philosophy and Communication Sciences; Sociology and Psychology. Universitatea de Vest din Timișoara- UVT- (West University of Timișoara) is a comprehensive university fostering a multidisciplinary approach to higher education and research, with a clear focus towards the internationalization of both higher education and research. The university has 240 bilateral agreements fostering exchanges in the Erasmus programme and over 100 other bilateral agreements with higher education institutions worldwide. West University of Timisoara, following the Ministry of National Education (M.N.E.) classification in 2011 is on the first place in the second category, being on place 4 among the comprehensive universities.. In the classification made by QS World University Rankings for 2012, UVT is placed among the universities in the Universitaria consortium (Al. I. Cuza from Iasi, Babeș - Bolyai University of Cluj-Napoca and University of Bucharest) in top 700 at the world's level (<http://www.topuniversities.com/university-rankings/world-university-rankings/2012>). During 2012 the university implemented over 100 research projects out of which 25% were international projects.

The team involved in COMISIS project consists in researchers from the Faculty of Physics at UVT, a center of excellence and quality in research and education. The faculty developed during the 60 years of existence research programs in large spectra of topics between experimental physics and theoretical and computational physics. Actually FP at UVT is known as a pioneer center in computational physics and all COMISIS team members are highly experienced in this field. Several research programs were dedicated in the last years in topics like quantum, fields on curved space-times, cosmology and general relativity using high performance computational methods (numerical and computer algebra). These were supported by national and international grants, including with the Romanian Space Agency (ORIZONT 2000 program for example). The main tasks of COMISIS project designated to the UVT-FP team are described in the Workpackage no. 1 and one of the tasks from the Work Package no. 3 apart of the tasks involved by the management of the project as CO (WP4 and WP5).

Prof.dr. DUMITRU VULCANOV Is the project manager (PM) with a high level of administrative and management experience – since 2008 is the dean of the Faculty of Physics at UVT. He is a leading scientist with a high level of expertise in computational relativity and cosmology. During the last 20 years he was director and project manager of several grants and contracts with the Romanian Space Agency. He was beneficiary of two senior research NATO fellowship and between 1999 and 2008 he worked in the Numerical relativity group at the Albert Einstein Institute in Potsdam-Golm, Germany developing the Cactus code and its application codes (ADM_BSSN, COSMO, SCALAR, etc). He authored (together with Alcubierre one of the standard test-beds for stability and convergence of codes in numerical relativity. Since 2005 he worked in computational cosmology, developing codes for numerical and algebraic computing mainly for the reverse engineering method for reconstructing scalar field potential;. Other topics dr. Vulcanov was working are related to post-newtonian approximation applied to the study of movement of objects in solar space and related effects. He authored more than 60 articles - 18 in ISI journals and communicated at international scientific meetings and conferences. Since April 2013 he was elected as president of the South-East European Network in Mathematical and Theoretical Physics (SEENET-MTP). The network comprises 21 institutional members from the region and develops several research and mobility programs in cooperation with UNESCO, SISSA and ITCp Trieste, Italy and other universities and institutes in Europe.

Prof. dr. ION COTAESCU is a leading scientist with long term and high level experience in theoretical and computational physics. Cotaescu is well-known world-wide for his contributions in topics like : Covariant equations with unique mass and spin in special relativity, Unitary symmetries of elementary particles and non-Abelian gauge field theories; 331 gauge models, Classical and quantum models of relativistic oscillators and their dynamical algebras, External symmetry in general relativity; covariant representations of the relativistic

quantum fields with spin on curved manifolds and the corresponding Lie algebras, Super-symmetries in general relativity; the Dirac theory in manifolds with Killing-Yano tensors and hidden symmetries; the symmetries and supersymmetries generating the dynamical algebra of the Taub-NUT geometry, Quantum free fields with spin on the de Sitter expanding universe, conserved observables, quantum modes, canonical quantization, one-particle operators, Interacting quantum fields on the de Sitter background and the deSitter QED. He was director and coordinator project manager of a long series of research grants and contracts. As a mention between 2004 – 2008 he coordinated a National program founded by the Romanian Space Agency with the title : Symmetries and supersymmetries in quantum gravity and computational models in cosmology. He authored more than 100 articles (57 in ISI ranked journals) with more than 120 citations and several textbooks in international editorial companies.

Assoc. prof. MIHAIL LUNGU is a mature scientist specialized in experimental physics, with major contributions in plasma physics, materials recycling and magnetic materials properties and technology. He was project manager of several research grants in strong collaboration with industrial private companies. He authored 13 ISI indexed articles with more than 38 citations. He is delivering lectures in computational physics and plasma physics.

The Partner 1 (P1) institution is the University of Craiova.

The University of Craiova is a public institution of higher education, founded in 1947, functioning ever since, gaining experience and importance every year. Counting more than 1,100 teaching staff members and more than 30,000 students, it is one of the biggest Higher Education Institutions in Romania.

The University of Craiova comprises 11 faculties, offering a wide field of study programmes in polytechnic engineering, sciences, humanities, social studies, history, economics, agriculture, law, theology, arts, and so on (33 specializations and 66 diplomas). The University of Craiova organises Bachelor Degree programmes (3-4 years), Master Degree programmes (1.5-2 years) and Ph.D. programmes in over 70 fields.

The University of Craiova ranks topmost among the Romanian higher education system (56 accredited public higher education institutions and 35 accredited private higher education institutions in 2012), and the institutional evaluation by the Romanian Agency for Quality Assurance in Higher Education (ARACIS) was completed with a "High Confidence Rating" – 2009

- There is an important capacity of producing new knowledge proved, for example, by the papers published in ISI journals: 135 in 2011 and 165 in 2012;

- Existence of many research centers (2 recognized as "centres of excellence" in Romania) and of 2 new infrastructures: Oltenia Grid Centre (finished in 2011) and Research Institute in Applied Sciences (11 mil. Eur, in construction);

- Involvement in the RDI activity in the region (3 competitiveness poles and 1 cluster of innovation);

- UCV, located in the cross-border region with Serbia and Bulgaria, can act as an important stakeholder in promoting research and innovation activities in the SEE countries;

- Large national and international networking with RDI institutions.

As representative of the University of Craiova in COMISIS Project will act a team with five key persons.

The person in charge from UCV will be **Lecturer MIHAI-AURELIU LUNGU**, PhD., University of Craiova, Faculty of Electrical Engineering. Fields of scientific interest: Automatics of the flight objects, Rockets control, automatic pilots, Adaptive systems for flight control; Optimal systems for the flight control; Auto-pilots. Publishing activity: 2 books, 1 Lab guidelines, 1 patent; scientific papers: 103 (ISI Journal papers: 8, ISI Proceedings papers: 30 papers included in international databases: 34).

Participation in research contracts (national and international): 10 research projects.

Membership of professional bodies/international recognition: Member of Romanian Aeronautical and Astronautically Association; Member of Romanian Society for Automation and Technical Informatics; Member of CERTES research centre (Research and testing of the electro energetic systems and of the Aerospace stabilization and navigation systems); Member of General Association of the Romanian Engineers from Romania (AGIR); Member of Automatics and Informatics Romanian Society (SRAIT); Collaborator member of Association "Romanian Wings".

Awards and other activities: Aurel Vlaicu prize (Romanian Academy Prize) for the book "Flight control systems" in 2010; Reviewer for 9 scientific journals.

Prof. RADU CONSTANTINESCU will act as member of Executive Committee of the project. He is professor at Department of Physics from University of Craiova. Fields of scientific interest: Nonlinear dynamics, constrained dynamics.

Publishing activity: 40 papers in ISI or other journals indexed in International Databases, 14 invited lectures in international conferences, 23 papers in journals recognized by CNCS, author/ co-author of 6 books.

Participation in research contracts: 14 as director, 9 as member of the research team.

Membership of professional bodies/ international recognition: member of IEEE, Mathematical Society (USA); president of SEENET – MTP (SouthEastern European Network for Mathematical and Theoretical Physics), reviewer for Mathematical Reviews (USA), Central Eur. J. of Physics.

Prof. DAN POPESCU is the Vice-rector of the University of Craiova in charge with the scientific research of the institution. He is professor at the Department of Automation and has scientific interest in controlling and optimizing various types of dynamical systems. Part of his research was strictly related with the stability of satellites and of other flying objects.

Lecturer RODICA CIMPOIASU, PhD, University of Craiova, Faculty of Agronomy and Horticulture, specialized in Teledetection. She is a Physicist with a PhD in Nonlinear Dynamics. The main contributions she brought are related to the use of the symmetry method in solving nonlinear evolutionary equations. She developed the *inverse symmetry method* which allows obtaining the largest class of nonlinear equation with the same class of Lie symmetries.

Lecturer CARMEN LILIANA IONESCU, PhD, University of Craiova, Faculty of Mathematics and Natural Sciences, Department of Physics. She is a specialist in Quantum Field Theory and in Statistical Physics with many papers published in the field of Gauge Field Theories and in Constrained Dynamical Systems. Her main scientific contributions were related with the BRST method for quantifying the gauge fields with application on Yang-Mills fields.

The Partner no. 2 (P2) of the project is The Babes-Bolyai University of Cluj-Napoca

Babes-Bolyai University is a public institution of higher education, organized in three study lines that assures a multicultural, multilingual and interfaith framework for education, providing training on equal terms in Romanian, Hungarian and German, and whose mission is to promote and support the local community, regional, national and international development of specific components.

Babes-Bolyai is currently the biggest public university of Romania (approximately 42,000 students), a comprehensive research and advanced education university, recognized as academic elite institution. Babes-Bolyai is the best placed Romanian university in international rankings, with the stated objective to be part of the best 500 universities in the world.

Babes-Bolyai structure has 21 faculties, 91 departments, 12 university extensions, more than 50 research institutes and centers, 25 doctoral schools with 2564 PhD students and 250 PhD supervisors.

Babes-Bolyai university research strategy encourages the development of basic research and applied interdisciplinary research, innovation and technology transfer. Priority research areas at UBB who have produced performance were acknowledged in accordance with the priorities set out in the framework of the European research and consistent with the research priority areas established by the national authorities.

The research Funding was done by using the following resources: national funding grants (77,779,150 lei), EU-funded grants (3,685,055 lei), and contracts with third parties (541.584 lei) Research Working capital (about 1.200.000 lei January 2013).

The team involved in COMISIS project consists in researchers from the Faculty of Physics at UBB. The Physics Faculty at UBB is a high level center for education and research, with a long and strong tradition in some of the main topics of theoretical and experimental physics. The team involved in COMISIS project is a natural mixture of experienced researchers with some young and promising fellows.

The person in charge (PIC) from UBB is **lecturer dr. ALEXANDRU MARCU**. He is vicedean of the Faculty of Physics and is acting as professor at Department of Theoretical and Computational Physics from UBB. His general research interest is in magnetohydrodynamics waves in solar and space plasmas and the areas he is particularly interested in are: Waves and oscillations in solar atmosphere, Magneto- seismology, Satellite data acquisitions, simulations (SOHO, TRACE, HINODE), theoretical and observational studies on Algol Y Leonis system, refinement of reconnection models based on stochastic behaviour of magnetic fields and to application to astrophysical events. In the last 10 years he published 22 papers in refered journal, 36 citations, h-index 4, 10 papers in Internationally Indexed Databases , author of 3 books, 15 contributions in national and international conferences, 9 invited conference talks, 5 international stages, standing in profession (member of Romanian Physical Society Romanian National Committee of Astronomy (CNRAS) ,International Astronomical Union (IAU), National expert in Science), regular referee for Astronomische Nachrichten, Romanian Reports in

Physics, *Studia Physica*, involved as a director or Co-director in 3 national and international conference /workshop/summer school and director or Co-director for 5 grants, research supervision for 5 PhD students.

Another important member of UBB team is **Prof. dr. ISTVAN BALLAI**, senior lecturer in the School of Mathematics and Statistics, University of Sheffield, England. His general research interest is in magnetohydrodynamics waves in solar and space plasmas and the areas he is particularly interested in are: solar physics (linear and nonlinear resonant waves, effect of shear flows, local and global seismology), solar wind and interplanetary space (the effect of anisotropy, solitary waves) and numerical simulation of MHD-waves in solar atmosphere. He published 47 papers in refereed journal, 195 citations, h- index 12, 15 contributions in conference proceedings, co-authored a book, 1 book review, 10 research visits, standing in profession (member in the Astronomy Grant Panel, Science and Technology Facilities Research Council, Rapporteur /Evaluator for EU FP7 call Research and Exploration of Space Research, member of General Assembly of the Hungarian Academy of Sciences, member of Editorial Board of *The Open Plasma Journal*, regular referee for *Astronomy and Astrophysics*, *Astronomical Journal*, *Plasma Physics*, *Astronomische Nachrichten*, *Solar Physics*), 14 invited seminar talks, 12 invited conference talks, involved as a director or Co-director in 13 national and international conference /workshop/summer school, director or Co-director for 10 grants, research supervision 12 PhD students.

Team Member **dr. GABRIELA MOCANU** is a young researcher who has obtained her PhD title in July 2013. She has a six years background in MagnetoHydrodynamics and a three year experience in stochastic physics and stochastic simulations. Her research focuses on the effects of magnetic fields (deterministic and stochastic) on the behavior of astrophysical plasma systems and the resulting signature in the electromagnetic radiation of these systems. During the past six years she has worked on a number of projects which led to advancements in the respective fields and led to the publishing of a total of 10 ISI papers and 15 papers in Internationally Indexed Databases. According to http://adsabs.harvard.edu/abstract_service.html articles co-authored by Dr. Mocanu have a total of 18 citations in ISI papers (excluding self-citations). Her h-index is 3 (as calculated with the Scholar H-index calculator).