Simona Ginsburg

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CURRICULUM VITAE

PERSONAL

Birth: New York, 19.9.1947
Immigration: 1948
Marital Status: Spouse, two children

DEGREES

1969: B.Sc. in Chemistry (summa cum laude), Technion – Israel Institute of Technology, Haifa, Israel
1974: D. Phil in Physiology, Oxford University, UK

ACADEMIC APPOINTMENTS AND PROFESSIONAL EXPERIENCE

1970-1973: Tutor in Chemistry and Physiology, Somerville College, Oxford, UK
1973-1974: Research Assistant, Physiology Department, Oxford University, UK
1973-1974: Lecturer in Physiology, Balliol College, Oxford, UK
1975-1976: Research Fellow, Science Teaching Department, Hebrew University, Jerusalem, Israel
1975-1990: Senior Lecturer, The Open University of Israel
1978-1979: Senior Investigator, Memorial Sloan-Kettering Cancer Center, New-York, USA
1982-1984: Fellow, The Van-Leer Insitute, Jerusalem, Israel
1990-2013: Associate-Professor, The Open University of Israel
1998-2013: Head of the MA Program Biological Thought, The Open University of Israel

FIELDS OF RESEARCH

Past: Neurobiology of synapses, membrane biology, stochastic properties of ion channels

Present: Evolution of the nervous system and consciousness, philosophy of biology

PUBLICATIONS

Book

Ginsburg, S. and Jablonka, E. (2019). *The Evolution of the Sensitive Soul: Learning and the Origins of Consciousness*. The MIT Press, Cambridge, MA. (640 pp)

Articles in Refereed Journals

Wynne D., Ginsburg, S. and Shalitin, Y. (1973) Beef liver esterase. II. Kinetic properties. *Arch. Biochem. Biophys.* 154: 204–211.

Ginsburg, S. and Noble, D. (1974). The activation enthalpies for ion conductance systems in lipid bilayer membranes. *J. Membr. Biol.* 18: 163–176.

Ginsburg, S. and Noble, D. (1976). Use of current-voltage diagrams in locating peak energy barriers in cell membranes. *J. Membr. Biol.* 29: 211−229.

Ginsburg, S. and Rahamimoff, R. (1983). Is extracellular calcium buffering involved in regulation of transmitter release at the neuromuscular junction? *Nature* 306: 62–64.

Silberberg, S.D., Ginsburg, S. and Rahamimoff, R. (1986). Neuromuscular depression. *Rev. Clin. Basic Pharmacol*. 6: 15s–21s.

Shapira, R. Silberberg, S.D., Ginsburg, S. and Rahamimoff, R. (1987). Activation of protein kinase C augments evoked transmitter release. *Nature* 325: 58–60.

Shimoni, Y. and Ginsburg, S. (1987). Negative inotropic effect of extracellular calcium buffering in cardiac muscle. *Am. J. Physiol.* 252: C248–C252.

Rahamimoff, R., DeRiemer, S.A., Ginsburg, S., Kaiserman, I., Sakmann, B., Shapira, R., Stadler, H. and Yakir, N. (1989). Ionic channels in presynaptic vesicles: Are they involved in transmitter release? *Quart. J. Exp. Physiol.* 74: 1019–1031.

Ginsburg, S. and Shimoni, Y. (1989). Modulation of effect of extracellular calcium buffering in cardiac muscle. *Am. J. Physiol.* 257: H1843–H1850.

Rahamimoff, R., DeRiemer, S.A., Ginsburg, S., Kaiserman, I., Sakmann, B., Stadler, H. and Yakir, N. (1990). Ionic channels and proteins in synaptic vesicles: Facts and speculations. *J. Basic Physiol. Pharmacol.* 1: 7–17.

Edry-Schiller, J., Ginsburg, S. and Rahamimoff, R. (1991). A bursting potassium channel in isolated cholinergic synaptosomes of *Torpedo* electric organ. *J. Physiol.* (London), 439: 627–647.

Rahamimoff, R., Edry-Schiller, J. and Ginsburg, S. (1992). A long closed state of the synaptosomal bursting potassium channel confers a statistical memory. *J. Neurophysiol.* 68: 2260−2263.

Cherki-Vakil, R., Ginsburg, S. and Meiri, H. (1995). The difference in shape of spontaneous and uniquantal evoked potentials in frog muscle. *J. Physiol.* (London), 482: 641–650.

Rahamimoff, R., Edry-Schiller, J., Rubin-Fraenkel, M., Butkevich, A. and Ginsburg, S. (1995). Oscillations in the activity of a potassium channel at the presynaptic nerve terminal. J. Neurophysiol. 73: 2448–2458.

Meir, A., Ginsburg, S., Butkevich, A., Kachalsky, S.G., Kaiserman, I., Ahdut, R., Demirgoren, S. and Rahamimoff, R. (1999). Ion Channels in presynaptic nerve terminals and control of transmitter release. *Physiol. Rev.* 79: 1019-1088.

Ginsburg, S. and Jablonka, E. (2007a). The transition to experiencing: I: Limited learning and limited experiencing. *Biol. Theor.* 2(3): 218-230.

Ginsburg, S. and Jablonka, E. (2007b). The transition to experiencing: II: The evolution of associative learning based on feelings. *Biol. Theor.* 2(3): 231–243.

Ginsburg, S. and Jablonka, E. (2009). Epigenetic learning in non-neural organisms. *J. Biosci.* 34(4): 633–646.

Ginsburg, S. and Jablonka, E. (2010a). Experiencing: a Jamesian approach. *J. Cons. Stud.* 17(5/6): 102–124.

Ginsburg, S. and Jablonka, E. (2010b). The evolution of associative learning: a factor in the Cambrian explosion. *J. Theor. Biol.* 266: 11–20.

Jablonka, E. and Ginsburg, S. (2012). Scaffolding emotions and evolving language (comment on the brain basis of emotion: A meta-analytic review by Lindquist, Wager, Kober, Bliss-Moreau and Barrett). *Behav. Brain Sci.* 35(3): 154−155.

Jablonka, E., Ginsburg, S. and Dor, D. (2012). The co-evolution of language and emotions. *Phil. Trans. Roy. Soc. B* 367, 2152−2159.

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Ginsburg, S. and Jablonka, E. (2015). The teleological transitions in evolution: a Gántian view. *J. Theor. Biol.* 381, 55−60.

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Bronfman, Z.Z., Ginsburg, S. and Jablonka, E. (2016). The transition to minimal consciousness through the evolution of associative learning. *Front. Psychol.* 7, 1954.

Fresco, N., Ginsburg, S. and Jablonka, E. (2018). Functional information: a graded taxonomy of difference makers. *Rev. Phil. Psychol.* xx, 1–21.

Book Chapters in Refereed Books

Ginsburg, S. and Rahamimoff, R. (1986). Serendiptic modulation of transmitter release: extracellular inhomogeneity. In: *Calcium, Neuronal Function and Transmitter Release* (Rahamimoff, R. and Katz, B. Eds.), Martinus Nijhoff, Boston, pp. 181–197.

Fink, R., Ginsburg, S. and Rahamimoff, R. (1986). Bipahasic effect of calcium on tetanic potentiation at the frog neuromuscular junction. In: *Calcium, Neuronal Function and Transmitter Release* (Rahamimoff, R. and Katz, B. Eds.), Martinus Nijhoff, Boston, pp. 601–612.

Rahamimoff, R., Silberberg, S.D., Nussinovitch, I. and Ginsburg, S. (1986). Cellular basis of plasticity in synaptic transmission. In: *Sensorimotor Plasticity: Theoretical, Experimental and Clinical Aspects* (S. Ron, R. Schmid and M. Jeannerod, Eds.), Les Edition Inserm, Paris, pp. 17–44.

Rahamimoff, R., Silberberg, S.D. and Ginsburg, S. (1987). The role of calcium ions in the regulation of transmitter release. In: *Current Advances in Skeleto-genesis* Vol. 3 (S. Horovitz and J. Sela, Eds.), Hailie Publishing, Jerusalem, pp. 3–12.

Rahamimoff, R, Abdul-Ghani, M., DeRiemer, S.A., Ginsburg, S., Sakmann, B., Shapira, R., Silberberg, S.D., Stadler, H. and Yakir, N. (1988). Regulation of acetylcholine release: calcium, peptide channels and vesicle. In: *Neuromuscular Junction* (L.C. Sellin, R. Libelius and S. Thesleff, Eds.), Elsevier Science Publishers, Amsterdam, pp. 125–136.

Rahamimoff, R., Abdul-Ghani, M., DeRiemer, S., Schiller, J., Ginsburg, S., Melamed, N., Sakmann, B., Stadler, H. and Yakir, N. (1990). Channels of the cholinergic nerve terminal. Symposium on the Cholinergic Synapse, Berlin, 1990.

Rahamimoff, R., DeRiemer, S.A., Edry-Schiller, J., Ginsburg, S., Kaiserman, I., Martin, R., Sakmann, B., Stadler H. and Yakir, N. (1990). Ionic channels in isolated and fused presynaptic nerve endings. Proceedings of the Second Congress of the Asian and Oceanic Physiological Societies, New Delhi, India.

Rahamimoff, R., Abdul-Ghani, M., Ginsburg, S., Kravitz, E.A., Meiri, H., Shapira, R. and Silberberg, S.D. (1990). Regulation of synaptic transmission. Proceedings of the Second Congress of the Asian and Oceanic Societies, New Delhi, India.

Rahamimoff, R., Ginsburg, S., Abdul–Ghani, M., Shapira, R., Yakir, N. and Einav, S. (1991). Principles of transmitter release. In: *Presynaptic Regulation of Neurotransmitter Release* (J. Feigenbaum and M. Hanani, Eds), Freund Publishing House, London, pp. 1–38.

Rahamimoff, R., Ginsburg, S., Barkai, G., Cook, B., Edry-Schiller, J. Kaiserman, I., Meir, A., Roll, M., Worden, M.K. and Yakir, N. (1994). Ion channels in in biological membranes. Ch. 3 in *Biomembranes* (M. Shinitzki, Ed), Balaban Publishers, New-York, pp. 196−296.

Ginsburg, S. (2011). Lamarck on the nervous system: past insights leading to future perspectives. In: *Transformations of Lamarckism: From Subtle Fluids to Molecular Biology* (S. B. Gissis and E. Jablonka, Eds), The MIT Press, Cambridge, MA, pp. 368–372.

Tavory, I., Jablonka, E. and Ginsburg, S. (2012). Culture and epigenesis: a Waddingtonian view. In: *The Oxford Handbook of Culture and Psychology* (J. Valsiner, Ed), Oxford University Press, New-York, pp. 662–676.

Tavory, I., Ginsburg, S. and Jablonka, E. (2014). The reproduction of the social: a developmental system view. In: *Scaffolding Sociality* Vienna Series of Theoretical Biology (L. R. Caporael, J. Griesemer and W. C. Wimsatt, Eds), The MIT Press, Cambridge, MA, pp. 307–325.

Ginsburg, S. and Jablonka, E. (2014). Memory, imagination, and the evolution of modern language. In: *The Social Origins of Language: Early Society, Communication and Polymodality* (J. Lewis, C. Knight, and D. Dor, Eds), Oxford University Press, New-York, pp. 317–324,

Bronfman, Z., Ginsburg S. and Jablonka E. (2016). The epigenetics of neural learning. In: *The Wiley-Blackwell Handbook on the Cognitive Neuroscience of Associative Learning* (R. Honey and R. Murphy, Eds), Wiley-Blackwell, Oxford, pp. 136–176.

Fresco, N., Jablonka, E. and Ginsburg, S. (2018). The construction of learned information through selection processes. In R. Joyce (Ed.), *Routledge Handbook of Evolution and Philosophy*, Routledge, New York, pp. 91–105.

Bronfman, Z. Z., Ginsburg, S. and Jablonka, E. (2018). Classical and operant conditioning: Evolutionarily distinct strategies? In D.S. Wilson and S. Hayes (Eds.), *Evolution and Contextual Behavioral Science: An Integrated Framework for Understanding, Predicting, and Influencing Human Behavior*, New Harbinger, Oakland, CA, pp. 31–47.

Book-Reviews

Jablonka, E. and Ginsburg, S. (2006). Book Review of Derek Denton's *The Primordial Emotions: The Dawning of Consciousness* (Oxford University Press, 2006). *J. Cons. Stud.* 15: 105–109.

Jablonka, E. and Ginsburg, S. (2013). The major teleological transitions in evolution: why the materialistic evolutionary conception of nature is almost certainly right. Book [Review of Nagel, T. (2012). *Mind and Cosmos: Why the Materialistic Neo-*

Darwinian Conception of Nature is Almost Certainly Wrong, Oxford University Press.] *J. Cons. Stud.* 20(9-10): 177–189.

Open University Text Books and Text Units

Adam, A, and Ginsburg, S. (1977/1984). *Introduction to Life Sciences*.
Freudenthal, G. (author) and Ginsburg, S. (editor). (1980). *Philosophy of Science*.
Ginsburg, D. and Ginsburg, S. (1983). *Symmetry in Chemistry*.
Ginsburg, S. (1984). *Symmetry in Biology*.
Ginsburg, S. (1986). *The Vertebrate Nervous System*.
Ginsburg, S. (1988). *Nerve Cell: Introduction to Neurobiology*.
Ginsburg, S. (1990). *Ionic Channels*.
Ginsburg, S., Lavy, R. and Weissenberg, S. (1998). Reader: *Human Physiology*
Ginsburg, S. *Introduction to the Mind-Body Problem*. (1999).
Ginsburg, S. *Introduction to A Critical View of Alternative Medicine*. (2001)
Ginsburg, S. Introduction to Bioethical Issues: Animal Experimentation. (2001)
Ginsburg, S. *Introduction to the Ecological Balance and Environmental Conservation*. (2001)

Open University Readers

Gal, Y. and Ginsburg, S. (2000). *Reader: Reduction in Biology*.
Gal, Y. and Ginsburg, S. (2000). *Reader: Teleology and its Place Biology*
Ginsburg, S. (2000). *Reader: Definition of Life*.
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Gal, Y. and Ginsburg, S. (2001). *Reader: Evolution and Creationism*.
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Adam, A. and Ginsburg, S. (2001). *Reader: The Human Genome Projects: Genetics and Genethics*.
Ginsburg, S. (2002). *How to write an Essay in Biology*.
Ginsburg, S. (2004). *How to write a Final Paper in Biological Thought.*
Ginsburg, S. and Izhaki, I. (2010). Reader: *Integrative Field Studies*.