

Avshalom Cyrus Elitzur

אבשלום כורש אליצור

## *Curriculum Vitae*

(Updated March 2010)

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## 1. Education

Autodidact.

(1999) Ph.D., the Cohn Institute for the Philosophy of Science and the Department of Physics, Tel-Aviv University, Israel. Thesis' title: *Time's Passage and the Time-Asymmetries* (Y. Aharonov, advisor).

## 2. Fields of Research

*Physics*: Quantum measurement and nonlocality, Gravity and inertia, Thermodynamic and other time-asymmetries, Foundations of physics.

*Biology*: Applications of thermodynamics and information theory to evolutionary processes, Biological complexity.

*Psychology*: Suicide prevention, Humor, Xenophobia, Religious experience, Human sexuality.

*Philosophy*: The mind-body problem, Consciousness and causality, Environmental ethics.

## 3. Positions

1. (2008) Visiting Professor (*Chair d'Excellence*), [Université Joseph Fourier](#), Grenoble, France.
2. (2007) Co-Founder, [Iyar, The Israel Institute for Advanced Research in Natural Sciences](#).
3. (2006) Senior Researcher, Rector's Office, [Bar-Ilan University](#), Israel.
4. (2001–2005) Senior Lecturer, Unit of Interdisciplinary Studies (graduate), [Bar-Ilan University](#), Israel.
5. (2000) Visiting Professor, [Birla Institute of Technology and Science](#) and the [Bhaktivedanta Institute](#) (graduate), Mumbai, India.
6. (1999–2000) Adjunct Lecturer, Unit of Interdisciplinary Studies (graduate), [Bar-Ilan University](#), Israel.
7. (1997 to date) Consultant, Department of Molecular Genetics, [The Weizmann Institute of Science](#), Rehovot, Israel.
8. (1998–1999) Adjunct lecturer, The Faculty of Humanities, General and Interdisciplinary Studies (undergraduate), [Tel-Aviv University](#).
9. (1995–1999) Visiting scientist, The Seagram Center for Soil and Water Sciences, The Faculty of Agriculture, [The Hebrew University of Jerusalem](#), Rehovot, Israel.
10. (1994) Adjunct lecturer, [Leslie College](#) Tel Aviv (presently Netanya), Israel (graduate).
11. (1991 to date) Adjunct lecturer, The Feinberg Graduate School, [The Weizmann Institute of Science](#).
12. (1988–1995) Consultant, Department of Chemical Physics, [The Weizmann Institute of Science](#), Rehovot, Israel.
13. (1987–1988) Consultant and Acting Director, [The Center for Frontier Sciences](#) (Prof. Gideon Carmi), Temple University, Philadelphia.
14. (1979–1986) Laboratory assistant, Department of Plant Genetics (Prof. Karl Jacob RIP), [The Weizmann Institute of Science](#), Rehovot, Israel.

15. (1977–1978) Laboratory assistant, Department of Animal Science, The Faculty of Agriculture (Prof. Israel Nir), [The Hebrew University of Jerusalem](#), Rehovot, Israel.

#### 4. Board Memberships

1. (2010) Editorial Board member, [Electronic Journal of Theoretical Physics](#).
2. (2009 to date) Member of The Executive Board, [The Israeli Society for Humor Studies](#).
3. (2008 to date) Editorial Board member, [Old and New Concepts of Physics](#) by The Institute of Physics, University of Łódź (ISSN 1897-2357).
4. (2008 to date) Editorial Board member, [The Israeli Online Journal for the Study of Dreams and Dreaming](#).
5. (2003 to date) Associate Editor, [The Journal of Mind and Behavior](#) (ISSN 0271-0137).
6. (2003 to date) Editorial Board member, [The Frontier Collection Series: Monographs and Books on Frontiers of Modern Physics](#). Springer-Verlag, Berlin and New York.
7. (2001–2006) Associate Editor, [Entropy: International Journal of Entropy and Information Studies](#) Online (ISSN 1099-4300)
8. (2000 to date) Elected Member, International Board of Judges for The [Origin-of-Life Prize](#), The Gene Emergence Project.
9. (2000 to date) Member of the Editorial Board, *מעגלי נפש : רבעון לפסיכולוגיה, לטיפול, ויצירתיות* (Ma'agalei Nefesh: A Quarterly for Psychology, Therapy, Emotional Growth and Creative Education).
10. (1998 to date) Elected Member, Advisory Board of [ISIS-Symmetry](#) (International Society for the Interdisciplinary Study of Symmetry).
11. (1996-2009) Member, The Executive Board of Directors, The [Center for Frontier Sciences](#), Temple University, Philadelphia.
12. (1996-2009) Scientific Editor, *Frontier Perspectives*, Journal of The [Center for Frontier Sciences](#), Temple University, Philadelphia (ISSN 1062-4767).
13. (1995) עורך, מדור מדעי הטבע, *האנציקלופדיה העברית, כרך מילואים ג*. תל-אביב: ספריית פועלים. (Natural Sciences Editor *The Hebrew Encyclopedia, Update Volume 3*. Tel-Aviv: Poalim.
14. (1995) עורך, מדור מדעי הטבע, *לקסיקון אנציקלופדי חדש (כרכים א-ב)*. תל-אביב: פועלים. (Natural Sciences Editor, *The New Encyclopedic Lexicon (Vols. 1-2)*. Tel-Aviv: Poalim.
15. (1988–2003) Assessing Editor, [The Journal of Mind and Behavior](#) (ISSN 0271-0137).

#### 5. Refereed Articles

##### 5.1. Physics

1. (1988) (Horwitz, L.P., Arshansky, R.I., & Elitzur, A.C.) On the two aspects of time: The distinction and its implications. *Foundations of Physics*, **18**, 1159–1193. [[PDF](#)]

2. (1990) On some neglected thermodynamic peculiarities of quantum non-locality. *Foundations of Physics Letters*, **3**, 525–541. [[PDF](#)]
3. (1992) (Elitzur, A.C., Popescu, S., & Rohrlich, D.) Quantum nonlocality for each pair in an ensemble. *Physics Letters*, **A162**, 25–28. [[Online](#)]
4. (1992) Locality and indeterminism preserve the second law. *Physics Letters*, **A167**, 335–340. [[Online](#)]
5. (1993a) (Elitzur, A.C., & Vaidman, L.) Is it possible to know about something without ever interacting with it? *Vistas in Astronomy*, **37**, 253–256.
6. (1993b) (Elitzur, A.C., & Vaidman, L.) Quantum mechanical interaction-free measurements. *Foundations of Physics*, **23**, 987–997. [[Online](#)]
7. (1996) Time anisotropy and quantum measurement: Clues for transcending the geometric picture of time. *Astrophysics and Space Sciences* (special issue), **244**, 313–319. [[PDF](#)]
8. (1999a) (Elitzur, A.C., & Dolev, S.) Black-Hole uncertainty entails an intrinsic time arrow: A Note on the Hawking-Penrose Controversy. *Physics Letters*, **A251**, 89–94 (Erratum, *Physics Letters*, **A255**, 369–370). [[PDF](#)]
9. (1999b) (Elitzur, A.C., & Dolev, S.) Black hole evaporation entails an objective passage of time. *Foundations of Physics Letters*, **12**, 309-323. [[Online](#)]
10. (2000) (Elitzur, A.C., & Dolev, S.) Indeterminism and time symmetry are incompatible: A reply to Rebilas. *Physics Letters*, **A266**, 268-270. [[PDF](#)]
11. (2001) (Elitzur, A.C., & Dolev, S.) Nonlocal effects of partial measurements and quantum erasure. *Physical Review*, **A63**, 062109-1—062109-14. [[Online](#)]
12. (2003) (Elitzur, A.C., Dolev, S., & Zeilinger, A.) Time-reversed EPR and the choice of histories in quantum mechanics. *Proceedings of XXII Solvay Conference in Physics*, 452-461. London: World Scientific. [[Online](#)]
13. (2003a) (Elitzur, A.C., & Dolev, S.) Is there more to T? Why time's description in modern physics is still incomplete. In Buccheri, R., Saniga, M., & Stuckey, W. M. [Eds.] *The Nature of Time: Geometry, Physics & Perception. NATO Science Series, II: Mathematics, Physics and Chemistry*, **95**, 297-306. New York: Kluwer. [[Online](#)]
14. (2004) (Elitzur, A.C., & Dolev, S.) מה יילד יום? הרהורים על טבע הזמן בפיסיקה של המאה העשרים ואחת. מתוך: הזמן: מבט מהפסיכואנליזה וממקום אחר. עורכת: אמיליה המאה העשרים ואחת. פרוני. עי 106-77. ירושלים: מוסד ואן-ליר. (Reflections on the nature of time in 21<sup>st</sup> Century physics. In Peroni, E., [Ed.] *Time: A view from Psychoanalysis and Elsewhere*. Jerusalem: Van Leer.) [[מהדורה חדשה](#)]
15. (2005) (Shinitzky, M., Deamer, D.W., & Elitzur, A.C.) Propagation of spontaneous chiral enhancement. Invited paper. In Palyi, G., Zucchi, C., and Caglioti, L. [Eds.] *Progress in Biological Chirality*, 329-337 Oxford: Elsevier.
16. (2005a) (Elitzur, A.C., & Dolev, S.) Quantum phenomena within a new theory of time. In Elitzur, A.C., Dolev, S., & Kolenda, N. [Eds.] *Quo Vadis Quantum Mechanics?*, 325-350. New York: Springer. [[Online](#)]
17. (2005b) (Elitzur, A.C., & Dolev, S.) Becoming as a bridge between quantum mechanics and relativity. In Saniga, M., Buccheri, R., and Elitzur, A.C. [Eds.] *Endophysics, Time, Quantum and the Subjective*, 589-606. London: World Scientific. [[Online](#)]

18. (2005) (Behera, L., Kar, I., and Elitzur, A.C.) A recurrent quantum neural network model to describe eye tracking of moving targets. *Foundations of Physics* **18**, 357-370. [[Online](#)]
19. (2006) (Behera, L., Kar, I., and Elitzur, A.C.) Recurrent quantum neural network and its applications. In Tuszynski, J. A. [Ed.] *The Emerging Physics of Consciousness*, 327-348. New York: Springer.
20. (2006) (Scolnik, Y., Portnaya, I., Cogan, U., Tal, S., Haimovitz, R., Fridkin, M., Elitzur, A.C., Deamer, D.W., and Shinitzky, M.) Subtle differences in structural transitions between poly L- and poly D- amino acids of equal length in water. *Physical Chemistry Chemical Physics*, **8**, 333-339 (“Hot Paper”). [[Online](#)]
21. (2006) (Shinitzky, M. & Elitzur, A.C.) *Ortho-para* spin isomers of the protons in the methylene group – possible implications for protein structure. *Chirality*, **18**, 754-756. [[abs.](#)]
22. (2006) (Shinitzky, M., Elitzur, A.C., Scolnik, Y., Cogan, U., & Deamer, D.W.) Symmetry breaking in amino acids. *Symmetry: Culture and Science*, **17**, 193-196.
23. (2006) (Elitzur, A.C., & Dolev, S.) Multiple interaction-free measurement as a challenge to the transactional interpretation of quantum mechanics. In Sheehan, D. [Ed.] *Frontiers of Time: Retrocausation – Experiment and Theory*. AIP Conference Proceedings, **863**, 27-44. [[Online](#)]
24. (2007) (Elitzur, A.C., & Dolev, S.) Undoing quantum measurement: Novel twists to the physical account of time. *Electronic Journal of Theoretical Physics*, **4**, 61-76 (Special issue, published as *Physics of Emergence and Organization* [I. Licata & A. J. Sakaji, Eds.]. London: World Scientific.
25. (2007) (Shinitzky, M., Shvalb, A. Elitzur, A.C., & Mastai, Y.) Entrapped energy in chiral solutions: Quantification and information capacity. *Journal of Physical Chemistry B*, **111**, 11004-8. [[Online](#)]
26. (2009) (Sela, O., Tamir, B., Dolev, S., & Elitzur, A. C.) Can special relativity be derived from Galilean mechanics alone? *Foundations of Physics*, **39**, 499-509. [[Online](#)]
27. (2009) (Elitzur, A.C., & Shinitzky, M.) P-violation manifested at the molecular level – A simple means for an absolute definition of “Left” vs. “Right.” Preprint. [[Online](#)]
28. (2009) (Dolev, S., & Elitzur, A.C.) Non-sequential behavior of the wave-function. Submitted to *Physics Letters A*, pending revisions. [[Online](#)]
29. (2009) (Fanchon, E., Neori, K-H., & Elitzur, A.C.) What does Maxwell's demon select, and how? Preprint. [[Online](#)]
30. (2010) Undoing quantum measurement must violate either determinism, Lorentz invariance or time-symmetry. Preprint. [[Online](#)]

## 5.2. **Biology**

1. (1994) Let there be life: Thermodynamic reflections on biogenesis and evolution. *Journal of Theoretical Biology*, **168**, 429–459. [[Abs.](#)]
2. (1995) Life and mind, past and future: Schrödinger's vision fifty years later. *Perspectives in Biology and Medicine*, **38**, 433–458.
3. (1996) Life's emergence is not an axiom: A reply to Yockey. *Journal of Theoretical Biology*, **180**, 175–180. [[PDF](#)]

4. (1997) Constancy, uniformity and symmetry of living systems: The computational function of morphological invariance. Invited paper. *Biosystems*, **43**, 41–53. [[PDF](#)]
5. (1998) (Dolev, S., & Elitzur, A. C.) Biology and thermodynamics: Seemingly-opposite phenomena in search of a unified paradigm. Invited paper. *The Einstein Quarterly: Journal of Biology and Medicine*, **15**, 24-33. [[PDF](#)]
6. (2001) (Lahav, N., Nir, S., & Elitzur, A. C.) The emergence of life on Earth. *Progress in Biophysics and Molecular Biology*, **75**, 75-120. [[abstract](#)]
7. (2005) When form outlasts its medium: A definition of life integrating Platonism and thermodynamics. Invited paper. In Seckbach, J. (Editor) *Life as We Know it*. Dordrecht: Kluwer Academic Publishers, 607-620. [[Online](#)]
8. (2009) (Gordon, G., & Elitzur, A.C.) The ski-lift pathway: Thermodynamically unique, biologically ubiquitous. Preprint.

### 5.3. *Psychology and Philosophy*

1. (1989) Consciousness and the incompleteness of the physical explanation of behavior. *The Journal of Mind and Behavior*, **10**, 1–19. [[abstract](#)]
2. (1990a) Humor, play and neurosis: The paradoxical power of confinement. *Humor: International Journal of Humor Research*, **3**, 17–35.
3. (1990b) Biomimesis: Humor, play and neurosis as life-mimicries. *Humor: International Journal of Humor Research*, **3**, 159–175.
4. (1991) Neither idealism nor materialism: A reply to Snyder. *The Journal of Mind and Behavior*, **12**, 303–307. [[abstract](#)]
5. (1992a) ירידה לצורך עלייה: היבטים פסיכודינמיים וקוגניטיביים בהומור. שיחות, כתב-עת .5-18 : 5-18. (Psychodynamic and cognitive aspects of humor). *Sihot-Dialogue, Israel Journal of Psychotherapy*, **6**, 5–18.
1. (1992b) .268-270. ו: 268-270. שיחות, כתב-עת ישראל לפסיכותרפיה, ו: 268-270. (Therefore choose life: Suicide prevention and the IDF). *Sihot-Dialogue, Israel Journal of Psychotherapy*, **6**, 268–270 (Comments: **7**: 64-67). English version: (1993) Therefore choose life: Reflections on a suicide epidemic. *The Journal of Social Work and Policy in Israel*, **7–8**, 145–150, Editor's comments: 150–154.
6. (1995a) The Conscious "I": Is there a Physical Basis of Personal Identity? in Farre, G. L., & Lasker, G. E. [Eds.] *Advances in Synergetics: Systems Research on Emergence*, **II**, 47–52. Windsor, Ontario: International Institute for Advanced Studies in Systems Research and Cybernetics.
7. (1995b) In defense of life: On the failure of the mental-health professions to deal with suicide. *Omega: Journal of Death and Dying*, **31**, 305–310.
8. (1996a) Time and consciousness: The uneasy bearing of relativity theory on the mind-body problem. In Hameroff, S. R., Kaszniak, A. W., & Scott, A. C. [Eds.] *Toward a Science of Consciousness*, 837–850. Cambridge, Mass.: MIT Press.
9. (1996b) Consciousness can no more be ignored: Reflections on Moody's Dialogue with Zombies. *Journal of Consciousness Studies*, **2**, 353–358. [[Abstract](#)]
10. (1997) Why don't we know what Mary knows? Baars' reversing the problem of qualia. *Journal of Consciousness Studies*, **4**, 316–319.



11. מבשרי אחזה אלוה: התבוננויות פסיכודינמיות בחוויית ההתגלות ובאמונה הדתית. (2000) א': אבל לא-תקין ומנגנוני הגנה. שיחות, כתב-עת ישראלי לפסיכותרפיה. י"ד: 122-134. (Psychodynamic insights into religious belief and revelation experiences. Part I: Pathological mourning and defense mechanisms). *Sihot-Dialogue, Israel Journal of Psychotherapy*, **14**, 122-134. [[מהדורה חדשה](#)]
12. מבשרי אחזה אלוה: התבוננויות פסיכודינמיות בחוויית ההתגלות ובאמונה הדתית. (2001) ב': פגיעות נרקסיסטיות, מנגנוני הסתגלות ותגובות יצירתיות. שיחות, כתב-עת ישראלי לפסיכותרפיה. ט"ו: 133-143. (Psychodynamic insights into religious belief and revelation experiences. Part II: Narcissistic injuries, adaptation mechanisms and creative reactions). *Sihot-Dialogue, Israel Journal of Psychotherapy*, **15**, 133-143 (Comments: **15**, 168-171; **16**, 90-91. [[מהדורה חדשה](#)]
13. (2001) (Omer, H., & Elitzur, A. C.) What would you say to the person on the roof? A suicide prevention text. *Suicide and Life-Threatening Behavior*, **31**, 129-139 (Comment by I. Orbach, 140-143) [[Online](#)] (Hebrew version: אליצור, א., ועומר, ח. 1999: מה תאמר לאדם שעל הגג? הצעה לטקסט למניעת התאבדות בזמן אמת. [[מקוון](#)]. (נפש: רבעון לפסיכולוגיה, לטיפול, לטיפוח רגשי ולחינוך יצירתי, א: 11-19.
14. (2001) אבל אשמים אנחנו על אחינו: על ה"אחר" בספר בראשית. מתוך: האחר: בין אדם לעצמו ולזולתו. עורכים: חיים דויטש ומנחם בן-ששון. עמ' 307-341. תל-אביב: ידיעות [[מקוון](#)] (On the image of the Other in the book of Genesis.)
15. (2004a) בשם האב, הבן והרוח הרעה: על חלום שחלם פרויד לאור יחסו של רוטנברג לפסיכואנליזה. מתוך: מדרש בנפש: עיונים בפסיכולוגיה ויהדות לכבוד מרדכי רוטנברג. (A dream of Freud in light of Rotenberg's attitude to psychoanalysis). עורכים: שחר ארזי, מיכל פכלר וברוך כהנא. עמ' 448-465. תל-אביב: ידיעות אחרונות [[מקוון](#)]
16. (2004b) על תלאתיו של שם האב: עיון ביקורתי בתיאוריה של לקאן. נפש: רבעון (A critical study of Lacan's theory.) לפסיכולוגיה, לטיפול, לטיפוח רגשי ולחינוך יצירתי, **15-16**: 10-29. [[מהדורה חדשה](#)]
17. (2005) זכר עמלק וטעם החזיר: האנטומיה של השנאה המטאפיזית. מתוך: בכור היצירה: יובל ליצירתו של פרויד שלמה שוהם. עורך: חמי בן-נון. עמ' 119-186. תל-אביב: שערי משפט. (Amalek and the swine: The anatomy of metaphysical hatred.) [[מהדורה חדשה](#)]
18. (2006) What's the mind-body problem with you anyway? Prolegomena to any scientific discussion on consciousness. In Batthyány, A., & Elitzur, A. C. (Editors) *Mind and its Place in the World*, 15-22. Frankfurt: Ontos.
19. (2007a) משחררי הנפש: יהודים ויהדות בתנועה הפסיכואנליטית. מתוך: זמן יהודי חדש: תרבות יהודית בעידן חילוני. עורך ראשי: ירמיהו יובל. עמ' 131-138. ירושלים: כתר. (Liberators of the mind: Jews and Judaism within the psychoanalytic movement). [[מקוון](#)]
20. (2009) Consciousness makes a difference: A reluctant dualist's confession. In Batthyány, A., & Elitzur, A. C. (Editors) *Irreducibly Conscious: Selected Papers on Consciousness*. pp. 43-72. Heidelberg: Universitätsverlag Winter. [[Online](#)]

#### 5.4. Environment and Community

1. (2000) הלא כבני כושיים אתם לי: יהודי אתיופיה ומדינת ישראל. מקום למחשבה – בשער, **7**, (2000) **31**, **8**; 11-13. תגובות: **7**, 2-10. (Are ye not as children of the Ethiopians unto me? Ethiopian Jews and the state of Israel.)
2. (2001) A proposal for a universal declaration of the rights of all living beings. *Biodiversity, Journal of Life on Earth*, **2**, 39-41.

## 6. Refereed Edited Books (Co-Editor)

1. (2004) (Arzy, S., Kahana, B., & Fachler, M., Editors; Idel, M., Elitzur, A.C., Goldberg, H., Liebes, Y., Klein, Z., & Ravitzky, A., Scientific Editors) החיים במדרש: עיונים בפסיכולוגיה ויהדות לכבוד מרדכי רוטנברג. עורכים: שחר ארזי, מיכל פכלר וברוך כהנא. מערכת מדעית: משה אידל, אבשלום אליצור, הרווי גולדברג, יהודה ליבס, זאב קליין ואביעזר רביצקי. תל-אביב: "ידיעות אחרונות". (*Studies in the Mind: Essays in honor of Mordechai Rotenberg.*)
2. (2005) (Elitzur, A.C., Dolev, S., & Kolenda, N., Editors) [\*Quo Vadis Quantum Mechanics?\*](#) New York: Springer.  
Book review: Unruh, W. G. (2006) [\*Classical and Quantum Gravity\*, 23, 1393.](#)  
Book review: Timpson, C. (2007) [\*Metascience\*, 16, 289-293.](#)
3. (2005) (Ben-Nun, C., Elitzur, A.C., Vardi, Y., Regev, M., and Katz, S., Editors) בכור היצירה: יובל ליצירתו של שלמה גיורא שוהם. עורך: חמי בן-נון. המערכת: חמי בן-נון, אבשלום אליצור, יגאל ורדי, מתי רגב ושושנה כץ. תל-אביב: שערי משפט. (*The Cradle of Creativity: Essays in Honor of Shlomo Shoham.*)
4. (2005) Buccheri, R., Saniga, M., and Elitzur, A.C. (Editors) [\*Endophysics, Time, Quantum and the Subjective\*](#). Singapore: World Scientific.
5. (2006) Batthyány, A., & Elitzur, A. C. (Editors) [\*Mind and its Place in the World\*](#). Frankfurt: Ontos.  
Book review: Seager, W. (2006) *Notre Dame Philosophical Reviews* <http://ndpr.nd.edu/review.cfm?id=7624>;  
Book review: Plotnitsky, A. (2006) [\*Journal of Consciousness Studies\*, 9, 116-118.](#)
6. (2009) Batthyány, A., & Elitzur, A. C. (Editors) [\*Irreducibly Conscious: Selected Papers on Consciousness\*](#). Heidelberg: Universitätsverlag Winter.

## 7. Non-Refereed Books (Author)

1. (1987) לפני ולפנים: עיונים פסיכואנליטיים במקרא וביהדות. תל אביב: ירום-אליצור. (*Into the Holy of Holies: Psychoanalytic Insights into the Bible and Judaism.*) Third printing 1988..
2. (1994) זמן ותודעה: תהיות חדשות על חידות עתיקות. תל-אביב: משרד הביטחון – האוניברסיטה המשודרת. (*Time and Consciousness: New Reflections on Age-Old Riddles.*) Sixth, Revised Edition, 1997. Tel-Aviv: The Broadcasted University and the Ministry of Defense.
3. (2009, כתב-יד) לחזות בתפארת: התפתחות הפיסיקה בהשראת אידיאל היופי (2009, כתב-יד) (*Glory Emerging: The Role of Beauty in Physics' Development*) (Manuscript).

## 8. Editorials, Book Reviews and Encyclopedia Articles

1. (1991) Review, *Pseudoscience and the Paranormal* by T. Hines. *The Journal of Mind and Behavior*, 12, 171–174.
2. (1994) The origin of life. Essay review. *Contemporary Physics*, 34, 275–278.
3. (1995) הערכים "זמן", "קוונטים", פירוש תורת ה-"האנציקלופדיה העברית, כרך מילואים ג'". (1995) (Entries: Time, Foundations of quantum theory, *The Hebrew Encyclopedia, Update Volume 3*. Tel-Aviv: Poalim.



4. (1997) Deadly Taboo: Breaking the silence surrounding suicide. An editorial, *Newslink of the American Association of Suicidology*, **23/2**, 15-16.
5. (1998) Review, Delayed Posttraumatic Stress Disorder from Infancy: The Two Trauma Mechanism by C. D. McKenzie and L. D. Wright. *Israel Journal of Psychiatry and Related Sciences*, **35**, 242-244.
6. (1999) חזרה אל "רצח הנפש" (צ. לוטן: תגובה לאבשלום אליצור. א. אליצור: התעללות היא התעללות – תשובה ללוטן). *שיחות*, י"ג, 155-165.
7. (2002) *Entropy* enters its fourth year. An editorial. *Entropy* **4**, 1-2.
8. (2008) Comment on "On EPR paradox, Bell's inequalities and experiments that prove nothing" by V. K. Ignatovich. *Old and New Concepts of Physics*, **5**, 273-276.
9. (2008) Can the "open dialogue policy" be made foolproof? Reflections following some recent articles published in COP. *Old and New Concepts of Physics*, **5**, 701-706.

## 9. Conferences

### 9.1. Physics

1. (1987) A realistic model of quantum mechanics based on two time-parameters. Invited paper, read at the Temple University Conference on the Foundations of Quantum Mechanics, Philadelphia, October 1987.
2. (1992) (Elitzur, A.C., Popescu, S., & Rohrlich, D.) New results on quantum nonlocality. Poster presented at the Annual Meeting of the Israel Physical Society, 1992 (*Bulletin of the IPS* 1992, **38**, 156).
3. (1992a) (Elitzur, A.C., & Vaidman, L.) Quantum mechanical interaction-free measurements. Poster presented at the Annual Meeting of the Israel Physical Society, 1992 (*Bulletin of the IPS* 1992, **38**, 159).
4. (1992b) (Elitzur, A.C., & Vaidman, L.) Is it possible to know about something without ever interacting with it? Paper read at the International Symposium on Quantum Physics and the Universe, Tokyo, Japan, August 1992.
5. (1995) Time transience and order decrease: An enigmatic link. Paper read at the Ninth Conference of the International Society for the Study of Time, St.-Adèle, Québec, Canada, July 2–8, 1995.
6. (1996) Time anisotropy and quantum measurement: Clues for transcending the geometric picture of time. Paper read at the Conference on Mathematical Models of Time with Applications to Physics and Cosmology. University of Arizona and Pima Community College West, Tucson, Arizona, April 11–13 1996.
7. (1997) Quantum indeterminism, uncertainty, and time's arrow. An invited lecture, The Gordon Conference on Modern Developments in Thermodynamics, Ventura, USA, February 16–22, 1997.
8. (1998) (Elitzur, A. C., & Dolev, S.) Indeterminism entails an intrinsic arrow of time. Paper read at the Fourth Interdisciplinary Congress of The International Society for the Interdisciplinary Study of Symmetry, The Technion, Haifa, Israel, September 17, 1998.

9. (2000a) An intrinsic time arrow independent of initial conditions? Paper read at the International Conference on the Conceptual Foundations of Statistical Mechanics, Jerusalem, Israel, May 25, 2000.
10. (2000b) Neither guide-wave nor collapse: On some non-contiguous properties of the wave function revealed by delicate measurement. Paper read at the Workshop on “Quantum Measurement Theory and Quantum Information,” at the [Erwin Schrödinger Institute](#), Vienna, Austria, December 4, 2000.
11. (2001a) Uncertainty entails an objective passage of time. Paper read at the 11<sup>th</sup> Conference of the International Society for the Study of Time, Castelo di Gargonza, Italy, July 8-14, 2001.
12. (2001) (Elitzur, A.C., Dolev, S., and Zeilinger, A.) Inverse EPR using particles whose interaction point lies in the future. Invited paper read at the XXII International Solvay conference on “The Physics of Communication,” Delphi and Lamia, Greek, 24-30 November 2001.
13. (2002a) Quantum-mechanical and thermodynamic clues in search of a deeper concept of time. Invited paper, read at NATO Advanced Research Workshop: “The Nature of Time: Geometry, Physics and Perception” Tatranska Lomnica, Slovak Republic, May 21–24, 2002.
14. (2002b) Organizer and Chairman, “Quo Vadis Quantum Mechanics? An International Workshop on Possible Developments in Quantum Theory in the 21<sup>st</sup> Century.” Temple University Sugarloaf Conference Center, Philadelphia, Pennsylvania September 24-27, 2002.
15. (2002) (Elitzur, A.C., & Dolev, S.) A new class of quantum mechanical paradoxes and its possible bearing on quantum theory. Paper read at “Quo Vadis Quantum Mechanics? An International Workshop on Possible Developments in Quantum Theory in the 21<sup>st</sup> Century.” Temple University Sugarloaf Conference Center, Philadelphia, Pennsylvania September 24-27, 2002.
16. (2003) (Dolev, S., & Elitzur, A.C.) When one quantum object is measured by another: A new class of quantum paradoxes. Invited paper, read at Quantum Electronics and Laser Science Conference, Baltimore, MD, June 1-6, 2003.
17. (2005) (Buccheri, R, Saniga, M, and Elitzur, A.C., Organizers) “Endophysics, Time, Quantum and the Subjective.” An Advanced Multidisciplinary Workshop. The Center for Interdisciplinary Research (ZiF) of the University of Bielefeld, Germany, January 17-21, 2005.
18. (2005) Quantum time and becoming. Invited paper, read at “Endophysics, Time, Quantum and the Subjective.” An Advanced Multidisciplinary Workshop. The Center for Interdisciplinary Research (ZiF) of the University of Bielefeld, Germany, January 17-21, 2005.
19. (2005) A hidden time parameter underlying quantum paradoxes? Invited paper, read at “Time-symmetry in Quantum Mechanics,” University of Sydney, 23-26 July 2005.
20. (2006a) Genuine quantum randomness and its broader implications. Plenary lecture, read at “Foundations of Probability and Physics.” Växjö University, Sweden, June 4-9, 2006.
21. (2006b) Indeterminism and time’s arrow. Invited lecture, read at “The Second Law of Thermodynamics: Foundations and Status.” Invited paper, read at

- Annual Meeting of the Pacific Division of the AAAS University of San Diego, June 18-22, 2006.
22. (2006c) Retrocausal quantum measurement: Some recent findings and their theoretical implications. Invited paper, read at “The Second Law of Thermodynamics: Foundations and Status.” Invited lecture, read at Annual Meeting of the Pacific Division of the AAAS University of San Diego, June 18-22, 2006.
  23. (2007) (Elitzur, A.C., & Dolev, S.) The inexhaustible source of insights revealed by every photon. Invited paper, read at “The nature of light: What are photons?” SPIE International Symposium on Optics & Photonics, San Diego, 26-27 August 2007. *Proceedings of SPIE*, **6664**, 36-46.
  24. (2009) (Elitzur, A.C., & Fanchon, E.) What does Maxwell's demon select, and how? Invited paper, read at “The Probable and the Improbable: The Meaning and Role of Probability in Physics.” The Twenty-Second Annual International Workshop on the History and Philosophy of Science in Honor of Itamar Pitowsky. Jerusalem, Israel, December 17, 2008.
  25. Markovitch, S., & Elitzur, A.C. (2009) Aharonov-Bohm effects under causality restrictions. Paper read at the workshop [“50 Years of the Aharonov-Bohm Effect: Concepts and Applications.”](#) Tel-Aviv, Israel, October 11, 2009. [[Online](#)]
  - 26.

## **9.2. Biology**

1. (1994) Evolutionary information processing: The uncognizant origins of cognition. Paper read at the Symposium on Immunology as a Cognitive Science, The Weizmann Institute of Science, April 17–21, 1994, Rehovot, Israel.
2. (1995) (Elitzur, A.C., and Shmida, A.) Biological symmetry and information-processing. Paper read at the 3<sup>rd</sup> Interdisciplinary Symmetry Congress of the International Society for the Interdisciplinary Study of Symmetry (ISIS-Symmetry). “Symmetry: natural and artificial.” August 14–20, 1995, Old Town Alexandria, U.S.A. (Reprinted in *Symmetry*, **6**, 178–182).
3. (1998) Organizer and Chairman, parallel session, “The Emergence of Order: Chemical, Physical and Biological Manifestations.” The Fourth Interdisciplinary Congress of The International Society for the Interdisciplinary Study of Symmetry, The Technion, Haifa, Israel, September 15, 1998.
4. (1998) Order, disorder and complexity: The uniqueness of the living state. Paper read at the Fourth Interdisciplinary Congress of The International Society for the Interdisciplinary Study of Symmetry, The Technion, Haifa, Israel, September 15, 1998.
5. (1999) (Lahav, N., Nir, S., & Elitzur, A. C.) A comprehensive origin of life scenario. Poster presented at the ISSOL-99 Triennial Conference, La Jolla, San-Diego, July 11, 1999.
6. (2000) “Living state physics”: A thermodynamic approach to the definition of life. Paper read at the Workshop on Life, Universita di Modena e Reggio Emilia, Modena, Italy, September 4, 1999.

7. (2001) (Elitzur, A.C., & Boehm, O.) Information and the uniqueness of the living state. An invited paper, read at the Conference on Interdisciplinary Applications of Information Theory at the Banach Center, Warsaw, May 21-26, 2001.
8. (2003) (Shinitzky, M., Deamer, D.W., & Elitzur, A.C.) Propagation of spontaneous chiral enhancement. An invited paper, read at the 3<sup>rd</sup> Interdisciplinary Symposium on Biological Chirality, Modena, Italy, April 30– May 4, 2003.

### **9.3. *Psychology and Philosophy***

1. (1991a) The psychodynamics of religious revelation experience. Paper read at the Annual Convention of the Israel Psychiatric Association, April 26, 1991, Jerusalem, Israel.
2. (1991b) Psychological notes on a curious feature of Jewish demonology. Paper read at the Annual Convention of the Israeli Psychological Association, October 8, 1991, the Hebrew University, Jerusalem, Israel..
3. (1991c) Organizer and Chairman, the session on psychology and physics, the Annual Convention of the Israeli Psychological Association, October 8–11, 1991, the Hebrew University, Jerusalem, Israel..
4. (1991d) Organizer and Chairman, the session on the psychology of innovation, the Annual Convention of the Israeli Psychological Association, October 8–11, 1991, the Hebrew University, Jerusalem, Israel..
5. (1994a) Can relativity shed a new light on consciousness? Poster presented at the Conference “Toward a Scientific Basis for Consciousness” at The University of Arizona, April 12–17, 1994, Tucson, Arizona.
6. (1994b) Humor and psychopathology: Analogies, contrasts and therapeutic implications. Plenary lecture, The Annual Convention of the Israel Psychiatric Association, May 5, 1994, Tiberia, Israel.
7. (1994c) Dedemonology and alienation: The case of Elisha Ben Avuya. Paper read at the 13<sup>th</sup> World Congress of Sociology, RC 36: Alienation Theory and Research. July 18, 1994, Bielefeld, Germany.
8. (1995) The conscious “I”: Is there a physical basis of personal identity? Paper read at the Annual Meeting of the International Institute for Advanced Studies in Systems Research and Cybernetics, August 1–20, 1995 Baden-Baden, Germany.
9. (1996a) What’s the mind-body problem with you anyway? The undiminished acuity of the problem posed by consciousness to modern science. Invited plenary lecture, delivered at the Conference “Toward a Scientific Basis for Consciousness II” at The University of Arizona, April 13, 1996, Tucson, Arizona.
10. (1996b) Teaching inventive thinking to science students: Reflections on a preliminary study. Invited lecture, to be given at the Third European Meeting of the Society for Scientific Exploration, October 11–3 Freiburg, Germany.
11. (1997) Organizer and participant, “Overcoming the language barrier: Problems of interdisciplinary dialogue” Temple University’s Sugarloaf Conference Center, May 14–17, Philadelphia, USA.
12. (1998) (Kolenda, N., & Elitzur, A.C.) The Center for Frontier Sciences in Temple University: Unique Challenges, Difficulties and Accomplishments. Paper presented at the Ninth International Conference of the International Federation of Science Editors, 7-11 August, 1998, Sharm El-Sheikh, Egypt.

13. (1999) Member of the Scientific Committee and Symposium Chairman, The International Conference on “Freud towards the 21<sup>st</sup> Century,” December 13-16, 1999, Jerusalem, Israel.
14. (2000) Put all blame on the genes: The tyranny of psychiatric essentialism. Paper presented at The International Conference on “Freud towards the 21<sup>st</sup> Century,” December 13-16, 1999, Jerusalem, Israel.
15. (2005) Consciousness violates the closure of the physical world. Invited paper, read at [“Endophysics, Time, Quantum and the Subjective.”](#) An Advanced Multidisciplinary Workshop. The Center for Interdisciplinary Research (ZiF) of the University of Bielefeld, Germany, January 17-21, 2005.
16. (2006) Co-Organizer (With H. Atmanspacher), [“Mind-matter research: Frontiers and directions.”](#) Wilbad Kreuth, Bavaria, July 3-7, 2006.
17. (2007) Why Quantum Mind to begin with? A Proof for the incompleteness of the physical account of Behavior. A plenary lecture, [“Quantum Mind,”](#) University of Salzburg, Austria, July 17-20, 2007.

### **10. Theses Advised**

1. (Graduated 1999) (co-advisor) “Dream Phenomenology and Physical Health Status: A Case Study.” M. Sc. Thesis, Dr. Meenakshi Parab. Birla Institute of Technology and Science and the Bhaktivedanta Institute, Bombay, India.
2. (Graduated 2003) (co-advisor) “Violation of Classical Properties by Quantum Theory.” M. A. Thesis, Hamutal Benbassat, Bar-Ilan University.<sup>1</sup>
3. (Graduated 2004) “New Approaches to the Measurement Problem in Quantum Mechanics.” Ph.D. dissertation, Shahar Dolev (recipient of Bar-Ilan President’s Scholarship), Bar-Ilan University.<sup>2</sup>
4. (Graduated 2005) “Intelligence, Language, and the Limits of computation”. Ph.D. dissertation, Naama Soreq (recipient of Bar-Ilan President’s Scholarship), Bar-Ilan University<sup>3</sup>
5. (Graduated 2007) “The Passion between the Psychotherapist and the Patient compared to the Passion between the Photographer and his/her Object.” Ph.D. dissertation, Anat Botzer, Bar-Ilan University.
6. (Graduated 2008) “Quantum Simulation: On the Physicality of Computation and Information” (second) Ph.D. dissertation, Boaz Tamir, Bar-Ilan University.
7. (Proposal approved 2005) (Chief co-advisor) “The Theory of Evolution – Between Rabbi Kook and Darwinism.” Ph.D. proposal, Dov Berger, Bar-Ilan University.

### **11. International Courses and Colloquia**

1. (1996) Evolution as a proto-cognitive process. Invited lecture, given at [Konrad-Lorenz-Institut für Evolutions- und Kognitionsforschung](#), April 4, 1996, Altenberg, Austria.

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<sup>1</sup> Bar-Ilan’s first MA in philosophy of science.

<sup>2</sup> Bar-Ilan’s first PhD in philosophy of science.

<sup>3</sup> Bar-Ilan’s first PhD in brain sciences.

2. (2001) Emotions, their disorders, and psychiatry's identity disorder. An invited paper, read in [Naturwissenschaft und die Ganzheit des Lebens](#) (Science and the Wholeness of Life) Cortona, Italy, September 8-15, 2001.
3. (2002) (Arzy, S., & Elitzur, A.C.) The Kabala pendulum: Between healing the individual and healing the world. An invited paper, read in [Naturwissenschaft und die Ganzheit des Lebens](#) (Science and the Wholeness of Life) Cortona, Italy, September 7-14, 2002.
4. (2003) On the nature of consciousness. [The Academy of Consciousness Studies, PEARlab, Princeton University](#), July 5-13, 2003.
5. (2003) (With A. Zeilinger) [Schrödinger's Cat: Quantum versus classical world?](#) Seminar 3, [Europäisches Forum Alpbach](#), Alpbach, Austria, August 15-21, 2003.
6. (2003) Creativity, the blessed madness. An invited paper, read in [Naturwissenschaft und die Ganzheit des Lebens](#) (Science and the Wholeness of Life) Cortona, Italy, September 6-13, 2003.
7. (2004) Can consciousness, in itself, play a causal role? Yes. An invited lecture to the Colloquium of the [Institut für Grenzgebiete der Psychologie und Psychohygiene, Freiburg](#), Germany, June 24, 2004.
8. (2004) The psychology of dreams. A workshop held at [Naturwissenschaft und die Ganzheit des Lebens](#) (Science and the Wholeness of Life) Cortona, Italy, September 7-14, 2004.
9. (2005) "Can the assumption of Becoming help unifying quantum mechanics and relativity?" An invited lecture to the Colloquium of the [Institut für Grenzgebiete der Psychologie und Psychohygiene, Freiburg](#), Germany, July 13, 2005.
10. (2005) (With P. Schuster and E Szathmary) Evolution and information. [Europäisches Forum Alpbach](#), Alpbach, Austria, August 2005.
11. (2005) Beauty and truth as guides for scientific theories. An invited paper, read at [Naturwissenschaft und die Ganzheit des Lebens](#) (Science and the Wholeness of Life) Cortona, Italy, September 8-15, 2005.
12. (2006) [Dynamic time: The "missing link" in the search for a unified theory?](#) Lecture given at [The Perimeter Institute for Theoretical Physics](#), Waterloo, Canada, April 2006.
13. (2007) Thermodynamics, information and life. Lecture given at [VERIMAG Laboratory](#), Grenoble, France.
14. (2007) Quantum reality: From fundamental questions to a new technology. Lecture given at [Naturwissenschaft und die Ganzheit des Lebens](#) (Science and the Wholeness of Life) Cortona, Italy, September 7-14, 2007.
15. (2008) Subtle quantum measurements straining ordinary causality. Lecture given at the Group of Applied Physics, [University of Geneva](#), May 28, 2008.
16. (2008) Quantum paradoxes combined: EPR-IFM hybrids and their significance. Lecture given at the Quantum Seminar, [Ecole Normale Supérieure de Lyon](#), June 13, 2008.

## **12. Community Services**

(1989 to date) Member, Amnesty International.



מכנף דרום לציון, עמותה לעלייה ולקליטה של יהודי אתיופיה (2001 to date) Chairman,  
South Wing to Zion, The Association for Ingathering & Absorption of Ethiopian  
Jewry, Jerusalem.

Pro bono lectures: אגף "נס", כלא רמלה; אבנט - אבי נפגעי טרור; אנוש - העמותה הישראלית  
לבריאות הנפש; מרפאת גל (פגועי הלם קרב), בית החולים תל-השומר; תחנת הגמילה,  
עיריית תל-אביב; ער"ן - עזרה ראשונה נפשית; האגודה למלחמה בסרטן.