

**ACADEMIA OAMENILOR DE ȘTIINȚĂ DIN ROMÂNIA**



**SESIUNEA ȘTIINȚIFICĂ DE PRIMĂVARĂ  
“OMUL ȘI NATURA”**

**21-22 MAI 2010  
NEPTUN, PĂDUREA COMOROVA**

**REZUMATELE COMUNICĂRILOR**

**Editora  
ACADEMIEI OAMENILOR DE ȘTIINȚĂ DIN ROMÂNIA  
București**

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București**

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**Programul**  
**Sesiunii Științifice de Primăvară**  
**OMUL ȘI NATURA**

**JOI 20 MAI 2010**

16.00 – 19.00	PRIMIREA INVITAȚILOR
20.00	COCKTAIL

**VINERI 21 MAI 2010**

9.30	DESCHIDERA LUCRĂRILOR SESIUNII
9.30 - 9,50	CUVÂNT DE DESCHIDERE
9,50 - 11,10	LUCRĂRI ÎN PLEN
11, 10 - 11,30	PAUZĂ DE C AFEA
11,30 – 13.00	LUCRĂRI PE SECTIUNI
13.00 - 14.30	MASA DE PRÎNZ
14.30 – 16.00	LUCRĂRI PE SECTIUNI
16.00 – 16.15	PAUZĂ DE CAFEA
16.15 – 18.00	LUCRĂRI PE SECTIUNI

**SÂMBĂȚĂ 22 MAI 2010**

10.00 - 11,30	LUCRĂRI PE SECTIUNI
11.30	ÎNCHIDERA LUCRĂRILOR SESIUNII
12.30	MASA FESTIVĂ

**VINERI 21 MAI 2010**

	CUVÂNT DE DESCHIDERE
9.30	Vasile CÂNDEA, Președintele Academiei Oamenilor de Știință din România
9.37	Ion NICOLAE, Președintele secției de Științe Agricole, Silvice și Medicină Veterinară, Președintele Universității BIOTERRA
9.45	Victor CIUPINĂ, Președintele Filialei AOȘR Constanța,

LUCRĂRI ÎN PLEN 9,50 - 11,10			
Chairman: Doru DELION			
1	9.50 - 10.10	Global Warming and International Security	Constantin VLAD
2	10.10- 10.30	Study Regarding the Acclimatization and Behavior of Certain Varieties of <i>Asimina Triloba</i> (L.) Dunal in Romania	Ion NICOLAE, Daniela Fănuța MIHĂILĂ, Cristina NEDIANU, Razvan COTIANU
3	10.30 - 10.50	Fuel Cell Proton Exchange Membrane - Present and Perspectives	Victor CIUPINĂ, Eden MAMUT, Iuliana Mihaela OANCEA-STĂNESCU
4	10.50 - 11.10	Technological System of Ecologic Agriculture with Vegetal Species in Pure or Associated Culture	Aurel LUP, Nicolae ALEXE
	11.10 - 11.30	PAUZĂ DE CAFEA	

## LUCRĂRI PE SECȚIUNI

SECȚIUNEA I			
VINERI 21 MAI 2010			
LUCRĂRI 11,30 – 13.00 Chairman: Constantin VLAD			
1	11.30 – 11.45	Psychological Dimensions of the Relationship Between Man and Nature	Mihail GOLU
2	11.45 – 12.00	The Earth – Cradle of Humanity	Marius BĂCESCU
3	12.00 - 12.15	Sustainable Development in the Context of the Relationship „Man – Nature”	Ion BASGAN, Gabriel NĂSTASE
4	12.15 – 12.30	A Possible Division from the Prefix "Post-": <i>TRANS-NATURE</i>	Viorella MANOLACHE
5	12.30 – 12.45	Man Responsible	Petru ANDEA, Oana DULCA, Ioana MÎNZU
6	12. 45– 13.00	Ecosophia - Political and Philosophical Aspects	Henrieta Anișoara ȘERBAN
13.00 - 14.30 MASA DE PRÎNZ			
LUCRĂRI 14,30 – 16.00 Chairman: Mihai GOLU			
7	14.30 – 14.45	Nature as Experienced - A Theological Phenomenology	Cristina GELAN
8	14.45 - 15.00	Normal and Pathological. Interdisciplinary Aspects	George CONSTANDACHE
9	15.00 – 15.15	A Criticism on Argumental Strategies in Creative and Evolutionist Biology	Marius Augustin DRĂGHICI Oana VASILESCU
10	15.15 – 15.30	Anthropic Reasoning in Contemporary Cosmology	Gabriel NAGĂȚ
11	15.30 - 15.45	Diversity Management	Martha-Christina SUCIU
12	15.45 – 16.00	Aesthetic - Psychotropic Factor of Health Genesis	Viorica E. UNGUREANU
16.00 – 16.15 PAUZĂ DE CAFEĂ			

LUCRĂRI 16,15 – 18.00 Chairman: Ion CUCUI			
13	16.15 – 16.30	Horizons and Changes in the New Sustainable Economy	Ion CUCUI, Ion STEGAROIU, Marius PETRESCU, Gabriela POPA
14	16.30 – 16.45	The Involvement of Bucharest Bioterra University in the Development of Ecotourism and Agrotourism in Romania	Floarea NICOLAE, Mihai MARES, Daniela MIHAILA
15	16,45 – 17.00	System of Indicators on International Comparability of Human Resources and Labour Resources	Angelica BĂCESCU - CĂRBUNARU
16	17.00 – 17.15	Impact of Morality on the Environment	Daniel FODOREAN
17	17.15 – 17.30	American Declaration of the Rights and Duties of Man. The Dignity of Human Being	Constantin JURCĂ
18	17.30 – 17.45	A Better Use of the Romanian Natural Resources Aiming at Environment Protection	Mariana Daniela MARICA, Ion NICOLAE, Marian NICOLAE, Nicole Livia ATUDOSIEI
19	17.45 – 18.00	Global Warming and Tourism	Stan PETRESCU

SÂMBĂȚĂ 22 MAI 2010			
LUCRĂRI 10.00 - 11,30 Chairman: Marius BĂCESCU			
21	10.00 - 10.15	Some Considerations on Food Security- A Decisive Basic Factor of the Quality of Life	Vladimir Alexandru ȚICOVSCHI
22	10.15 – 10.30	Numerical Codes Tuned on the Problem. A Way for Enhancing the Efficiency of Scientific Codes	Liviu Gr. IXARU
23	10.30 – 10.45	The World - An Area of God's Presence and of Man's Work	Pr. Ștefan FLOREA

24	10. 45– 11.00	Thomas Reid - Founder of the Naturalist Doctrine of Common Sense in Philosophy	Angela BOTEZ
25	11.00 – 11.15	The Ecological Common Sense: Tradition and Discontinuity	Ana BAZAC

SECȚIUNEA II			
VINERI 21 MAI 2010			
LUCRĂRI 11,30 – 13.00 Chairman: Mărgărit PAVELESCU			
1	11.30 – 11.45	Evolution Through Association and the Mutual Aid.	Gheorghe MUSTAȚĂ
2	11.45 – 12.00	Anthropological Reflection of the Economy of Nature. Economic Anthropology - Informational Behaviour	Cornelia GUJA
3	12.00 - 12.15	The Role of Biodiversity in the Assessment of the Bicaz Reservoir Trophicity	Ionel MIRON, Anca-Narcisa NEAGU, Mihai ERHAN, Carmen AONCIOAIE, Maria-Magdalena FUSU
4	12.15 – 12.30	The Interdisciplinary Treatment of the Local Strategy for Sustainable Development and the Effect of the Impact on the Relationship Man–Nature	Susana GEANGALĂU, Elena FLORESCU, Costache ANDONE, Vasile AVĂDĂNEI
5	12.30 – 12.45	The Actual Status of the Western Romanian Plain Flora and Vegetation	Aurel ARDELEAN, Violeta TURCUȘ
6	12. 45– 13.00	Utilization of baculoviruses in density control of <i>lymantria dispar l.</i> populations (hairy caterpillar of oak tree)	Mircea CIUHRII
13.00 - 14.30 MASA DE PRÎNZ			

LUCRĂRI 14,30 – 16.00 Chairman: Gallia BUTNARU			
7	14.30 – 14.45	Natural Rehabilitation Processes of Vegetation on the Sterile Waste Dumps from Coal Exploitation	Mihaela CORNEANU, Daniel RADUTOIU, Gabriel CORNEANU, Anca LACATUSU, Luminita COJOCARU
8	14.45 - 15.00	Macroalgal Flora from the Romanian Black Sea Coast in the Last Decade	Daciana SAVA Alexandru Șerban BOLOGA
9	15.00 – 15.15	Ecological Reflection and Action	Ionel MIRON
10	15.15 – 15.30	The Complex of Parasitoids which Controls the Populations of Aphis Fabae Scop. (Homoptera, Aphididae)	Gheorghe MUSTAȚĂ, Mariana MUSTAȚĂ
11	15.30 - 15.45	Man and Biosphere	Gheorghe IONAȘCU
12	15.45 – 16.00	Climate Change and Extreme Events	Vasile CUCULEANU Mărgărit PAVELESCU
16.00 – 16.15 PAUZĂ DE CAFEA			
LUCRĂRI 16,15 – 18.00 Chairman: Ionel MIRON			
13	16.15 – 16.30	A A Wheat Collection Evaluation for Powdery Mildew Tolerance in Timisoara Field Conditions	Gallia BUTNARU
14	16.30 – 16.45	Dioecious Hemp Varieties Developed from SCDA Lovin Have Large Production Capacity and Low-THC	Valeriu TABĂRĂ, Camelia DUMA
15	16,45 – 17.00	Bakery Dietetic Assortments Obtained by Capitalization of Byproducts of Milk Industry	Domnica CIOBANU, Luminita GROSU, Suzana GEANGALĂU
16	17.00 – 17.15	Study on Fruit Trees Biodiversity Conservation in Romania	Ion BOTU, Mihai BOTU, Doru PAMFIL, Iulia POP, Adina VICOL

17	17.15 – 17.30	Simulation of Vine Biorhythm by Software Interpolation	Marian NICOLAE, Nicole ATUDOSIEI, Elena NICOLAE, Adrian DULUGEAC, Mariana MARICA
18	17.30 – 17.45	Forests – Evolution and Functional Character	Costache RUSU
19	17.45 – 18.00	Genetic Identification of Maize Hybrids by Monodimensional Starch Gel Electrophoresis	Antonia IVAȘCU, Mirela Dana CÎNDEA

SÂMBĂȚĂ 22 MAI 2010			
LUCRĂRI 10.00 - 11,30 Chairman: Domnica Ciobanu			
21	10.00 - 10.15	Researches regarding Quantitative Specific Feature Variability for Some Cultivated Varieties and Clones in Dragasani Vineyard	Ion NICOLAE, Daniela Fănuța MIHĂILĂ, Cristina NEDIANU, Mariana MARICA, Razvan COTIANU
22	10.15 – 10.30	Iatrogenicity - A Present Day Problem	Virgil RĂZEȘU
23	10.30 – 10.45	Ecology and Medicine. Alteration of Environmental Quality and Major Mutations in Human Morbidity, in the Context of Promoting the Concept of Sustainable Development and of the Technosphere – Biosphere Clash	Ioan IETȚU, Vlad RĂDĂȘANU
24	10. 45– 11.00	Entomological Products (The Entomotherapy) - A New Era in the Treatment of Tumor Formations	Mircea CIUHRII, Veaceslav CIUHRII
25	11.00 – 11.15	Medicinal Plants in Biblical Prescriptions	Elena IONESCU, Carmen TEBRENCU, Neculae ANTOHE
26	11.15	Biodiversity and UNESCO MAB Programme	Gheorghe IONAȘCU

SECȚIUNEA III			
VINERI 21 MAI 2010			
LUCRĂRI 11,30 – 13.00 Chairman: Petru ANDEA			
1	11.30 – 11.45	Study on Heavy Metals from Environmental Samples by Atomic Techniques.	Ion V. POPESCU, Cristiana RADULESCU, Claudia STIHI, Gabriela BUSUIOC, Anca Irina GHEBOIANU, Valerica Gh. CIMPOCA
2	11.45 – 12.00	Medicinal Plants Offals Used in the Depollution of Waste Waters Infested by Hard Metals	Neculae ANTOHE, Carmen TEBRENCU, Ramona VERDES, Gabriela MITROI, Elena IONESCU
3	12.00 - 12.15	Hydrogen – One of the Alternative Fuels	Ștefan IANCU
4	12.15 – 12.30	Assessment of Soil Density and Moisture by Nuclear Methods	Dorel BUCURESCU
5	12.30 – 12.45	Impact of Energetical Engineering on Health and Environment	Ion CHIUȚĂ, Liviu Mihai SIMA
6	12. 45– 13.00	Sustainability Trends in Building with Eco-Friendly Materials	Irina LUNGU, Anghel STANCIU, Nicolae BOȚI
13.00 - 14.30 MASA DE PRÎNZ			
LUCRĂRI 14,30 – 16.00 Chairman: Ion CHIUȚĂ			
7	14.30 – 14.45	Analytical Evaluation of Crack Propagation for Bulb Hydraulic Turbines Shafts	Mircea O. POPOVICU, Ilare BORDEASU, LIVIU MARSAVINA
8	14.45 - 15.00	Influence of Great Hydraulic Works upon Nature and Mankind	Mircea O. POPOVICU, Petru ANDEA, Georgeta NICHITA, OANA DULCA

9	15.00 – 15.15	Wood, Renewable Resource for Green Energy	Ivan CISMARU
10	15.15 – 15.30	Forest Species Used in Phytoremediation Process	Gabriel CORNEANU, Constantin CRĂCIUN, Mihaela CORNEANU, Luminita COJOCARU, Cornelia HERNEA
11	15.30 - 15.45	The Seismic Phenomenon in the Carpatho-Danubian-Pontic Region and Their Consequences on the Behaviour of Inhabitants of These Parts	Dan Ion PREDOIU
12	15.45 – 16.00	Disasters and the World Insurance	Nicu-Bogdan POPA
16.00 – 16.15 PAUZĂ DE CAFEA			

LUCRĂRI 16,15 – 17.00 Chairman: Ion V. POPESCU			
13	16.15 – 16.30	Mathematical Methods for the Optimization of the Aeolian Energies with Applications in Hydro-Aerodynamics	Mircea LUPU
14	16.30 – 16.45	Environmental Security - Component of National Security Forecasting of Ecologic Elements Content in the National Security Strategy	Constantin MINCU
15	16,45 – 17.00	The Influence of Geo-Climactic Factors on Military Actions	Nicolae CIOBANU
16	17.00 - 17.15	Crisis Management in Shipping Areal	Ștefan Georgescu Răzvan Stoleru

## **GLOBAL WARMING AND INTERNATIONAL SECURITY**

Constantin VLAD<sup>1</sup>

<sup>1</sup>Prof. Ph.D., Founding Member of Academy of Romanian Scientists

There is a direct connection between underdevelopment, international security and belligerence. The statistics show that measures aimed at fighting against global warming contribute to maintain underdevelopment, which represents a favorable ground for belligerence. At the same time, the above mentioned measures could impede the change of international configuration of power relations and the access of some big developing countries, like China, India and Brazil to a more visible role in the world affairs.

## **STUDY REGARDING THE ACCLIMATIZATION AND BEHAVIOR OF CERTAIN VARIETIES OF ASIMINA TRILOBA (L.) DUNAL OF ROMANIA**

Ion Nicolae<sup>1</sup>, Daniela Fănuța Mihăilă<sup>1</sup>, Cristina Nedianu<sup>3</sup>, Razvan Cotianu<sup>4</sup>

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In the last 15 to 20 years, it seems that the species of *Asimina triloba* (L.) Dunal, known as "North banana" is the subject of growing interest in many countries, including Europe and Romania. *Asimina* species, except *A. parviflora* (Michx.) Dunal and *A. triloba*, are located in the State of Florida and in some parts of extreme Southern Georgia and Alabama States (Callaway 1990). *Asimina parviflora* is spreading in the Southern United States, while *Asimina triloba* extends throughout the East, culminating in Southern Canada. In Romania, there are many researches for acclimatization of this species, valuable in terms of food.

## **FUEL CELL PROTON EXCHANGE MEMBRANE - PRESENT AND PERSPECTIVES**

Victor CIUPINA<sup>1</sup>, Eden MAMUT<sup>2</sup>, Iuliana Mihaela OANCEA-STĂNESCU<sup>3</sup>

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Fuel cells could contribute to the reduction of the polluting emissions of the fossil fuels due to the conversion efficiency which is higher than in the case of other energy conversion systems. There are many possibilities to improve the efficiency and to reduce the weight of the fuel cells by the integration of new nanostructured materials.

## **TECHNOLOGICAL SYSTEM OF ECOLOGIC AGRICULTURE WITH VEGETAL SPECIES IN PURE OR ASSOCIATED CULTURE**

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The paper describes an original system of ecologic agriculture in the driest area in Romania, i.e. the Northern plateau of Dobrogea. The soils are medium fertile, without irrigation. One grows cereals, pulses, oilseeds as pure culture or associated in rain fall agriculture. The seeds are exported and farm activity is profitable.

## **PSYCHOLOGICAL DIMENSIONS OF THE RELATIONSHIP BETWEEN MAN AND NATURE**

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This paper points out some major aspects of the dynamics of the relationship between man and nature, depending on the psychological development and organisation of the former. Two main stages are delimited: a) the passive-reacting stage and b) the active-transforming stage.

Characteristic for the first stage is a diffuse consciousness, which sustains the perception and the feeling that man is intrinsically a constituent part of nature.

The second stage is characterised by the process of differentiation and specialisation inside the consciousness, and by the development of self-consciousness and of individualisation. This acquisition has led to the development of man's capacity to systematically create and produce the tools by means of which man could act to change or transform some given conditions of nature. Historically, this process, which has been perfected, became the main psychological factor that influenced the character of the relationship between man and nature, in both positive and negative ways.

## **EARTH – CRADLE OF HUMANITY**

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After the presentation of the report between the natural environment and the surrounding environment, it is emphasized the influence of the human being on the terrestrial environment and especially on soil erosion and pollution. At the same time, this study points out the natural disasters over the environment and the influence of atmosphere over the earth health, after which it is mentioned what should be done in order to assure a healthy shelter for the humanity.

## **SUSTAINABLE DEVELOPMENT IN THE CONTEXT OF THE RELATIONSHIP „MAN – NATURE”**

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In the long run, the environmental protection actions will have to correlate with the country’s social-economic development actions and the concept of durable development of the economy, resource exploitation and quality of the environment will have to be taken into account. It is common knowledge that the intensity of the pollution phenomenon is a result of the economic structure, especially of the industry, of the existing legal framework and of the level of ecologic education of the citizens in the country

### **A POSSIBLE DIVISION FROM THE PREFIX „POST-”: TRANS-NATURE**

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The term post-, even when (a) glued to any of the derivations of notion of modo, remains (multi)faceted, mosaic-like, overturn in/by (self) reflexive reflections and irrigations. The confusion brought along by such suffixes (over) bid the multiple micro-narrations that do not propose any sort of universalizing stabilization or legitimacy. The alternative currents of postmodernity will presuppose an abandonment of the evolutionist perspective and the acceptance of the paradigmatic revolution. Sinusoidal, the currents will gain being only as protest movements against dominant theories or theoretical tendencies, and even more as different paradigms, as the (re)configuration of the axiological relief in a space of a-value. A concept such as Homo sui transcendentalis reinvents the alternative character (as Epimetheus, Prometheus’s brother), as a character who bears the seal of trans- (trans-figurative, trans-vision, trans- portation, trans- formation), the one who thinks after. In this equation, trans- nature is the concept designed to unify (into a philosophy of nature), the Subject and the cross-disciplinary Object, as a mark of the trans-disciplinary ecology.

### **MAN RESPONSIBLE**

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The paper examines ways that are obtained, in higher education, professional

competences as they are set in the European Qualification Framework and described through "Dublin descriptors", which examines creating and introducing ways in Romania of a national qualifications framework of Higher Education of the National Qualifications Register for Higher Education. The paper can serve for elaboration of normative acts necessary to implement the National Qualifications Framework in Higher Education (CNCIS) and the National Qualifications Register for Higher Education (RNCIS).

### **ECOSOPHIA – POLITICAL AND PHILOSOPHICAL ASPECTS**

Henrieta Anișoara ȘERBAN<sup>1</sup>

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The study relates the term „ecosophia”, or ecological wisdom, to ecology and political philosophy and observes the consequences or such correlations. This wisdom is assessed in its philosophical and political aspects, since it sustains an ideology of either moderate or radical change. The ethics inspired by ecosophia is not mere idealism or „eutopia”, but a chance for a prolonged existence for humanity, and, at the same time, a chance for humanity to show its true and highly qualitatively „humane” meaning. As more or less radical as it may be, ecosophia has to mediate and amend technological progress, with wisdom.

### **NATURE AS EXPERIENCED - A THEOLOGICAL PHENOMENOLOGY**

Cristina GELAN<sup>1</sup>

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The first stage of becoming human beings as a species on Earth is a direct reference to the existence, to the concrete forms of the surrounding reality, which become objects to this practice and also of consciousness. Once with the reporting human nature, the thought begins his own religious experience. At this level, man proposes between him and the world of nature of another world, mediator, through which to act on its possibilities of existence. Religious thought in consciousness becomes a reflection of reality and a projection of thought into reality. As a medium, it is an invention by not being in the objective existence, but with excellent exercise as mediator in ontological form, in that he always took refuge in a concrete object.

### **NORMAL AND PATHOLOGICAL. INTERDISCIPLINARY ASPECTS**

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Les responsables de la recherche de notre pays comprirent, bien qu'un peu tard, l'importance de ce programme de recherches interdisciplinaires qui bousculait les frontières établies de longue date, amenant au dialogue et à la confrontation les

neurophysiologistes et les psychologues, les philosophes et les ingénieurs, les anthropologues et les linguistes.

### **A CRITICAL REGARDING ARGUMENTAL STRATEGIES IN CREATIVE AND EVOLUTIONIST BIOLOGY**

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In this study, we investigated the epistemological presuppositions both of evolutionary biology and of creationism from the perspective of the teleological argument implicit in the concept of function (in the case of biology) and explicit (in the case of creationism). The hypothesis of the necessity of a philosophical-epistemological investigation is proved by means of employing comparative explanation following Kuhn's model of scientific revolution in order to test the claims of scientific character of the biologist theory. In stead of confirming the claims about the "revolutionary scientific character" of Darwinian Theory and denying the validity of Kuhn's theory, we have found a systematic redefining of concepts and epistemological claims within the modern evolutionary biology. In turn, in the case of scientist creationism, by adopting and emphasizing the "strong" form of the Anthropic Principle conceived as scientific ground for the ideology of modern creationism, we found a theoretical-methodological ambiguity.

### **ANTHROPIC REASONING IN CONTEMPORARY COSMOLOGY**

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Contemporary cosmology tries to explain the apparently "fine-tuning" of the universe by using an "Anthropic Principle". According to this, we have to accept the idea that our location in the universe is necessarily privileged to the extent of being compatible with our existence as observers. This idea seems to overrule the very spirit of the "Copernican revolution", which was the milestone of modern science. The article examines some possible methodological consequences of accepting the anthropic reasoning in today's science.

### **DIVERSITY MANAGEMENT**

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Globalization amplified the multicultural issue. The author supports the idea of the intercultural dialogue based on what can join people together according to common goals, with no prejudice on their right to be different and to manifest in a different way by exploring their talent and creativity. The paper presents briefly a part of the research results obtained within the scientific research project “PARTENERIATE 92116”, research project that has been won by competition in 2008, the year that had been declared at the European Union as “The Year of Intercultural Dialogue”. The topic of the research project is “Equality of chance-as a prerequisite of sustainable development. An evaluation system to promote diversity within the organizations from Romania”. The author is the coordinator of the above mentioned research project.

### **AETHETIC – A PSYCHOTROPIC FACTOR OF HEALTH GENESIS**

Viorica E. UNGUREANU<sup>1</sup>

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### **HORIZONS AND CHANGES IN THE NEW SUSTAINABLE ECONOMY**

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It is said that the society we are moving towards is, or will be, the Informational Society - Knowledge Society (IS-KS). The collocation used to name the new society discloses especially the tools this one will stand on as well as their progress, which, at first sight, makes the impression of a technical, one-sided name. The collocations used to name the societies so far contain a key-word (slave system, feudalism, capitalism) which synthesizes a gamut of possible social statuses where the people, individually and/or in group are inevitably situated on, function on certain circumstances, thus constituting a characteristic economical-social structure. Obviously, the key-word able to disclose what is or will be economically and socially fundamental for the new society has not been yet found. IS-KS is a collocation which poses the name to some other fields.

### **THE INVOLVEMENT OF BUCHAREST BIOTERRA UNIVERSITY IN THE DEVELOPMENT OF ECOTOURISM AND AGROTOURISM IN ROMANIA**

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Ecotourism is a modern form of tourism with low environmental impact, based on its assessment and make a conscious effort is to reinvest an appropriate share of revenue for conservation based on. By the way that natural values of an area as little altered to be transmitted to future generations, can be considered and sustainable tourism and awareness, appreciation and protection of nature caused by the actions of interest and the emergence of "green tourism", which suggests Are you still the tourist product should follow and protect vegetation, animal life, their habitats, ecosystems and biodiversity.

### **SYSTEM OF INDICATORS ON INTERNATIONAL COMPARABILITY OF HUMAN RESOURCES AND LABOUR RESOURCES**

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An essential factor of any country in economic and social development is represented by available **human resources (human potential)**, these resources being the whole population of a respective country at a given moment. First of all, this potential should be regarded as a collective consumer, being identified with the **total population, while** as a collective producer, it is identified with **labour resources**, namely with number, experience and their degree of training.

### **THE IMPACT OF MORALITY ON THE ENVIRONMENT**

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The objective of this paper is to highlight the part of man's moral responsibility towards the environment, but also to explore the relationship between personal morality and the environment, on the other hand. In the light of historical and theological perspective, the environmental situation is simply a reflection of personal and social morality at some point in history. Thus, it is not difficult to note that personal and universal moral pollution has led to a continuous environmental pollution and degradation. Environmental measures should not begin just with the environment itself, but with awareness, education, individual and collective transformation.

### **AMERICAN DECLARATION OF THE RIGHTS AND DUTIES OF MAN. THE DIGNITY OF HUMAN BEING**

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American Declaration of the Rights and Duties of Man, adopted at the ninth Conference of American States in Bogota in 1948, comes to highlight and prefaced treasure of ideas and principles of the Universal Declaration of Human Rights, approved by the UN General Assembly. Our study is intended as a contribution to recognize the value of these documents where the dignity and value of person are essential. This paper aims to reach the constitutional legislator a number of positive elements, especially those concerning human dignity in all rights and duties of the individual. Other foundation can no man lay than that which human dignity has been made, based on moral behavior, the direct expression of spiritual cultural education principles and Christian values.

### **A BETTER USE OF THE ROMANIAN NATURAL RESOURCES AIMING AT ENVIRONMENT PROTECTION**

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In Romania, the concept of “SUSTAINABLE DEVELOPMENT” was accepted, especially during the period of transition to market economy. This was possible because Romania adopted the international development concepts, by elaborating the sustainable strategies for managing its natural resources, with an emphasis on “the need to stop the natural capital degradation in the transition period and to preserve it in the perspective of economic development”. Natural resources, as forms of raw and energy materials, both conventional and unconventional ones, both renewable and non-renewable, are the “natural capital”, an essential part of Romania’s wealth. The use of these resources can be made better or worse, according to the technologies that can be used in the process and to their availability. In this respect, “Recycling or reusing” materials and products, whose technological value was exhausted (metals, plastic, glass, old machines and equipment, etc.) and which normally cannot be absorbed and degraded in the natural ecosystems is a good example.

### **GLOBAL WARMING AND TOURISM**

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Tourism is a very important activity: economical, social and holistic; it must contribute to increase the satisfaction of those practicing it, organizing it, supporting it and it helps the development of regions, investment interest, to be based on value, team-work and networking and be customer oriented, offering and demanding projects. It must not be

rigid and unimaginative, but it must be varied, because the diversification trend leads to evolution and improves relations between people.

### **SOME CONSIDERATIONS ON FOOD SECURITY - A DECISIVE BASIC FACTOR OF THE QUALITY OF LIFE**

Vladimir Alexandru ȚICOVSCHI<sup>1</sup>

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The paper starts with the definitions given to the concept of food security by the United Nations' Food and Agriculture Organization ( FAO ) and the United States Department of Agriculture ( USDA ), remarking the disillusioning fact that not only in the poor countries but also in the rich countries there are people who are living under the pressure of the food insecurity. It is stressed on the increase of this crisis under the conditions of the financial-banking and economic global crisis and on the risks generated by unfavorable events could threaten the food security worldwide, the permanent filling of a lot of people being that the world is resting on a bomb with postponed explosion and with a timing completely unknown. Considering that the globalization process will increase the intensive and extensive development of the food security system to a hyper -large global cybernetic system, the author suggests a three steps triadic thinking scheme, applicable also to the analysis of the relation between the food security and the quality of life.

### **NUMERICAL CODES TUNED ON THE PROBLEM. A WAY FOR ENHANCING THE EFFICIENCY OF SCIENTIFIC CODES**

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Any advance of the knowledge to be reached nowadays in natural sciences (physics, chemistry, biology, technical disciplines etc.) cannot be imagined without the intensive use of the computer facilities. This implies the development of more and more complex numerical codes, on the one hand, and the use of bigger and bigger computation platforms, on the other hand, but quite often it happens that the complexity of the problems exceeds the capabilities of the existing mathematical approaches and computation facilities.

This talk is intending to advocate in the favor of a special way for improving this situation. If, by tradition, the computer is seen simply as a submissive, dedicated servant of the user, it is now the time to consider also the reverse side of this relationship: the user can also be of help for the computer. However, the way in which this attitude is shaped in practice is neither simple nor direct. As a rule, it is reduced to a separate comparison of the numerical methods existing in the literature and in selecting, on this basis, of the version that corresponds best to the specific features of the problem.

The bad issue is that the number of problems addressed in various domains of the physical sciences is so big, that it is quite improbable that a suited numerical method can be identified in the existing arsenal of methods and, therefore, new methods have to be produced.

Building up new methods, tailored on the problem to be solved, is one of the most dynamic directions of research in the contemporary field of applied mathematics and in this short communication we will explain how such methods can be built up for the case when the problem of interest consists in describing the behavior of the quantum particles, with the direct aim of contributing to the understanding of some physical phenomena in the early stages of the Universe.

### **THE WORLD - AN AREA OF GOD'S PRESENCE AND OF MAN'S WORK**

Ștefan FLOREA<sup>1</sup>

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Environment of man's life, nature, as the most auspicious and unique setting of the human being's life, has a sacred character because it is a work of the divine creation, of the One Who is the Only One truly saint, because He is the source, the promoter and the supporter of holiness. The world was created by God as gift and environment of the relation between Him and man, as man's and God's means of manifestation, communication and discovery, in mutual relationship.

As a gift, it conveys God's love and mercy for man, who, by receiving and accepting it [the world] consciously, as gift, retains the divine love and mercy and gives it back again, as offering, to God, its Supreme Giver and Benefactor.

### **THOMAS REID - FOUNDER OF THE NATURALIST DOCTRINE OF COMMON SENSE IN PHILOSOPHY**

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The study capitalizes the philosophical contribution of Thomas Reid as the founder of naturalist doctrine of common sense in philosophy. It begins with the observation that Reid emphasized one of Hume's "merits" in extracting his own principles from the theory of knowledge relying on sense, data, and ideas. The core of the analysis is represented by Hume-Reid dispute brought up-to-date nowadays in books or special reviews centred on issues of great interest for the protagonists of contemporary philosophy of mind. Locke, Berkeley and Hume's "theory of ideas" is interpreted from the perspective of the Scottish philosophy of the common sense insisting on the "ineffable something". This is a problem of contemporary philosophy of science, too.

## THE ECOLOGICAL COMMON SENSE: TRADITION AND DISCONTINUITY

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This is only a larger abstract of a work I should like to develop because of the interest its subject raises. For this reason, I consider it rather an invitation to a multi disciplinary international collaboration.

## EVOLUTION THROUGH ASSOCIATION AND THE MUTUAL AID

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We bring arguments by which we demonstrate the role of the phenomenon of association in the emergence of cells, tissues, organs, species and even new higher taxa in the evolution process. The association and mutual aid of organisms made possible the evolutionary saltation in the transition from Protozoans to Metazoans, in the emergence of higher taxa (Kingdoms, classes, orders, etc.), in the emergence of some new ecological groups, including new living environments, etc. Association and mutual aid of organisms are a major factor of evolution, allowing us to speak **of an evolution-based on the association and mutual aid of organisms**. We wonder even, how was it possible that such an important factor of evolution did not draw the attention of the evolutionists. We do not have priority in considering the association and mutual aid of organisms as a major factor of evolution, but we present, in a convincing way, we hope, its significance in the emergence of life. We believe that we need to talk about the future of evolution by association and the mutual aid of organisms.

## ANTHROPOLOGICAL REFLECTIONS ON ECONOMY OF NATURE. ECONOMIC ANTHROPOLOGY AND INFORMATIONAL BEHAVIOUR

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Our paper presents a few important aspects of the studies on the economy of nature within the context of general ecology, economic ecology, anthropological ecology, anthropological economy and informational anthropology. Economy of nature makes its investigations based on biophysical-chemical and mathematical sciences, in which the human being fails to find its own place or, in many cases, it is even in opposition with Nature. On the other hand, economic sciences consider human activity as a decisive factor and source of economic activity; nevertheless they consider the human being as an implicit factor. We have carried out a comparative study which indicates the necessity of a common informational methodology, which, by means of specific concepts and

methods, may offer solutions to acute problems of present economy of nature and society. One of the solutions is adopting some adequate informational behaviour.

### **THE ROLE OF BIODIVERSITY IN THE ASSESSMENT OF THE BICAZ RESERVOIR TROPHICITY.**

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The ecosystem of the Bicaz Reservoir passes over the fifth decade of its existence. The previous researches, undertaken in the first two decades of the reservoir life, concerning the trophicity degree of this ecosystem, revealed an oligotrophic state, according to a low of natural biological productivity. The explanation for this limitation was focused on the hydroenergetic regime of the reservoir, due to great annual level oscillations, about 40m. This paper presents the results concerning the present trophicity state of this reservoir, obtained by the implementation of the UNESCO methodology on the reservoirs eutrophication assessment. We present the limits of physico-chemical parameters correlated with the main biodiversity communities: phytoplankton, zooplankton, zoobenthos and ichthyofauna. We remarked the preservation of the oligotrophic state of water associated with a present pronounced trend towards mesotrophy.

### **THE INTERDISCIPLINARY TREATMENT OF THE LOCAL STRATEGY FOR SUSTAINABLE DEVELOPMENT AND THE EFFECT OF THE IMPACT ON THE RELATIONSHIP MAN-NATURE**

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The paper aims to substantiate the need for Local Agenda 21 - The Local Strategy for Sustainable Development by the systemic developing and the interdisciplinary treatment of the elements of Sustainable Development: economic, environmental, scientific-technological and social, of the strategic objectives proposed by citizens, in short, medium and long term, because it is not put into practice. These can be achieved by intercondition/interrelation, highlighting the compatibility/ incompatibility of the proposed objectives through the transfer of methodologies and concepts among different disciplines. We proposed the use of systemic methods, participatory, prospective, antitheses, etc. The iterative scheme of the interdisciplinary treatment is presented synoptically, as well as the effect of the impact on the relationship MAN - NATURE.

### **THE ACTUAL STATUS OF THE WESTERN ROMANIAN PLAIN FLORA AND VEGETATION**

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The former afforested-marsh like character of this territory was profoundly modified due to the increasingly powerful antropic pressure. Today, it is an excellent agricultural area, and the original semi - natural vegetation, is preserved only within some enclaves. Nevertheless, some sectors of the Western Plain – named also the Tisa’s Plain – presently preserve a remarkable flora and vegetation. Almost 2000 plant species were identified here, to which about 200 hybrids can be added, as numerous intra-specific taxa.

### **UTILIZATION OF BACULOVIRUSES IN DENSITY CONTROL OF LYMANTRIA DISPAR L. POPULATIONS (HAIRY CATERPILLAR OF OAK TREE)**

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The viral infections may be used for regulating the density of some undesired organisms, among which some insect species which compete with the man for food or materials. In the case of insects, there are used the Baculoviruses which are specific only for the insects they are extracted from. So, the baculoviruses may be safely used to control the population density of pests specific to some plants. In Romania we have implemented a viral preparation, “Inf-Ld”, infecting only the larvae of “hairy caterpillar of oak tree” (*Lymantria dispar* L.), the other components of biocenosis remaining unaffected and without any pollution of the environment.

## **NATURAL REHABILITATION PROCESSES OF VEGETATION ON THE STERILE WASTE DUMPS FROM COAL EXPLOITATION**

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Surface coal exploitations modify the landscape by bringing at the surface large amounts of rocks with a high content of heavy metals and radionuclides. The sterile waste dumps, represented initially by “terenum nudum” are covered by natural herbaceous vegetation or are fixed through afforestation. The analysis of the pioneer species evidenced the predominance of the polyploid species, as well as of the species with high concentration of heavy metals and radionuclides. The herbaceous vegetation natural installed after them is constituted of species and vegetal association tolerant or phytoaccumulator species, regardless the geographical area they are cultivated. Men, “ennoble” this vegetation which absorbs heavy metals and radionuclides from the soil, contributing at soil “cleaning” and returning it into the economical, social or touristy circuit.

## **MACROALGAL FLORA FROM THE ROMANIAN BLACK SEA COAST IN THE LAST DECADE**

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The authors present an updated assessment of the present state of the macroalgal flora from the Romanian Black Sea waters, after a study that took place between 1999-2009. The research shows that the current algal communities consist of a small number of species, but with considerable biomass. The perennial associations mentioned have declined and the free substratum is now covered by opportunistic species with a short life cycle. Appropriate ways of conservation would be the improvement of physicochemical conditions of coastal waters and maintenance of the under water Marine Reserve “Vama –Veche” in the south part of our coast.

## ECOLOGICAL REFLECTION AND ACTION

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Analyzing some basic concepts concerning the improvement of the Man-Environment System illustrated by the paradox: „Science progresses, the environment regresses”, this paper presents a lot of original hypothesis and their concrete application, in order to put the basis of a new way to equilibrate this system. Some ecological and ethological theories are discussed, accompanied by practical implementation solutions, including some activities related to the role of ecological education in the reformation of the educational system.

## THE COMPLEX OF PARASITOIDS WHICH CONTROLS THE POPULATIONS OF *APHIS FABAE* SCOP. (HOMOPTERA, APHIDIDAE)

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Based on a research conducted in 2006 in the Reserve of maritime dunes from Agigea and in the buffer zone of this reserve, we have identified a total of 24 species of parasitoid insects acting in the colonies of *Aphis fabae* Scop installed both on spontaneous and crop plants. A total number of 8 species belonging to the family Aphidiidae act as primary parasitoids, 14 species belonging to families Charipidae, Encyrtidae and Megaspilidae act as secondary parasitoids, and the species of *Asaphes vulgaris* Walk and *Pachyneuron aphidis* Bché act as tertiary or quaternary parasitoids. We present a trophic network specific to such a parasitoid biocoenosis, to elucidate the trophic relationships between species and make a separatesynecological analysis of the parasitoid species in the colonies of *Aphis fabae* installed on the spontaneous and cultivated plants.

## MAN AND BIOSPHERE

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There is a double subordination of man to the biosphere and society. Man is a creature biologically conditioned and socially determined. This dual aspect of man is the keystone to understanding the dynamic relations between the two great systems of organization of the living world, the biosphere and society. Conscious living of the biosphere with the society, in a stable equilibrium, must be strongly required for human species survival and stopping the process of disturbing the ecological balance. The only solution for survival

of contemporary industrialized society is to adopt a new ethical attitude towards nature, both in principle and in practice. In a proper relationship, harmonized with nature, man should become from hunter, mainly consumer and operator - a genuine creator of its new environment, for a superior habitat. Anthropocentrism is based on the false idea that man is master of nature, while the ecocentrism lies man in his place in nature, as a wisely partner. Civilizations rose and fell, without people realizing the full significance of their relationship with nature, which gave them birth.

## **CLIMATE CHANGE AND EXTREME EVENTS**

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The characteristics of extreme weather events - heat waves and heavy precipitations and their potential relation with the climate change process, due to the antropogenic greenhouse effect, are assessed. To this purpose, the observational data and climate model predictions for extreme events existing in international and national scientific publications are examined.

## **A WHEAT COLLECTION EVALUATION FOR POWDERY MILDEW TOLERANCE IN TIMISOARA FIELD CONDITIONS**

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Biotic stresses, especial plant diseases are probably the greatest constraint to increase the small grain yielding from 1960s and beyond. To enhance yield crops, autumn and spring fertilizers are used. For the same reason herbicides, fungicides and growth regulators are applied. In nowadays, the most important priority is to point out the pathogen evolution (aggressively) and to associate it with wheat breeding programs. To enhance the resistance to various diseases a cooperative international effort between our neighbors as part of HURO/0801/133 program is taking place. The international efforts require free exchange of germplasm and new sources of resistant genes. During last Century yield and quality were the most important breeding objectives (Negulescu, 1984; Barabás, 1987). In addition, the genetic resistance or "inter-organisms genetics" become a breeding objective, but the selection pressure was low; it was the "era" of chemical control of diseases and pests. In the last 50 years, the powdery mildew, rusts or other diseases were almost forgotten due to the introduction of resistant new cultivars. As Săvulescu stated (1953) "there is a permanent interaction between host and pathogen, and their coevolution generate more tolerant hosts and more virulent pathogens". The Ug99 race of Black Stem Rust is an eloquent example. Ug99 appeared in Uganda (1998) and in short time was spread in Ethiopia, Kenya, Sudan and Yemen by wind-borne or man-borne introduction and, in the close future, will be in other areas as North Africa and Middle East Europe. In

Europe (UK), as well as in other countries, specific research programs started. No border exists for spores when “traveling”. Only a hard commune breeding work can prepare us to prevent them. The pathogen evolution is more rapid and for sure the “agriculture society” is not prepared to face this competition. There are two alternatives: to breed new varieties or to synthesize much stronger pesticides. The first one is expensive but friendly and healthy for environment, animals and humans respectively. The second one is expensive, as well and the “best pesticides” are unforeseeable for environment and health. The best example is DDT synthesis (1939) by Paul Hermann Müller, who has been awarded the Nobel Prize (1948 – “for his discovery of the high efficiency of DDT as a contact poison against several arthropods”). Due to its rapid spreading everywhere, especially in water and its long degradation time (15 years) it was prohibited in European West countries between 1970 and 1984. In USA, it was considered the worst pesticide and was interdicted in 1972. In our Country the same measures were adopted in 2002 (Order 396/707/1944). DDT is classified as the most aggressive poison for human health. The programs for disease resistance are improving by using modern breeding methods like gene transfer. To obtain tolerant varieties, it takes a shorter time now and it is less expensive than two decades ago.

In diseases evolution we see an alternance of pathogens presence. There are years when the powdery mildew is in “fashion” or there are rust’s, Septoria’s or Fusarium’s periods.

To be ready to prevent catastrophically lost of yield, as it was in starving years (1845 and 1851) in Ireland due to *Phytophthora infestans* (Bary, 1861), the breeders had to be prepared to face new and more virulent strains (see Ug99). For this important issue, like food safety, we need to collect information about disease evolution, pathogen virulence, good “gene donors” and wealthy “receptors” (high yielding varieties).

Our retrospective work tries to collect information about diseases incidence, their “appearance” and tolerance variability to *Erysiphe graminis* f. sp. *tritici*.

The most frequent leaves diseases, as well as powdery mildew, are caused by fungal pathogens. The successes in obtaining resistant cultivars consist in monitoring the nature of pathogen, and establish the presence and virulence in wheat populations. The fungal diseases of wheat leaves are obligate parasites.

The main goal of this work was to point out the diversity of reaction of different wheat accessions from our collection during 1960 – 2009 and the incidence in powdery mildew appearance. Important changes were observed and quantified.

## **DIOECIOUS HEMP VARIETIES DEVELOPED FROM SCDA LOVIN HAVE LARGE PRODUCTION CAPACITY AND LOW-THC**

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Although it is neglected in Romania, hemp is a plant with a great potential in terms of production strains, fiber, oil, seeds and energy.

In SCDA Lovin were created in two varieties of dioecious hemp, Lovin 110 (approved in 1981 and unapproved in 2008) and SILVANA (approved in 2008). Both are registered in the European list of varieties.

This report highlights the potential for production of two varieties in term of yields of stems, seeds and fibers.

### **BAKERY DIETETIC ASSORTMENTS OBTAINED BY CAPITALIZATION OF BY PRODUCTS OF MILK INDUSTRY. RESEARCH REGARDING THE INFLUENCE OF WHEY ADDITION OVER THE BAKERY PROPERTIES OF THE BREAD MADE OF WHEAT FLOUR AND BARLEY FIBERS**

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The research had the purpose to find possibilities of using whey, by product resulted from the milk processing, to obtain bread with improved properties. The results from the lab test showed the easting link between the working parameters addition of whey and barley fibers.

The barley fibers, by their compositional quality, can be considered a possible choice to obtain dietary baking products needed by the people with gluten intolerance. The use of the way can improve bread properties, in a positive way because of the protein content and lactose, resulting in obtaining uniform pores with an impact on its aspect.

An addition of whey in 30 % out of the necessary liquid water, with the use of the barley fibers in amount of maximum 6 %, under conditions of the following constant technological parameters: fermentation duration of 60 minutes, fermentation temperature of 36 °C, addition of yeast 3 % and NaCl 1.5 %, the last two being reported to the blend of flour.

### **STUDY ON FRUIT TREES BIODIVERSITY CONSERVATION IN ROMANIA**

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During the period between 1982 and 2010, at the SCDP Valcea, complex activities were organized on identification, collection, propagation, evaluation and implementation of national collections of genetic resources for *Prunus*, *Juglans*, *Castanea* and *Corylus* genera. National collections were established in the field, due to the specificity of clonal propagation of the crops of these fruit, including 844 *Prunus* accessions (593 of them being "original"), 131 *Juglans* accessions (69 "original" accessions), 111 *Corylus* accessions (35 "original" ones) and 29 *Castanea* accessions (15 being "original"). For crops of these fruit, the most successful technique for field conservation proved to be conservation in plastic containers (of 90 l capacity), these containers are buried in the soil and trees are covered with anti-hail nets. This approach offers several advantages over the other methods of conservation (collection standard method, cryopreservation, etc).

### **SIMULATION OF VINE BIORHYTHM BY SOFTWARE INTERPOLATION**

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"MATLAB" is a programming language, a developing system which integrates the calculation, the visualisation and the programming in an easy way. The problems and their solution are concurred in an available mathematical language. Starting from the experimental data, the accumulation of the dry substance, like a function of active temperature ( $\sum^{\circ}\text{C}$ ) and time (t), the software gets a function which brings the increase of vine  $\text{SU}(\sum^{\circ}\text{C}, t)$ , through interpolations with a very little step; so, this evolution can be empirically determined.

### **FORESTS FORESTS – EVOLUTION AND FUNCTIONAL CHARACTER**

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Pliny the Elder's statement „Woods is the greatest gift that God has for man”, is among the most suggestive and most appropriate statements regarding woods. During the Cambria, the conditions for the emergence of life on earth were created. During the glacial period, the high peaks of the Carpathians were covered with eternal snows, „one sylvan pine”, as the vast forests, due to their wide ecological amplitude. Their function of fixing solar energy and circulating materials is dominant and characteristic, representing the fundamental forest ecosystem, in addition to their protecting functions of mediogene, sanogenic, social and economic objectives.

## **GENETIC IDENTIFICATION OF MAIZE HYBRIDS BY MONODIMENSIONAL STARCH GEL ELECTROPHORESIS**

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In this paper, we conducted the identification of four maize lines: A188, A 239, MB 17 and W 703, using enzymatic markers; determinations are made by comparing F 251 and control A 632. To achieve this, it was performed using monodimensional starch gel electrophoresis separation fractions contained enzyme in protein extracts of the four lines of maize and identification of enzymatic pattern of bands 6 types of enzymes: malate dehydrogenase (MDH), acid phosphatase (ACP), izocitrat dehydrogenase (IDH), fosfoglucoizomerase (PGI), fosfoglucomutase (PGM) and catalase (CAT). They found significant differences in enzyme pattern of maize lines studied, both among themselves and against controls, the six enzyme systems examined, which allowed their fingerprints.

## **RESEARCHES REGARDING QUANTITATIVE SPECIFIC FEATURE VARIABILITY FOR SOME CULTIVATED VARIETIES AND CLONES IN DRAGASANI VINEYARD**

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At Dragasani S.C.D.V.V., there has been studied a quantitative specific feature variability, applying different types of pruning and load harvest for the following varieties and clones: Italian Riesling; Sauvignon 62 Dg; Pinot Gris; Selected Cramposia, Cabernet Sauvignon 7 Dg and Romanian Muscat 104 Dg. For Italian Riesling and Pinot Gris, it was applied a speronate type of pruning and significant deficiencies were established. For Selected Cramposia and Romanian Muscat 104 Dg Clone, significant positive results applying Guyot type of pruning on mid stem were obtained. A harvest load influenced quantitative specific features for the studied varieties, thus, applying a load of 10 eyes/m<sup>2</sup> to Italian Riesling, it was established a significant deficit. In case of Selected Cramposia varieties and Romanian Muscat clone 104 Dg, the harvest load had 29 eyes/m<sup>2</sup> and a very good results were established. For control, it was used a medium production of varieties.

## IATROGENICITY - A PRESENT DAY PROBLEM

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The author brings up the problem of iatrogenicity, which gives a summary of those sufferings which arise in connection with diagnostic and therapeutic modalities and procedures. Any medical act contains in its structure, an iatrogenic component that the doctor must know and master, just to minimize its effects to the utmost.

Iatrogenicity ranks an undesirable third position (after cardiovascular diseases and cancer), both in frequency and as material resources borne by society. The author reviews the main actors of iatrogenicity (error, misunderstanding and abuse), as well as the great director represented by and conditions in which the medical act is performed and concludes that the existence of iatrogenicity should not to be ignored, and that it has to be known and used as any other every day therapeutic techniques are.

## ECOLOGY AND MEDICINE. ALTERATION OF ENVIRONMENTAL QUALITY AND MAJOR MUTATIONS IN HUMAN MORBIDITY, IN THE CONTEXT OF PROMOTING THE CONCEPT OF SUSTAINABLE DEVELOPMENT AND OF THE TECHNOSPHERE – BIOSPHERE CLASH

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The paper presents some examples of the environmental pathology:

- ***Minamata disease*** - on the banks of a river in Japan.
- ***The Balkan endemic nephropathy***
- ***“The greenhouse effect” (“steam bath”)*** generates climate warming.
- ***Relation between drinking water crisis, deforestation and photosynthesis.***
- ***NIMBY syndrome – Not In My Back Yard (garbage and radioactive waste).***
- ***The pollution caused by the vehicles and by the flat heating stations***
- ***“Suceava Syndrome” (the sulphur-carbon pollution)***
- ***“The Protocol for Earth” (Rio de Janeiro) & Pollueur – payeur principle***
- ***Energetoprive psychosis & “the energetic weapon”***
- ***Environmental pathology & the necessity of “planet-therapy”***
- ***The human hope resides in an inexhaustible natural resources – the human intelligence***

## **ENTOMOLOGICAL PRODUCTS (THE ENTOMOTHERAPY) - A NEW ERA IN THE TREATMENT OF TUMOR FORMATIONS**

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Insect tissues (not their products such as honey bee, propolis, bee venom, etc) represent a source of biologically active substances that have a transforming action on some undesired lipoproteins (tumors) which may be eliminated from organism like a "nonsell". The inhibitory substances (natural cytostatics) extracted from tissues of some insect species at certain developmental stages have the properties of changing the lipoprotein structures of some tumor formations. For the first time, we have discovered that the biologically active substances from insects have action on human tissues too. This report presents some "biological operations" for removal of tumor formations (carcinomata, melanomata, sarcomata, adenomata, fibromata, etc) without pains and undesired signs.

## **MEDICINAL PLANTS IN BIBLICAL PRESCRIPTIONS**

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The aim of this paper is to carry out a correlative analysis between medicinal plants presented in essays, papers, events, biblical events and rituals as healing herbs and their use nowadays as a consequence of their phytochemical compositions, pharmacological action and their use in the therapy and prophylaxis of diseases. 11 medicinal plants have been selected and studied, starting from the biblical remarks of their existence and use in religious rites and body healing, and ending on scientific bases by presenting the phytochemical composition and their therapeutic use. We can see that, the identification and knowledge of the pharmacological action of the active principles from the medicinal plants selected and mentioned by the Bible are perfectly related to the therapeutic uses given by the biblical texts.

## **BIODIVERSITY AND UNESCO MAB PROGRAMME**

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Accelerated loss of biodiversity has led scientists, governments and conservation organizations to create a network of protected areas, biosphere reserves. In total, there are nearly 400 protected areas, representing human and ecological diversity of the planet. These sites represent the implementation of the "Man and Biosphere (MAB) program of UNESCO. Recognition of a territory as a Biosphere Reserve is the culmination of a rigorous procedure. A file (case) contains answers to a set of criteria: the species present and landscape as deserving protection, along with various human interventions, arrangement of appropriate coordination structures, scientific programs and the formal agreement of representatives of the local population. Then the file is discussed and approved by UNESCO-MAB courts. Biosphere reserves are reviewed every 10 years. Unlike all other protected areas (national parks, natural parks, nature reserves, etc. whom central aim is nature protection and which do not include human settlements), biosphere reserves have two objectives: protecting nature and quality of life. Biosphere Reserve is assisted by a Steering Committee / Technical. Reserves play a role in the economic, social, maintaining quality and richness of nature and local culture. Reserve area is variable, from several thousand to more than thirty million hectares in Brazil as Mata Atlantica. Danube Delta, Retezat, Pietrosul Rodnei, three biosphere reserves of Romania are becoming examples of human coexistence with nature.

### **STUDY OF HEAVY METAL FROM ENVIRONMENTAL SAMPLES BY ATOMIC TECHNIQUES**

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Heavy metal (Cd, Cr, Ni, Pb, Ti, Sr, Co, Bi) contents of eight wild mushrooms (*Amanita vaginata*, *Amanita rubescens*, *Amanita phalloides*, *Armillariella mellea*, *Armillariella tabescens*, *Agaricus campestris*, *Hypholoma fasciculare*, *Hypholoma pudorinus*) and soil samples, of ten forest sites from Dambovita County Romania, were determined. The elements were determined by Atomic Absorption Spectrometry (AAS) and Energy

Dispersive X-ray spectrometry (EDXRF) techniques in 48 samples of eight fungal species and 32 underlying soil samples. The elements, especially heavy metals, in soil were characteristic to the acidic soils of the Romanian forest lands and are influenced by industrial pollution.

Analytical possibilities of EDXRF and AAS analytical techniques have been compared and the heavy metal transfer from substrate to mushrooms has been studied. The coefficient of accumulation of essential and heavy metals has been calculated as well. Heavy metal contents of all analysed mushrooms were generally higher than previously reported in literature.

### **MEDICINAL PLANTS OFFALS USED IN THE DEPOLUTION OF THE WASTE WATERS INFESTED BY HARD METALS**

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This paper includes a simple method for the cleaning of the waste waters infested by hard metals, using medicinal plant waste from extraction processes.

To complete this work, we used powder of medicinal plants resulted from extraction processes obtained by drying wastes and then crushing them. To analyze the results, FT IR spectral photometric methods were used, using the Varian Spectral Photometer device 640-IR and spectroscopic methods of atomic absorption, using the atomic absorption spectral photometer AA-6200 Shimadzu.

### **HYDROGEN – ONE OF THE ALTERNATIVE FUELS**

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In this paper, the author presents the future of an alternative fuel– the hydrogen. The paper starts with a short history of the hydrogen economy and after that it tells us about hydrogen generation, storage and utilization and about fuel cell. The main part of the paper is about hydrogen energy achievements (vehicle engines, residential heating systems, power station) and about the main obstacles in the implementation way of the hydrogen energy (lowering the cost of hydrogen energy production, creating affordable hydrogen fuel cells, effective hydrogen storage, infrastructure implementation and the need for global safety and standard regulations in this field). The paper finishes with conclusions, the main conclusion being that hydrogen and fuel cells have the potential to change the world of energy technology, to solve several major challenges facing the world.

## **ASSESSMENT OF SOIL DENSITY AND MOISTURE BY NUCLEAR METHODS**

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A brief overview is made on the various methods of measuring soil density and water content, hopefully only those regarded as being useful. Some emphasis is put on the principles and performances of the nuclear methods: neutron scattering and gamma-ray attenuation. The principle of a new method of simultaneously determining both the moisture content and the dry density by incoherent (or Compton) backscattering of gamma radiations is also presented.

## **IMPACT OF ENERGETICAL ENGINEERING ON HEALTH AND ENVIRONMENT**

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This paper handles the impact of energetical engineering on health and environment. Here are described the electrical networks and the emissions of pollutants in the atmosphere, the environment policy, it is presented the structure of Transelectrica environment report, the generation of electromagnetic field and the influence of electromagnetic fields on bio-organisms.

## **SUSTAINABILITY TRENDS IN BUILDING WITH ECO-FRIENDLY MATERIALS**

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Partial substitution of the Ordinary Portland Cement (OPC) with mineral admixtures is an acknowledged procedure to build with concrete of low environmental impact. The identification of the basic criteria for an ecological construction product is correlated with the manufacturing process of the traditional cement to obtain the necessary technological adjustments for new cements based on specific study and analysis. The paper presents the recent research of a new generation of cements, the eco-friendly cements, and the domain of use where OPC can be totally replaced, at superior working parameters.

## **ANALYTICAL EVALUATION OF CRACK PROPAGATION FOR BULB HYDRAULIC TURBINES SHAFTS**

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The Hydroelectric Power Plants uses the regenerating energy of rivers. The hydraulic Bulb turbines running with low heads are excellent alternative energy sources. The shafts of these units present themselves as massive pieces, with cylindrical shape, manufactured from low-alloyed steels. The paper analyzes the fatigue cracks occurring at some turbines in the neighborhood of the connection zone between the shaft and the turbine runner flange. To obtain the tension state in this zone ANSYS and AFGROW computing programs were used. The number of running hours until the piercing of the shaft wall is established as a useful result.

## **INFLUENCE OF GREAT HYDRAULIC WORKS UPON NATURE AND MANKIND**

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The great hydraulic works represent heavy environmental modifications and influence both humans (during the construction and the utilization) and nature. The present paper compares these influences for two such works, the Suez Canal and the Panama Canal. Both are relatively recent, have the same purpose (the increase of the East-West trade) and were initiated by Ferdinand de Lesseps. The possibility of realization was analyzed long time before the beginning of the work. Both works are sources of huge incomes and created endless disputes between the great powers. The forecasted increases level of the planetary ocean will affect these works.

## **WOOD, RENEWABLE RESOURCE OF GREEN ENERGY**

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The paper presents a study upon the non-industrialized wood in Romania, as a result of forest exploitation and specific industrial wood processing. The huge volume of resulted wood may constitute a significant source of energy, if an adequate policy of capitalization is applied, thus assuring an independent power supplying system. The characteristic of renewable material from wood constrains to a higher attention granted to the forest, which is at the same time the base of the chemical equilibrium of the atmosphere.

## **FOREST SPECIES USED IN PHYTOREMEDIATION PROCESS**

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The content in radionuclides in an uncontaminated area (Arginesti-Picu), on the sterile waste dump and ash waste dump from the TEPP-Rovinari (Gorj district) was analysed. The analysis of the leaf ultrastructural features in the two species is carried out, pointing out some peculiar characteristics of the phytoaccumulation species. In the leaf parenchyma in *Robinia pseudoacacia* var. *oltenica* species, an aeriferous circulatory system is present. In the seedlings developed on the ash waste dump system, it was recorded the presence of two different crystallization substances probably of exogenous origin, those being absent in Control. Also, the phytoferritin synthesis is enhanced, being stimulated by a great amount of radionuclides and heavy metals from environment. Similarly, in some parenchymatic cells, as well as in the vessels of the circulatory system from the leaves of *Salix alba*, developed on ash waste dump, some exogenous substances, absent from Control leaves, were present.

We will show that, in spite of the development of new code numerical methods, which in their early version was prohibitive even on sophisticated computing architectures such as the HPC, now it becomes fully tractable. Now, it takes only a few minutes to produce results which are more accurate by three decimal figures.

This achievement (authors: L. Gr. Ixaru, N. S. Scott and P. Scott) has been rated as outstanding by the EPSRC panel (UK) and was awarded the HPC Prize by the UK High End Computing Strategy Committee, in 2006.

## **THE SEISMIC PHENOMENON IN THE CARPATHO-DANUBIAN-PONTIC REGION AND THEIR CONSEQUENCES ON THE BEHAVIOUR OF INHABITANTS OF THESE PARTS**

Dan Ion PREDOIU<sup>1</sup>

<sup>1</sup>Ph.D., Eng., Member of Academy of Romanian Scientists

The Romanian territory is placed on four tectonic plates (picture 1), the crossing point of which is situated in Vrancea region, under the curvature of the Carpathian Mountains, at an approximate depth of 70-170 km.

The tectonic plates lie on a reogen (flowing lava-like material A/N) and magma layer and move in opposite directions, constituting a constant source of earthquakes.

The particularity of catastrophic earthquakes is a low-speed vibration period, which mainly affects high buildings.

Due to this particularity of earthquakes on the territory of Dacia, the walls were made up of two stone block facings, bound with wood logs, filled with clay and unprocessed rock, 3m wide and 4-5m high (Murus Dacicus), which ensured a high stability during earthquakes in the area.

Following the statistic data analysis, it was concluded that the trigger for catastrophic earthquakes in Vrancea region occurred at an average time span of 169.4 years, close to the dates of the alignment of the planets in the solar system.

## DISATERS AND THE WORLD INSURANCE

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Crossing times is dazzling, effervescent company is in an accelerated movement, everything improves and is complicated, everything is renewed. Destruction of the two twin towers of New York, terrorism, devastating earthquakes, tsunamis are just some things no one thought a decade ago. The worst disasters are all new. The Icelandic volcano eruptions "with names impossible to pronounce" put the thoughts on the Brussels superleaders, who have only now found out that the **"EU lacks a coherent program to deal with natural disasters."**The man is stronger and we need to ensure, not by companies but at a high, specialized scale, having the ability to replace the damage, protect the environment and enable people rebuild their lives better and create more beautiful world.

## MATHEMATICAL METHODS FOR THE OPTIMIZATION OF THE AEOLIAN AND HYDRAULICS ENERGIES WITH APPLICATIONS IN HYDRO-AERODYNAMICS

Mircea LUPU<sup>1</sup>

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People's life and activity in nature and society depend primary on air, water, light, climate, ground and on using the aeolian, hydraulic, mechanic and electrical energies, generated by the dynamics of these environments. The dynamics of these natural phenomena is linear and mainly non linear, probabilistic – inducing a mathematical modeling – for optimal control, through equations of great complexity. In this paper, the author presents new mathematical models and methods in the optimization of these phenomena with technical applications: the optimization of the hydraulic, aeolian turbine's blades or for the eliminating air pollutants and residual water purification; the actions of hydropneumatics (robotics) to balance the ship in roll stability, optimizing the sails (wind powered) for extreme durability or propelling force, optimizing aircraft profiles for the drag or the lift forces, directing navigation, parachute brake, the wall, etc. The scientific results are accompanied by numerical calculations, integrated in the specialized literature in our country and abroad.

## **ENVIRONMENTAL SECURITY - COMPONENT OF NATIONAL SECURITY FORESHADOWING OF ECOLOGIC ELEMENTS CONTENT IN NATIONAL SECURITY STRATEGY**

Constantin MINCU<sup>1</sup>

<sup>1</sup>Ph.D., Member of Academy of Romanian Scientists

This material presents a series of political, economic and social arguments regarding to the environmental protection actions on in the context of the society development. It demonstrates that environmental security is an essential component of national security. The thematic approaches in the acceptance of international organizations (UN, NATO, EU), but also of major state actors, are highlighted.

Various military activities in peacetime, crisis and war, affecting the environment at local, regional and global level, and can even threatening life on our planet, in some cases. The material tries to bring into attention of the political and military decision makers that is necessary to reduce and ultimately to eliminate the destructive actions of some human activities that generate negative effects on medium and long term.

In the last part some assessments are made regarding the environmental dimension within the Romanian National Security Strategy.

## **THE INFLUENCE OF GEO-CLIMACTIC FACLORS ON MILITARY ACTIONS**

Nicolae CIOBANU<sup>1</sup>

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The present communication briefly reviews the geo-climatic factors specific to the territory of România. Their main characteristics, such as duration, direction, minimal and maximum persistence, as well as the measures to be taken in order to diminish them are duly highlighted.

The main geo-climatic factors considered in the present paper are precipitations (rain and snow), and general weather phenomena such as cloudiness, fog and mist, winds and blizzards, temperatures, daylight duration, etc. The greatest part of the communication is dedicated to analyzing the influence these factors exert on military actions, the employment of weapons and weapon systems, on the morale and determination of the troops.

We have analyzed each geo-climatic factor and we have pointed to both positive and negative consequences on the movement and the deployment of troops and on the development of the combat, and we have drawn the adequate conclusions that allow for the streamlining of military activities in any climatic conditions.

## **CRISIS MANAGEMENT IN SHIPPING AREAL**

Ștefan Georgescu<sup>1</sup>, Răzvan Stoleru<sup>2</sup>

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The IMO's Ship International and Port Facility Security Code come into effect on 1 July 2004. Its implementation at this data tubing to major implications for the security of maritime commerce.

ISPS represents the major contribution at the management of crazies in the field of maritime activity.

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**ACADEMIA OAMENILOR DE ȘTIINȚĂ DIN ROMÂNIA**



**Rezumatele comunicărilor prezentate la  
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"OMUL ȘI NATURA"  
organizată de Academia Oamenilor de Știință din România  
și de Universitatea „BIOTERRA”**

**21-22 mai 2010  
Neptun, Pădurea Comorova**