

# Eva Deli

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I have co-authored more than 40 peer-reviewed publications during twenty years in molecular biological research and over a decade in consciousness science. My research has led me to develop the Fermionic mind hypothesis, which applies the tools of physics to provide a coherent approach to understanding consciousness and emotion regulation.

## Contact:

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## Skills:

Consciousness research

Chemical engineering

Photoshop

LaTeX

## Languages:

Hungarian

English

French

## **Work experience:**

— **2010-present: Independent Scholar, Self-employed, Phoenix, AZ**

Collaboration to understand the physical basis of consciousness.

— **1999-2011 Scientific Adviser, Zoltan Laboratories LLC, Austin, MN 55912**

Participated in the development of novel cancer drugs

— **1989-2000 Scientist, Hormel Institute, University of Minnesota**

Investigating the role of lipids in cancer growth

— 1987-89 Scientist, Red Cross research Laboratories, Rockville, MD

Studies with Insulin-like growth factor 2 by using antibodies

— **1985-87 Scientist, Emory University, Atlanta, GA**

Studying the role of protein kinase c in cancer

## **Education:**

— **1983-85 Hungarian Academy Scholarship, Pannon University, Keszthely, Hungary**

Studied the effects of agrochemicals on embryonic development in birds.

— **1981-83 Agrochemical Engineering, Master of Science, Pannon University, Keszthely, Hungary (Graduated cum laude)**

## Publication list:

### **Molecular Biology – Cancer Research**

1. **Deli, E.**, and Varnagy, L. Comparative teratological study of insecticide Wofatox 50 E.C. (50% methyl-parathion) on chicken and pheasant fetuses. (1985) Anatomischer Anzeiger, 1985, Jan 01.
2. Deli, E., and Varnagy, L. Teratological examination of Wofatox 50 E.C. (50% methylparathion) on pheasant embryos. (1985) Anatomischer Anzeiger, 1985, Jan 01.
3. **Deli, E.**, Somlyay, I., and Varnagy, L. Biochemical study of muscle samples from chicken embryos affected by Wofatox 50 E.C. (1985) Archives of toxicology. Supplement, 1985, Jan. 01
- 4 **Deli, E.**, and Kiss, Z. The effect of organophosphorous insecticide Wofatox 50 E.C. on the adenylate cyclase activity of chicken embryo muscle. (1985) Biochemical pharmacology. 1986, May 01.
5. **Deli, E.**, and Kiss, Z. The effect of organophosphorus insecticide Wofatox 50 E.C. on the adenylate cyclase activity of chicken embryo muscle (1986) Biochem. Pharmacol. 35, 1603-1605.
6. Kiss, Z., **Deli, E.**, Shoji, M., Koeffler, P., Pettit, G. R., Vogler, W. R., and Kuo, J. F. Differential effects of various protein kinase C activators on protein phosphorylation in human acute myeloblastic leukemia cell line (KG-1) and its phorbol ester-resistant subline (KG-1a) (1987) Cancer Res. 47, 1302-1307.
7. Kiss, Z., **Deli, E.**, Vogler, W. R., and Kuo, J. F. Antileukemic agent alkyl lysophospholipid regulates phosphorylation of distinct proteins in HL60 and K562 cells and differentiation of HL60 cells promoted by phorbol ester (1987) Biochem. Biophys. Res. Commun. 142, 661-666.
8. Kiss, Z., **Deli, E.**, and Kuo, J. F. Cyclic AMP-like effects of polyamines on phosphatidylcholine synthesis and protein phosphorylation in human promyelocytic leukemic HL60 cells (1987) FEBS Lett. 213, 365-371.
9. Kiss, Z., **Deli, E.**, Girard, P. R., Pettit, G. R., and Kuo, J. F. Comparative effects of polymyxin B, phorbol ester and bryostatin on protein phosphorylation, protein kinase C translocation, phospholipid metabolism, and differentiation of HL60 cells (1987) Biochem. Biophys. Res. Commun. 461, 208-215.

10. **Deli, E.**, Kiss, Z., Wilson, E., Lambeth, J. D., and Kuo, J. F. Immunocytochemical localization of protein kinase C in resting and activated human neutrophils (1987), FEBS Lett. 221, 365-369.
11. Kiss, Z., **Deli, E.**, and Kuo, J. F. Phorbol ester inhibits phosphatidylserine synthesis in human promyelocytic leukemic HL60 cells: possible involvement of free radicals and correlation with phosphorylation of nuclear protein 1b (1987) Biochem. J. 248, 649-656.
12. Kiss, Z., **Deli, E.**, and Kuo, J. F. Temporal changes in intracellular distribution of protein kinase C during differentiation of human leukemia HL60 cells induced by phorbol ester (1988) FEBS Lett. 231, 41-46.
13. **Deli, E.**, Kiss, Z., and Kuo, J. F. Cooperative interactions of protein kinase C and cAMP-dependent protein kinase systems in human promyelocytic leukemia HL60 cells (1988) FEBS Lett. 231, 407-412.
14. **Deli, E.**, and Kiss, Z. Effect of parathion and methylparathion on protein content of chicken embryo muscle in vivo (1988) Biochem. Pharmacol. 37, 3251-3256.
15. Kiss, Z., **Deli, E.**, and Kuo, J. F. Phorbol ester stimulation of sphingomyelin synthesis in human leukemia HL60 cells (1988) Arch. Biochem. Biophys. 265, 38-42.
16. Kuo, J. F., Shoji, M., Kiss, Z., Girard, P. R., **Deli, E.**, Oishi, K., and Vogler, W. R. Protein kinase C in cell growth and differentiation (1989) Adv. Exp. Med. Biol. 255, 9-20.
17. Kiss, Z. and **Deli, E.** Preferential inhibition of phorbol ester-induced hydrolysis of phosphatidylethanolamine by N-acetyl sphingosine in NIH 3T3 fibroblasts (1995) FEBS Lett. 365, 146-148.
18. Schmid, P.C., **Deli, E.**, Schmid, H.H. O., Generation and Remodeling of Phospholipid Molecular Species in Rat Hepatocytes (1995) Archives of Biochemistry and Biophysics 319(1):168-76.
19. **Deli, E.**, and Kiss, Z. Protein kinase C-stimulated formation of ethanolamine from phosphatidylethanolamine involves a protein phosphorylation mechanism: Negative regulation by p21 Ras protein. (2000) Arch. Biochem. Biophys. 377, 171-177.

## **Consciousness Research**

20. **Deli, E.**, Consciousness, a cosmic phenomenon—A hypothesis. (2016) *Journal of Consciousness Exploration & Research*. 7(11): 910-930.
21. **Deli, E.** (2017). Consciousness inspired A.I. system. *AISB Quarterly*. (145) 6-11.
22. Çankaya, MN., **Déli, E.**, (2017) Changes in brain entropy are related to abstract temporal topology. *Phys Life Rev*. <http://dx.doi.org/10.1016/j.plrev.2017.04.003>
23. **Deli, E.**, (2017) Evaluation of Mach's Principle in a Universe with Four Spatial Dimensions. <http://vixra.org/abs/1704.0336>.
24. **Deli, E.**, Peters, J., and Tozzi, A., (2017) Relationships between short and fast brain timescales. *Cognitive Neurodynamics*, 11: 539.  
<https://doi.org/10.1007/s11571-017-9450-4>
25. Tozzi, A., Peters, J., and **Déli, E** (2017) Towards plasma-like collisionless trajectories in the brain. *Neuroscience Letters*.  
<https://doi.org/10.1016/j.neulet.2017.10.016>
26. Peters, J., Tozzi, A., and **Déli, E** (2017) Towards the equation of brain dynamics and the concept of extended connectome *J Neuro Sci*. 1:2  
<https://doi.org/10.23959/sfjn-1000007>
27. Tozzi, A., Peters, J., James, C. and **Déli, E.** (2017) Multidimensional chaotic dynamics and entropies *Archives of Information Science and Technology*. 1(1):10-19. DOI: 10.36959/863/755.
28. **Deli, E.**, Peters, J., and Tozzi, A. (2018) The Thermodynamic Analysis of Neural Computation. *J Neurosci Clin Res*. 3:1.
29. **Deli, E.**, (2019) Can a Page and Wootters' Mechanism (Paw) Inspired Particle Model Fulfill Mach's Principle? <http://vixra.org/abs/1905.0154>
30. **Deli, E.**, (2020) CAN THE FERMIONIC MIND HYPOTHESIS (FMH) EXPLAIN CONSCIOUSNESS? THE PHYSICS OF SELFHOOD. *Activitas Nervosa Superior*. 62, 35–47, DOI: 10.1007/s41470-020-00070-4
31. **Deli, E.**, (2020) "THE THERMODYNAMIC IMPLICATIONS OF THE FERMIONIC MIND HYPOTHESIS (FMH)" *Activitas Nervosa Superior*, 62(3), 96-103. DOI: 10.1007/s41470-020-00074-0
32. **Deli, E.** and Kisvarday, Z. (2020) The Thermodynamic Brain and the Evolution of Intellect: The Role of Mental Energy. *Cognitive Neurodynamics*, 14(6), 743-756. DOI: 10.1007/s11571-020-09637-y

- 33, **Deli, E.**, Peters, J., and Kisvarday, Z. (2021) The thermodynamics of cognition: A Mathematical Treatment, Computational and Structural Biotechnology Journal. (19) 784-793. <https://doi.org/10.1016/j.csbj.2021.01.008>
- 34, **Deli, E.**, Peters, J. F. (2021) A topological approach to shrinking higher dimensions of space to observable space-time: Can the dimensional anisotropy of space satisfy Mach's principle? Preprints DOI: [10.20944/preprints202111.0115.v1](https://doi.org/10.20944/preprints202111.0115.v1)
- 35, **Deli, E.** (2021). *Thermodynamic Computation In Self-Evolving Systems*. Gerlingen: GmBh. doi: 10.13140/RG.2.2.17066.13769
- 36, Rastmanesh, R., **Déli, E.**, Roy, S., & Vogt, B. (2022). Editorial: Decision making from the perspective of neural thermodynamics and molecular information processing. *Frontiers in Neuroscience*. [doi.org/10.3389/fnins.2022.910996](https://doi.org/10.3389/fnins.2022.910996)
- 37, **Deli, E.** (2022) Will Artificial Intelligence Become Conscious? Can Thermodynamics Explain the Evolution of Intellect? *J Math Technique*, 1(2), 124-128. Preprints, 2022050134 (doi: 10.20944/preprints202205.0134.v1).
- 38, **Déli, É.**, Peters, J.F., & Kisvárday, Z.F. (2022). How the Brain Becomes the Mind: Can Thermodynamics Explain the Emergence and Nature of Emotions? *Entropy*, 24.
39. **Deli, E.**, Peters, J. (2022). Can Dimensional Anisotropy Satisfy Mach's Principle? A Topological Approach to Variable Dimensions of Space using the Borsuk-Ulam Theorem. *Journal of Astrophysics and Astronomy*, Vol: 10(7) Qeios. doi:10.32388/BD3L2R.
40. Schoeller, F. **Deli, E.**, Tozzi, A., Safron, A., Jain, A., Adrien, V. and Reggente, N. Feeling the Heat: A Thermodynamic Perspective on the Shared Neural Mechanisms of Temperature and Information Regulation. Submitted Cognitive Neurodynamics.
- 41, **Deli, E.** (2022). The Quantum Character of Perception: The Probabilistic and Reversible Thermodynamic Cycle can Produce Spin-like Attitudes, Thinking, and Behavior. *Qeios*. doi:10.32388/XWC7KJ.
- 42, **Deli, E.** (2023). The Thermodynamic Considerations of Evolution; the Role of Entropy in Biological Complexity. *Qeios*, <https://doi.org/10.32388/4RMZEU>

