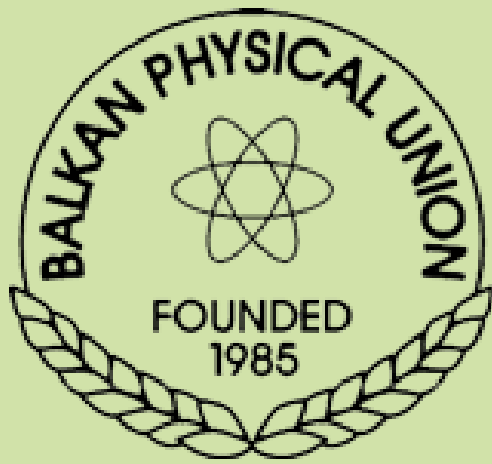


# THE ROLE OF PHYSICS IN BALKAN and BALKAN PHYSICAL UNION

*Gediz Akdeniz, Yeşim Öktem and Baki Akkuş*

**Istanbul University**

*IBAC 2013  
10-13 October 2013, Sarajevo*



The idea to found the Balkan Physical Union was first by Prof A.Milojevic (Yugoslavia) and Prof. I Ursu (Romania) at the VIII Congress of the Union of Yugoslav Societies of Mathematicians, Physicists and Astronomers (UYSMIPA), held in Pristina (Yugoslavia) in Nov. 1985.

The first Balkan Physical Union Council meeting was held in Bucharest in 1987 (after EPS Dresden Conferance), when the Constitution of the BPU was signed by the Balkan National Physical Society delegates from Albania, Bulgaria, Greece, Romania and Yugoslavia. Turkey's signature was accepted later in 1988.



**Prof. Ioan Ursu; the first president of the Balkan Physical Union, 1985-1989 (Romania)**



Gediz Akdeniz (1989-1997), Council Meeting in Istanbul (1989)





**The end of Cold War in 1989. But, still uncertainty period of Balkan Countries. During this period, Turkish Physical Society (TFD ) did his best for BPU surviving and becoming one of the important scientific NGO at Balkans. And helped physicists via Balkan Science Societies.**



**BPU Council Meeting in Tirana (1990)**





## BALKAN PHYSICAL UNION

### BPU TIRANA DECLARATION 22 - 23 NOVEMBER 1990, TIRANA

The Balkan Physical Union, as an International Scientific non-governmental organisation according to its Constitution at the meeting held in Tirana on 22-23 November, stated the following

#### DECLARATION

The Balkan Physical Executive Committee founded Balkan Physical Research Centre, which is composed by the affiliated Research Centres in Balkan Countries and coordinated by the Balkan Physical Union Executive Committee, in order to promote and to take in charge to increase the level of science and improve the exchange of knowledge and information and to establish links among the scientists which may lead to work together on joint research projects and common programs in the Balkan Countries.

Prof. K.G.Akdeniz  
President of BPU

Prof. Dj.Bek-Uzarov  
Delegate UYSTMA YUGOSLAVIA

Prof. A.Lambros  
Delegate HPS Greece

Prof. R.Mejdani  
Delegate APC Albania

Dr. M.N.Erduran  
Delegate TPS Turkey

Prof. A. Corcioi  
Delegate Romanian Physical Soc. A. Corcioi

Prof. I. Zlatev  
DELEGATE UBP BULGARIA

**TIRANA DECLARATION (1990): "The promotion and improvement of science and exchange of knowledge and information through links pending to be established among scientists which will lead to joint research projects and common programs in the Balkan countries"**



**Following the Tirana Declaration: The first General Conference of the Balkan Physical Union, BPU I, held in Thessaloniki, Greece, 12-14 September 1991**



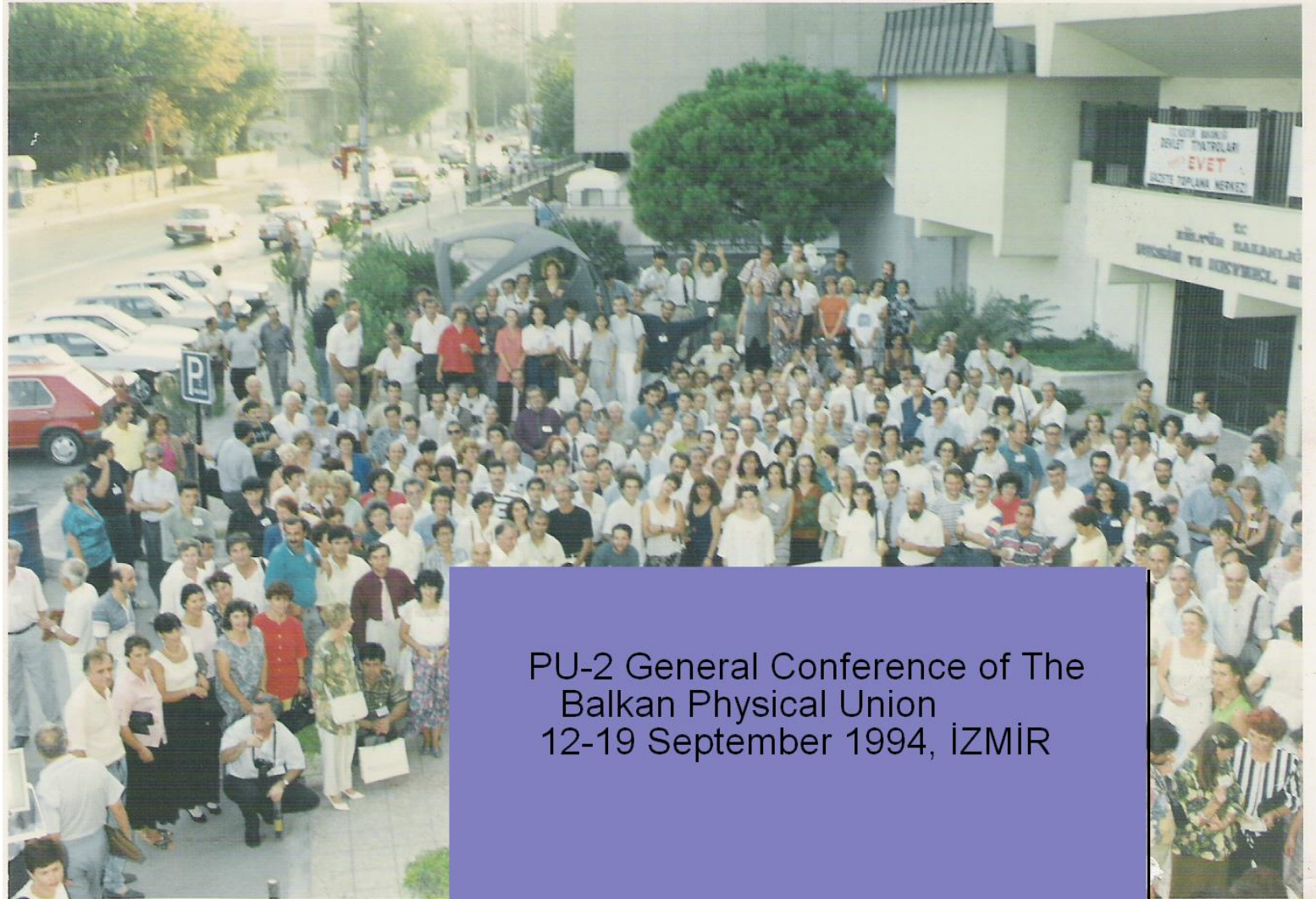


600 Balkan physicists for the first time in history of science in the Balkans.



Turkish Delegates in First BPU Conference in 1991  
visiting Mustafa Kemal House in Thessaloniki





PU-2 General Conference of The  
Balkan Physical Union  
12-19 September 1994, İZMİR

**800 physicists from the Balkan Countries and  
the First BPU Student Conference**





**Dayton Peace Conference -November 1995**  
(Trieste, Rijeca, Split, Mostar, Sarajevo via Igman Mn.)  
(After 18 year)







The Bogazici University Center for Turkish Balkan Physical Research and Applications (1993 -





Abdussalam, Director of ICTP-Trieste  
signed an Agreement with BPU in 1991

# Collobrations:

Aristotle University in Thessaloniki and NCSR Demokritos, Athens.

Sofia University and Bulgarian Academy of Sciences,

Institute Fisika Atomica Bucharest and Constanta University,

Istanbul University, Trakya University , Yıldız Technical University,  
Osman Gazi University. and others

Collaborations with European Research Center

# Under BPU's coordination, the Balkan Physics Research Centers;

- BERDI at Aristotle University in Thessaloniki
- CTBP at İstanbul Bogaziçi University (1992-1999)
- TESLA
- Center of the Balkan Institute of Metrology at the Vincha Institute.  
Belgrad
- Balkan-CERN working group.



# BALKAN PHYSICS LETTERS (BPL)

Founded in 1987 (The first Editor-in-Chief, E. Dorobancu, Romania).

But, the first issue of Balkan Physics Letters was published in 1993 in Turkey.

The Editor-in-Chief from 1993 to 2001 was E. Rızaoglu, and since 2002 is [E. Arik](#). [J. Freely](#).



Kiril Serafimov

-BPU-1 General Balkan Physics Union Conference in Thessaloniki, Greece (1991).

-BPU-2 Izmir, Turkey (1994).

- BPU-3 Cluj, Romania. (1997).

(The new constitution)

-BPU-4 Veliko Trnovo, Bulgaria (2000).

-BPU 5 Vrnjacka Banja, Serbia and Montenegro (2003).

-BPU-6 Istanbul, Turkey (2006).

-BPU-7 Alexandroupolis, Greece (2009).

-BPU-8 Constanta, Romania (2012).



# current activities

-BPU Balkan School of Physics on "Condensed Matter Physics",

(2.nd held in Tirana, in September 1992. This school was the first international activity of Albanian Physics History.)

-BPU Balkan Physics School on "Accelerator Physics Research and Applications “

-International Student Conferences of the Balkan Physical Union

10th International Student Conference of the Balkan Physical Union

3-5 September 2013 İstanbul University, Science Faculty, Istanbul, Turkey

# Member Societies

- **Albanian Physical Society**
- **Union of Physicists in Bulgaria**
- **Cyprus Physical Society**
- **Hellenic Physical Society**  
**Society of Physicists of Macedonia**
- **Moldovan Physical Society**
- **Physical Society of Montenegro**
- **Romanian Physical Society**
- **Serbian Physical Society**
- **Turkish Physical Society**

# **BPU PRESIDENTS**

**Ioan Ursu; 1985-1989 (Romania)**

**K. Gediz Akdeniz; 1989 -1997 (Turkey)**

**Christos Zerefos; 1997-2003 (Greece)**

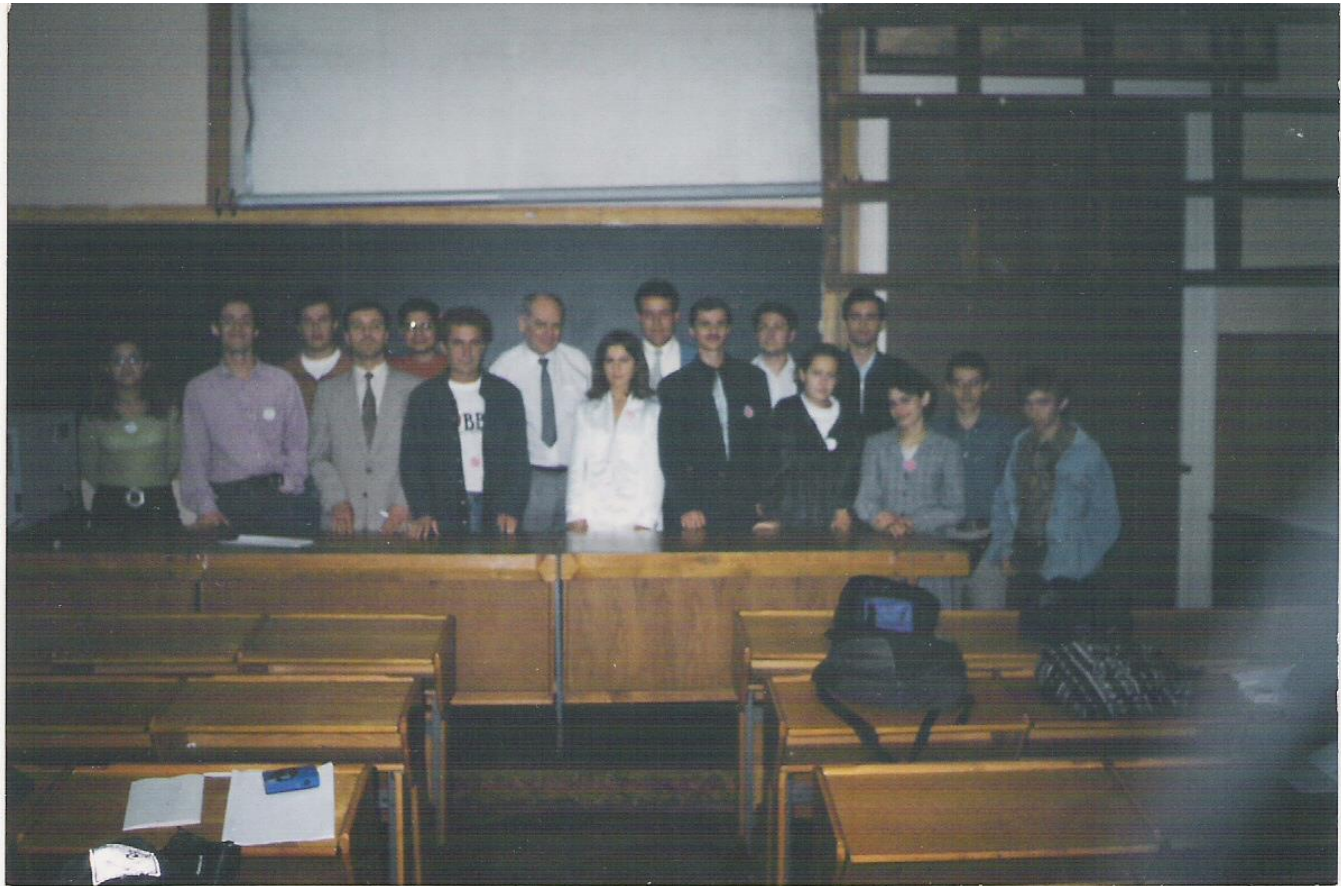
**Ivan Lalov; 2003-2006 (Bulgaria)**

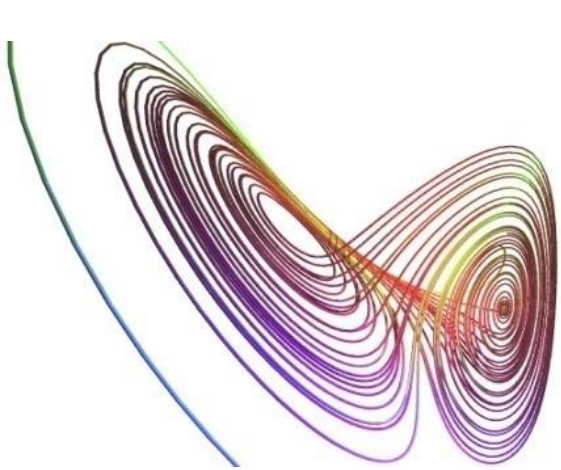
**Metin Arık; 2006-2009 (Turkey)**

**Ciupina Victor; 2009 - 2012 (Romania)**

**Yaşim Öktem; 2012- (Turkey)**





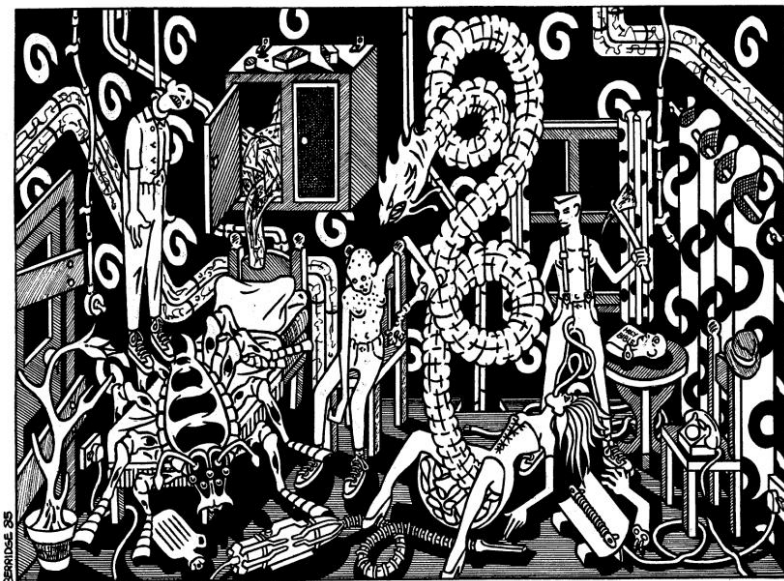


# The revolution of Chaos Theory

**Chaos-Cosmos Duality has been deconstructed**

The chaos theory have proved that Newtonian mathematical technology (calculus) had limited applications.

- 
- The revolution of chaos theory led the way of the non-linear sciences (**post-modern science!**) such as simulation theories, complexity science and self-organization to shake hegemony of modernity.
- The modern simulation mechanisms (i.e. progress, optimism, rationality, absolute knowledge) in social and human sciences rapidly started to lose power.
- 
-



Deconstruction begins everywhere. All identities disappear. Linear simulation mechanisms (modern) such as othering, revolutions, utopias or orientalism are not needed anymore.

Non-linear and non-positivist movements begin to be defined in social systems as being important for finding new life (post-modernizm).

*P. Anderson, The Origins of Post Modernity, Verso Books, London, (1998); P. Cilliers, Complexity and Postmodernism, London: Routledge, (1998)*



# ARE BALKAN SCIENCE SOCIETIES READY FOR NEW AGE?

## SCIENCE OF ALL SCIENCES

**1. CYBORG SCIENCE (BIG SCIENCE)**

**2. NON-LINEAR SCIENCE  
(Complexity Science)**

# 1. CYBORG SCIENCE

One can realize many signs that the science community point to the beginning of Cyborg Science and Cyborg Education.

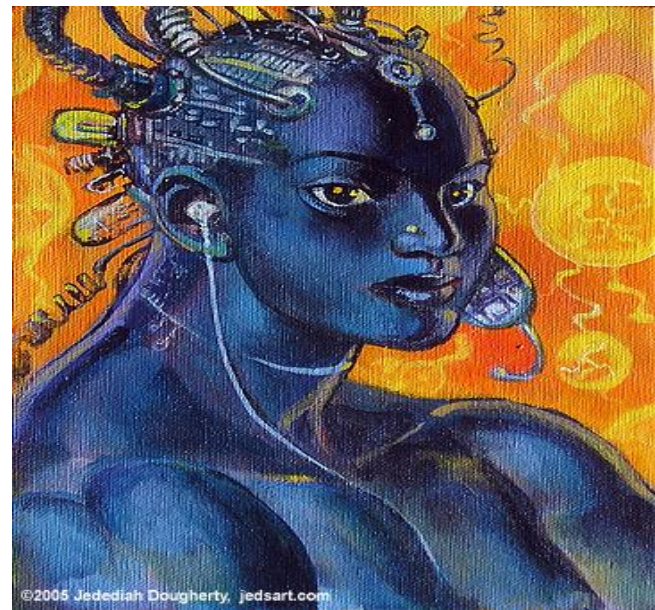
- Its fundamental character is to take the computer as paradigm?
- It is the unity of Nature and Social Systems (post-structural).
- There is no difference between reality and simulacrum (deconstruction).
- It is the heritage of both order and disorder with global modern information.
- It is the computarized form of westren knowledge and it is the memory of westren knowledge
- It has a “Big Science” scale; from macro universe to micro universe and it is high energy-dependence. It needs more machines and more energy.

-P. Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science*, Cambridge University Press, New York (2002).

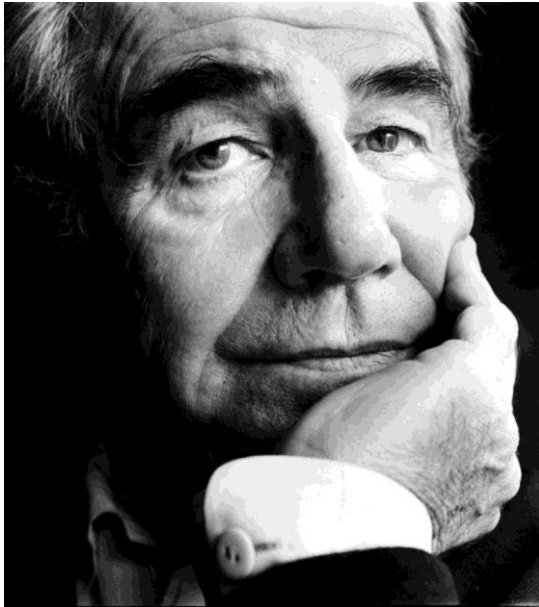


- **2. NON-LINEAR SCIENCE (COMPLEXITY SCIENCE)**

- -Its fundamental character is to take the computer as paradigm?
- -to study complex systems; from human cells to cancer tumours, from financial movements (money!) to global crashes in world market (petroleum!), from traffic jams (Istanbul traffic is good example!) to guerrilla actions (suicide bombers!).
- It is the unity of Nature and Social Systems (post-structural). There is no difference between reality and simulacrum (deconstruction).
- -It is the heritage of both order and disorder with private (human) information.
- It is the computarized form of western knowledge and it is the memory of western-eastern knowledge
- It has a “Small Science” scale; from micro universe to macro universe and it is not high energy-dependent. Fasted computers dependence.







# **We are living in simulation world.**

**Jean Baudrillard**

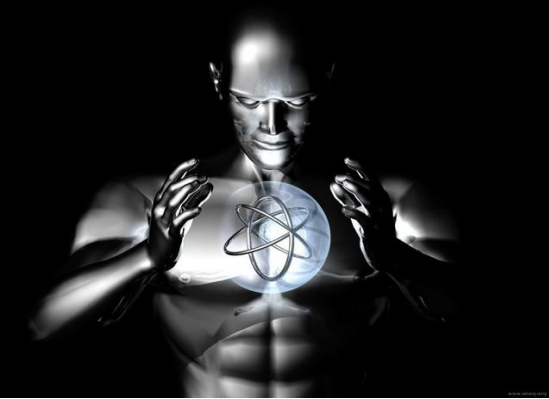
**What is simulation in human life?**

- The world of human and whose life and behaviors, becomes more and more complex every day and it is simulated by under the storm of knowledge (media, tv, cinema, internet, governmental and non-governmental organizations, football, etc...).

**Deconstruction in “simulaton world** is already started everywhere, every human system in every respects and in every scale. (in science, in social systems, in litaruture, in cinema...)

- 
- **Global one is conflicts between civilizations.**
- **One can not claim that scientists will stay away from the deconstruction metaphor in simulation world and not lose the identities that they had gained possessions with.**

**Of course, the conflicts between simulacra (Jean Baudrillard theory) and zuhurs (Chaotic Awareness theory) will be in science and education world too:**



# New identities in Science



## CYBORG SCIENTIST

## POST-PHYSICIST

### • CONFLICTS BETWEEN CYBORG SCIENTIST AND POST-PHYSICIST

- According to the simulation theory of Baudrillard, scientists who will be not involved in the Cyborg Science- Cyborg Education can not be the hyper-reality of a simulation world, can not replace a reality in modern world, and can not contribute to the continuity of the big science in the simulation world.

According to the DSHB simulation theory, post-physicist will not participate in schizophrenically uncertain experiments for the global technology and energy domination. The manifest, with could be considered post-utopic text in salvation of the humanity as well as being a critic of the scientific abd educational world of the future.

- K. G. Akdeniz, *The New Identities of the Physicist: Cyborg-Physicist and Post-Physicist* Proceedings of the World International Conference of Technology and Education (WICTE-2010), Beirut-Lebanon (2010).





Collective "Seed bombing" events



People's Initiatives



Collective strawbale building



Syntagma Square  
"Indignados"



Ecofestival at  
Marathon



Public Assembly  
Embros Theater



Ecofestival at  
Istiaia, Evia



A "public" dinner in  
Psyrri neighborhood



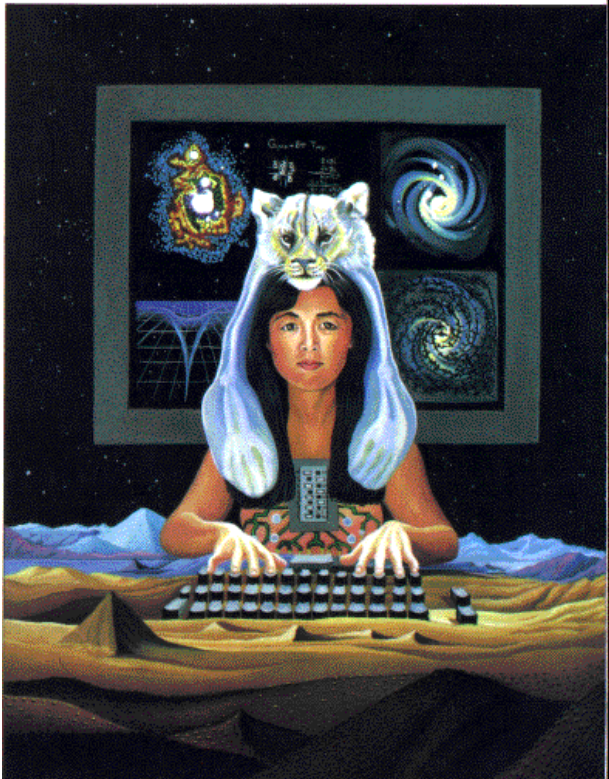
The Navarinou  
parking-turned-into-a  
park initiative

# "COMMUNITARIANISM"





Direct democracy (Pure democracy)



Post-modernists, began to criticize the projects of modernity. They claim that such studies have changed our worldview.

And new organizations and new ideas for the open democracy and education

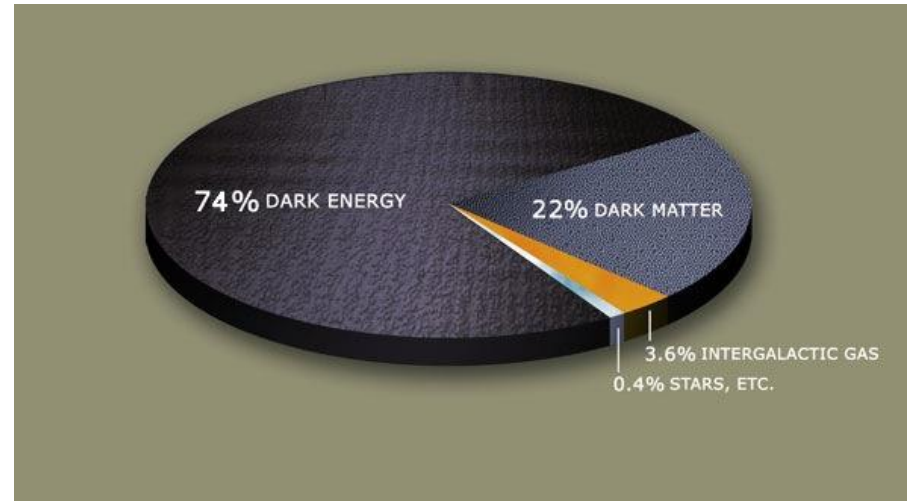
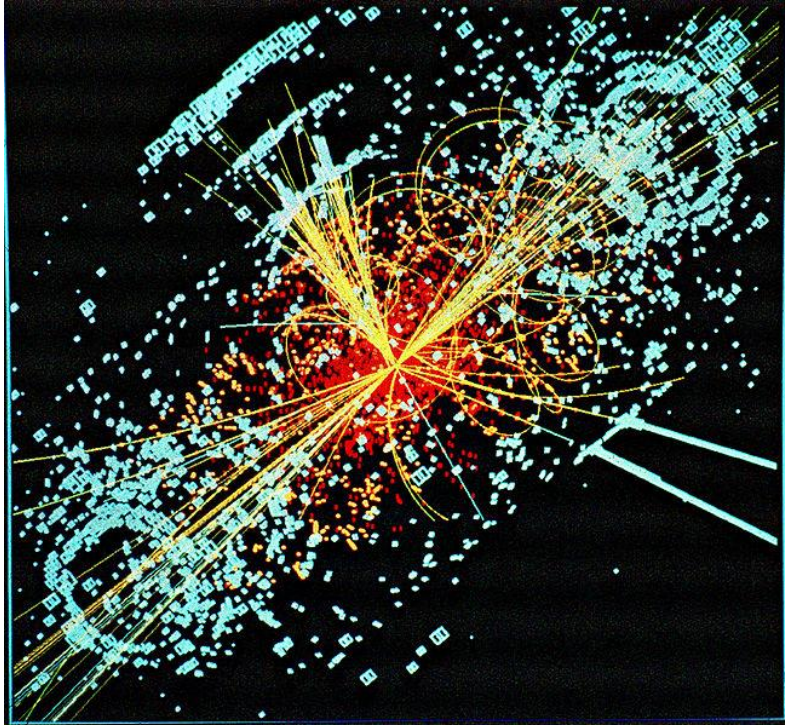
Direct democracy (Pure democracy)

Balkan as more sensitive region

*P. Anderson, The Origins of Post Modernity, Verso Books, London, (1998); P. Cilliers, Complexity and Postmodernism, London: Routledge, (1998)*



# Questions is still OPEN!



-Dark Matter  
-Dark Energy

- -Higgs Particle (God's Particle)
- -Standart Model (Gauge Theories)

# The new roles of BPU in future

- To be founder member (leading) of the Balkan Multidisciplinary Science Societies.
- To be in key role for the multidisciplinary Balkan projects for the science of all sciences.
- To be in active role in the world of scientific communities for the new scientific identities

# The new roles of BPU in future

- Direct Democracy** (Pure democracy) in BPU to decide participate in Global Scientific Organizations, in Big Science Centers and in Global Educations.
- To be coordinator in Balkan Scientific **COMMUNITARIANISMS.**
- **To be active in Social Media**



**THANKS-HVALA-TEŞEKKÜRLER**



# References

- [1] S. Ziauddin, *Thomas Kuhn and The Science Wars, Postmodernism and Big Science*, eds. R. Appignanesi, (The Icon Books, United Kingdom, 2002); K. G. Akdeniz, Globalization in Physics and it's Role in South, in *Proc. to the International Conference on New Technologies in Physics Education*, eds, J.Huo and S.Xiang, Hefei, China, p. 221 (1999).
- [2] P. Mirowski, *Machine Dreams: Economics Becomes a Cyborg Science*, Cambridge University Press, New York (2002).
- [3] P. Anderson, *The Origins of Post Modernity*, Verso Books, London, (1998); P. Cilliers, *Complexity and Postmodernism*, London: Routledge, (1998)
- [4] K. G. Akdeniz, Essays in [www.gedizakdeniz.com](http://www.gedizakdeniz.com) and *Disorder in Complex Human System*, Proceedings of the Conference in Honour of Murray Gell-Mann's 80th Birthday Quantum Mechanics, Elementary Particles, Quantum Cosmology and Complexity, edited by H Fritzsche and K K Phua, World Scientific Publishing, p. 630-637 (2010)
- [5] K. G. Akdeniz, *Post-Physicist Manifesto*, Istanbul University Sociology Journal, v. 3, p.15 (2007) and *The New Identities of the Physicist: Cyborg-Physicist and Post-Physicist* Proceedings of the World International Conference of Technology and Education (WICTE-2010), Beirut-Lebanon (2010).
- [6] M.M. Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos*, Simon&Schuster, New York, (1992) and N. Johnson, *Simply Complexity*, Oneworld Publications, Oxford (2007) and *Sociology and Complexity Science*, B. Castellani & F. W. Hafferty, Springer-Verlag Berlin (2009).
- [7] M. Mason, *Complexity Theory and the Philosophy of Education*, John Wiley and Sons, UK (2008)
- [8] F. Heylighen, P. Cilliers & C. Gershenson, *Complexity and Philosophy*, <http://arxiv.org/ftp/cs/papers/0604/0604072.pdf> (2006)
- [9] Robert Axelrod, *Advancing the Art of Simulation in the Social Sciences*, Japanese Journal for Management Information System, Vol. 12, No. 3 (2003).
- [10] J. Baudrillard, *Simulacra and Simulation*, University of Michigan Press, Michigan (1995)
- [11] D. Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature*, Routledge, New York (1991).