

Curriculum Vitae

Personal Information

Name: **Aharon Ocherashvili**

Born: January 19, 1963, Tbilisi, Georgia USSR

Immigration to Israel: May 9, 1993

Home address: Yad Vashem 24, app 1807, Beer Sheva, 84419, Israel.

Phone number: +972-3-5068865, +972-507-304409;

e-mail ocherash@bezeqint.net

Marital status: married + 2

Citizenship: Israeli

Work Experience

- 2011 – 2012** Seconded national expert at the Nuclear Security Unit of the Joint Research Centre in Ispra in Italy. Conducting experimental investigations into methods for detection of fissile materials at the Pulsed Neutron Interrogation Test Assembly (PUNITA).
- 2006** Researcher in Physics department of NRCN. Investigation in the field of positron annihilation lifetime spectroscopy, perturbed angular correlation and nuclear spectroscopy, R&D of eddy current based NDE.
- 2003 – 2006** Research assistant in Advance Technology Center of Sheba Tel-Hashomer hospital. Investigation in the field of Diffusion Weighted MRI.
- 2001-2002** Researcher in MEDSON Ltd. Pekeris 4, Rehovot.. Investigation of different aspects of bone densitometry and bone damage searching via ultrasound.
- 2000-2001** Researcher in IMADENT Ltd. Pekeris 4, Rehovot. Investigation in the field of Ultrasonic computer tomography of jaw bone.
- 1994-2000** Tel-Aviv University, Ramat-Aviv
Guiding of the nuclear physics experiments (detection and analyses of the nuclear fusion products of Cf, two gamma angular correlations emitted from Ca⁶⁰, Compton scattering experiment) in third year student laboratory.
- 1985-1993** Researcher in Laboratory of electronic experiments, Institute of High Energy Physics of Tbilisi University. Investigation in the field of different aspects of experimental high energy physics, detection methodologies, simulations and data analyses.

Education and training

1994-2000 Ph.D. Studies at the Dept. of Nuclear Physics, Tel-Aviv University.
Thesis title: "Pion Virtual Compton Scattering".
Participation in modeling, Assembling, running and data analyses of
experiment SELEX (FNAL, USA).

1980-1985 M.Sc. Studies in High Energy Experimental Physics and physics teaching.
Tbilisi State University, Georgia USSR.
Thesis title: "Multi Wire Proportional Chamber System for experiment
PROZA".
Participation in Assembling, running and data analyses of experiment
PROZA (IHEP, USSR).

1969-1980 High School 140, Tbilisi, Georgia, USSR.

Mother tongue Georgian.

Language	Reading skills	Writing skills	Verbal skills
Hebrew	good	good	good
English	good	good	good
Russian	excellent	excellent	excellent

Programming languages	Years of use	Last used	Unix	Windows	Self rating (1-10)
FORTRAN	24	currently	v	v	6
IDL	6	currently	v	v	6
MATLAB	6	2006		v	5
LabVew	6	2006		v	5
PDP 11, INTEL 8080, macro assembler	8	1993			5
shell programming	5	2000	v		5

List of publication.

Ph.D thesis

Pion virtual Compton scattering - FERMILAB-THESIS-2000-41, 2000. 200pp.

Patent

System for ultrasound imaging of a jaw - WO/2005/034785

Journal publications

1. **Time Dependent Measurements of Induced Fission for SNM Interrogation.**
A. Beck, I. Israelashvili, U. Wengrowicz, E.N. Caspi, I. Yaar, A. Osovizki, A. Ocherashvili, H. Rennhofer, B. Pedersen, J.-M. Crochemore, E.Roesgen.
Published in JINST Volume 8, PO8011, August 2013.
2. **Fast neutron coincidences from induced fission as a method for detection of SNM.**
A. Ocherashvili, M. Mosconi, J-M. Crochemore, A. Beck, E. Roesgen, V. Mayorov, B. Pedersen.
Published in ESARDA Bulletin 49, June 2013.
3. **SNM detection by means of thermal neutron interrogation and a liquid scintillation detector**
A. Ocherashvili, E. Roesgen, A. Beck, E. N. Caspi, M. Mosconi, J.-M. Crochemor, B. Pedersen.
Published in JINST Volume 7, CO3037, March 2013.
4. **Study of Neutron Induced Defects in Ceramics using the GIPS Facility.**
S. May-Tal Beck, M. Butterling, W. Anwand, A. Beck, A. Wagner, G. Brauer, A. Ocherashvili, I. Israelashvili, O. Hen.
Published in J. Phys.: Conf. Ser. 443, 012076 (2013).
5. **Investigations of HAVAR® Alloy using Positrons.**
S. May-Tal Beck, W. Anwand, A. Wagner, G. Brauer, A. Beck, A. Ocherashvili, O. Hen, S. Harush, Y. Eisen, D. Moreno.
Published in "Defect and Diffusion Forum", Vol. 331, Near-Surface Depth Profiling of Solids by Mono-Energetic Positrons, 95-112 (2012).
6. **A Comparative glance into the HAVAR® alloy by PAS and TEM methods.**
S. May-Tal Beck, W. Anwand, A. Wagner, S. Harush, Y. Eisen, A. Beck, A. Ocherashvili, O. Hen, D. Moreno.
Published in Phys. Proc. 35, 63-68 (2012).

7. **Fizz-ball Fizzics.**
M. Moinester, L. Gerland, G. Liger-Belair, A. Ocherashvili
Published in The Physics Teacher Vol. 50, May 2012
8. **The Application of MRI for Depiction of Subtle Blood Brain Barrier Disruption in Stroke**
D. Israeli, D. Tanne, D. Daniels, D. Last, R. Shneor, D. Guez, E. Landau, Y. Roth, A. Ocherashvili, M. Bakon, C. Hoffman, A. Weinberg, T. Volk, Y. Mardor.
Published in Int J Biol Sci. 2010 Dec 26;7(1):1-8.
9. **Nuclear Dependence of Charm Production.**
By SELEX Collaboration.
Published in Eur.Phys.J. C64 (2009) 637-644
FERMILAB-PUB-09-031-E, UASLP-IF-09-001
e-Print: arXiv: 0902.0355
10. **Salirasib (farnesyl thiosalicylic acid) for brain tumor treatment: a convection-enhanced drug delivery study in rats.**
L. Goldberg, A. Ocherashvili, D. Daniels, D. Last, Z. R. Cohen, G. Tamar, Y. Kloog, Y. Mardor.
Published in Mol Cancer Ther 2008; 7(11). November 2008
11. **First Observation of the Cabibbo-suppressed Decays $\Xi^+c \rightarrow \Sigma^+ \pi^- \pi^+$ and $\Xi^+c \rightarrow \Sigma^- \pi^+ \pi^+$ and Measurement of their Branching Ratios.**
By SELEX Collaboration.
Published in Phys.Lett. B666 (2008) 299-304
UASLP-IF-08-001, FERMILAB-PUB-08-084-E, Apr 2008. 15pp.
e-Print: arXiv:0804.2298
12. **Convection-enhanced delivery of maghemite nanoparticles: Increased efficacy and MRI monitoring.**
B. Perlstein, Z. Ram, D. Daniels, A. Ocherashvili, Y. Roth, S. Margel, Y. Mardor
Published in Neuro Oncol. 2008 Mar 3; 18316474
13. **Quantification of water compartmentation in cell suspensions by diffusion-weighted and T_2 -weighted MRI.**
Y. Roth, A. Ocherashvili, D. Daniels, J. Ruiz-Cabello, S. E. Maier, A. Orenstein, Y. Mardor.
Published in Magn Reson Imaging. 2007 Jun 15; 17574364
14. **Iron-Oxide Labeling and Outcome of Transplanted Mesenchymal Stem Cells in the Infarcted Myocardium.**
Y. Amsalem, Yael Mardor, M. S. Feinberg, N. Landa, L. Miller, D. Daniels, A. Ocherashvili, R. Holbova, O. Yosef, I. M. Barbash, J. Leor.
Published in Circulation. 2007 Sep 11;116 (11_suppl):I38-I45 17846324

15. **Polarization of Λ^0 and anti Λ^0 inclusively produced by 610 GeV/c Σ^- and 525 GeV/c proton beams.**
By SELEX Collaboration.
FERMILAB-PUB-07-312-E, UASLP-IF-07-003, Jun 2007. 6pp.
Submitted to Phys.Rev.D
e-Print Archive: hep-ex/07063660
16. **Ex vivo activated human macrophages improve healing, remodeling, and function of the infarcted heart.**
J. Leor, L. Rozen, A. Zulloff-Shani, M. S. Feinberg, Y. Amsalem.
I. M. Barbash, E. Kachel, R. Holbova, Y. Mardor, D. Daniels,
A.Ocherashvili, A. Orenstein, D, Danon,
Published in Circulation. 2006 Jul 4; 114(1 Suppl):I94-100.
17. **Stereotactic Targeting of the Ventrointermediate Nucleus of the Thalamus by Direct Visualization with High-Field MRI. Clinical Study.**
R. Spiegelmann, O. Nissim, D. Daniels, A. Ocherashvili, Y. Mardor.
Published in *Stereotactic and Functional Neurosurgery* 2006; 84:19-23
18. **A New Determination of the $\gamma\pi \rightarrow \pi\pi$ Anomalous Amplitude via $\pi^-e^- \rightarrow \pi^-e^-\pi^0$ Data.**
I. Giller, A. Ocherashvili, T. Ebertshauser, M.A. Moinester, S. Scherer.
MKPH-T-05-02, Mar 2005, 19 pp.
Published in EPJ A25 (2005) 229
e-Print Archive: hep-ph/0503207
19. **Convection-Enhanced Drug Delivery: Increased Efficacy and Magnetic Resonance Image.**
Y. Mardor, O. Rahav, Y. Zauberman, Z. Lidar, A. Ocherashvili, D. Daniels, Y. Roth, S.E. Maier, A. Orenstein, Z. Ram.
Published in Cancer Research Vol 65, 6858-6863 2005.
20. **The Lead-Glass Electromagnetic Calorimeter for the SELEX.**
By SELEX collaboration. FERMILAB-TM-2252, Jul 2004. 42pp.
Published in Nucl.Instrum.Meth.A545:114-138,2005
21. **First observation of a narrow charm-strange meson $D_{sJ}^+(2632)^- \rightarrow D_s \eta$ and $D^0 K^+$.**
By SELEX Collaboration. FERMILAB-PUB-04-082-E
Published in Phys.Rev.Lett.93:242001,2004
e-Print Archive: hep-ex/0406045
22. **Confirmation of the Double Charm Baryon $\Xi^{+cc}(3520)$ via its Decay pD^+K .**
By SELEX Collaboration. FERMILAB-PUB-04-082-E, Jun 2004. 5pp.
Published in **Phys.Lett.B628:18-24,2005**
e-Print Archive: hep-ex/0406033

23. **The application of MRI complexity analysis for pretreatment prediction of brain tumor response to radiation therapy and radiosurgery-feasibility demonstration.**
Y. Mardor, Y. Roth, D. Daniels, A. Ocherashvili, R. Pfeffer, A. Orenstein, O. Nissim, J. Baram, D. Dinstein, G. Gordon, T. Tichler, R. Spiegelmann.
Published in Cancer Therapy Vol 2, 77-84 2004
24. **Upper Limit on the Decay $\Sigma^-(1385) \rightarrow \Sigma^-\gamma$, and Cross-Section for $\gamma \Sigma^- \rightarrow \Lambda^0 \pi^-$.**
By SELEX Collaboration. FERMILAB-PUB-04-020-E, Feb 2004. 12pp.
Submitted to Phys.Lett.B
e-Print Archive: hep-ex/0402026.
25. **Pretreatment Prediction of Brain Tumors Response to Radiation Therapy Using High b-Values Diffusion Weighted MRI.**
Y. Mardor, Y. Roth, A. Ocherashvili, R. Spiegelmann, T. Tichler, D. Daniels, S. E. Maier, O. Nissim, Z. Ram, J. Baram, A. Orenstein, R. Pfeffer.
Published in Neoplasia, Vol. 6, No 1, 2004.
26. **Polarization of Σ^+ Hyperons Produced by 800 GeV/c Protons on Cu and Be.**
By SELEX Collaboration. FERMILAB-PUB-03-279-E, Oct 2003. 7pp.
Published in Phys.Rev.D70:112005, 2004.
27. **Production Asymmetry of D_s from 600-GeV/c Σ^- and π^- Beam.**
By SELEX Collaboration. FERMILAB-PUB-03-026-E, Feb 2003. 11pp.
Published in Phys.Lett.B558:34-40, 2003
e-Print Archive: hep-ex/0302039.
28. **First Observation of the Doubly Charmed Baryon Ξ^{+cc}**
By SELEX Collaboration. FERMILAB-PUB-02-183-E, Aug 2002. 5pp.
Published in Phys.Rev.Lett.89:112001,2002
e-Print Archive: hep-ex/0208014.
29. **First Measurement of $\pi^- e^- \rightarrow \pi^- e^- \gamma$ Virtual Compton Scattering.**
By SELEX Collaboration. FERMILAB-PUB-01-259-E, Sep 2001. 20pp.
Published in Phys.Rev.C66:034613,2002
e-Print Archive: hep-ex/0109003.
30. **Pion Generalized Dipole Polarizabilities by Virtual Compton Scattering $\pi^- e^- \rightarrow \pi^- e^- \gamma$.**
By C. Unkmeir, A. Ocherashvili, T. Fuchs, M.A. Moinester, S. Scherrer, TAUP-2586-99, MKPH-T-01-07, Jul 2001. 33pp.
Published in Phys.Rev.C65:015206, 2002
e-Print Archive: hep-ph/0107020.
31. **Hadronic Production of Λ_c from 600-GeV/c π^- , Σ^- and Proton Beams.**
By SELEX Collaboration.
FERMILAB-PUB-01-258-E, Sep 2001. 6pp.
Published in Phys.Lett.B528: 49-57, 2002

e-Print Archive: hep-ex/0109017.

32. **Radiative Decay Width of the $a_2(1320)$ Meson.**
By SELEX Collaboration.
FERMILAB-PUB-01-256-E, IHEP-2001-34, Sep 2001. 16pp.
Published in Phys.Lett.B521: 171-180,2001
e-Print Archive: hep-ex/0109016.
33. **Measurement of the Σ^- Charged Radius by Σ^- electron Elastic Scattering.**
By SELEX Collaboration. FERMILAB-PUB-01-118-E, Jun 2001. 11pp.
Published in Phys.Lett.B522: 233-239,2001
e-Print Archive: hep-ex/0106053.
34. **Measurement of the D_s^+ Lifetime.**
By SELEX Collaboration. FERMILAB-PUB-01-086-E, May 2001. 11pp.
Published in Phys.Lett.B523: 22-28,2001
e-Print Archive: hep-ex/0106005.
35. **Precision Measurement of the Λ_c^+ AND D^0 Lifetimes.**
By SELEX Collaboration. FERMILAB-PUB-00-255-E, Oct 2000. 5pp.
Published in Phys.Rev.Lett.86: 5243-5246, 2001
e-Print Archive: hep-ex/0010014.
36. **Total Cross-Section Measurements with π^- , Σ^- and Protons on Nuclei and Nucleons Around 600-GeV/c.**
By SELEX Collaboration.
FERMILAB-PUB-99-325-E, Oct 1999. 43pp.
Published in Nucl.Phys.B579: 277-312, 2000
e-Print Archive: hep-ex/9910052.
37. **Observation of the Cabibo Suppressed Decay $\Xi_c^+ \rightarrow p K^- \pi^+$.**
By SELEX Collaboration.
FERMILAB-PUB-99-217-E, Jul 1999. 5pp.
Published in Phys.Rev.Lett.84: 1857-1861,2000
e-Print Archive: hep-ex/9907062.
38. **Design and Performance of the FERMILAB E781 (SELEX) Hardware Scattering Trigger.**
By SELEX Collaboration.
FERMILAB-PUB-97-411-E, Mar 1998. 8pp.
Published in Nucl.Instrum.Meth.A425: 529-535,1999.
39. **Spin Asymmetry of Cumulative Protons in $\pi^- D \uparrow \rightarrow p(90^\circ)X$ and $K^- D \uparrow \rightarrow p(90^\circ)X$ Reactions at 40-GeV/c on Polarized Deuteron Target.**
(In Russian)
By PROZA Collaboration.
JINR-P1-92-351, Oct 1992. 9pp.
Published in Phys.Atom.Nucl.56: 333-336,1993, Yad.Fiz.56: 82-88,1993
(issue No.3).

40. **Observation of Significant Spin Effects in Hard Collisions at 40-GeV/c Polarized Deuterons.** (In Russian).
By PROZA Collaboration.
Published in Phys.Lett.B243: 461-464,1990.
41. **Measurement of the Like-Spin Asymmetry in Inclusive Production of π^0 and η Mesons in the Central Region at Momentum 40-GeV/c.**
By PROZA Collaboration.
Published in Sov.J.Nucl.Phys.50: 432-437,1989, Yad.Fiz.50: 695-704,1989.
42. **Results on Azimutal Asymmetry Measurement of π^0 Mesons Produced in Beam Fragmentation Region on Polarized Deuterons.** (In Russian)
By PROZA Collaboration.
IFVE-88-79, Mar 1988. 6pp.
Published in Sov.J.Nucl.Phys.49: 103, 1989, Yad.Fiz.49: 165-168, 1989.
43. **Asymmetry Measurement of π^0 Mesons Produced in Beam Fragmentation Region on Polarized Protons.**(In Russian)
By PROZA Collaboration.
IFVE-88-78, Mar 1988. 15pp.
Published in Sov.J.Nucl.Phys.49: 97, 1989, Yad.Fiz.49: 156-164, 1989.

Conference proceedings.

1. **FIRST OBSERVATION OF DOUBLY CHARMED BARYONS.**
By SELEX Collaboration. FERMILAB-CONF-02-380-E, Dec 2002. 12pp.
Contributed to Advanced Study Institute on Symmetries and Spin (Praha SPIN 2002), Prague, Czech Republic, 14-27 Jul 2002.
e-Print Archive: hep-ex/0212029.
Published in Czech.J.Phys.53:B201-B213,2003
2. **RECENT RESULTS ON CHARM AND HYPERON PHYSICS FROM SELEX.**
By SELEX Collaboration. UASLP-IF-00-05, FERMILAB-CONF-00-309-E, Oct 2000. 12pp.
To be published in the proceedings of 5th Workshop on Heavy Quarks at Fixed Target (HQ2K), Rio de Janeiro, Brazil, 9-12 Oct 2000.
Published in *Rio de Janeiro 2000, Heavy quarks at fixed target* 217-228.
e-Print Archive: hep-ex/0012004.
3. **RECENT RESULTS FROM SELEX.**
By SELEX Collaboration. FERMILAB-CONF-00-252-E, CMU-HEP-00-04, Jul 2000. 3pp.
Talk given at the XXXth International Conference on High Energy Physics, July 27 - August 2, 2000, Osaka, Japan.
Published in *Osaka 2000, High energy physics, vol. 2* 820-821.

e-Print Archive: hep-ex/0010011.

4. **RECENT RESULTS FROM SELEX.**

By SELEX Collaboration. Jun 2000. 4pp.

Talk given at 4th International Conference on Hyperons, Charm and Beauty Hadrons, Valencia, Spain, 27-30 Jun 2000.

Published in **Nucl.Phys.Proc.Suppl.93:109-112,2001**

Also in *Valencia 2000, Hyperons, charm and beauty hadrons* 109-112.

e-Print Archive: hep-ex/0009049.

5. **CHARM HADROPRODUCTION RESULTS FROM SELEX.**

By SELEX Collaboration. Jul 1999. 4pp.

Talk given at International Europhysics Conference on High-Energy Physics (EPS-HEP 99), Tampere, Finland, 15-21 Jul 1999.

Published in *Moscow 1999, High energy physics and quantum field theory* 11-14 Also in *Tampere 1999, High energy physics* 385-388.

e-Print Archive: hep-ex/9910039.

6. **INELASTIC ELECTRON PION SCATTERING AT FNAL (SELEX).**

By SELEX Collaboration. TAUP-2568-99, FERMILAB-CONF-99-108-E, Mar 1999. 8pp.

Contributed to 8th International Conference on the Structure of Baryons (Baryons 98), Bonn, Germany, 22-26 Sep 1998.

Published in *Bonn 1998, The structure of baryons* 456-461.

e-Print Archive: hep-ex/9903039.

7. **RADIATIVE WIDTH OF THE A(2) MESON.**

By SELEX Collaboration. FERMILAB-CONF-99-009-E, Jul 1998. 5pp.

Presented at 29th International Conference on High-Energy Physics (ICHEP98), Vancouver, Canada, 23-29 Jul 1998.

In *Vancouver 1998, High energy physics, vol. 2* 1296-1299.

e-Print Archive: hep-ex/9901014.

8. **FIRST CHARM HADROPRODUCTION RESULTS FROM SELEX.**

By SELEX Collaboration. CMU-HEP-98-07, DOE-ER-40682-103, Dec 1998. 5pp.

Talk given at 29th International Conference on High-Energy Physics (ICHEP 98), Vancouver, Canada, 23-29 Jul 1998.

In *Vancouver 1998, High energy physics, vol. 2* 1259-1262.

e-Print Archive: hep-ex/9812031.

9. **HYPERON PHYSICS RESULTS FROM SELEX.**

By SELEX Collaboration. Oct 1998. 14pp.

To be published in the proceedings of 4th Workshop on Heavy Quarks at Fixed

Target (HQ 98), Batavia, IL, 10-12 Oct 1998.

In *Batavia 1998, Heavy quarks at fixed target* 303-313.

e-Print Archive: hep-ex/9812019.

10. **MEASUREMENT OF ONE SPIN ASYMMETRIES IN INCLUSIVE π^0 AND η PRODUCTION AT 90-DEGREES CMS IN THE REACTIONS $\pi^- p$ (POLARIZED) $\rightarrow \pi^0 (\eta) + X$ AT 40-GEV/C.**
By PROZA Collaboration, IFVE-89-37, Jan 1989. 21pp.
Published in Protvino Spin Workshop 1989:0163-180 (QCD161:W659:1989).

11. **MEASUREMENT OF THE SPIN ASYMMETRY OF CUMULATIVE PROTON PRODUCTION AT 90-DEGREES IN THE REACTION $\pi^- d$ (POLARIZED) $\rightarrow p X$ AT 40-GEV BY USING A POLARIZED DEUTERIUM TARGET.**
By PROZA Collaboration. 1988.
Prepared for 8th International Symposium on High-energy Spin Physics, Minneapolis, MN, 12-17 Sep 1988.
In *Minneapolis 1988, Proceedings, High-energy spin physics, vol. 1* 160-168.

12. **REVEALING OF ESSENTIAL SPIN EFFECTS IN HARD COLLISIONS AT 40-GEV.**
By PROZA Collaboration, 1988.
Prepared for 8th International Symposium on High-energy Spin Physics, Minneapolis, MN, 12-17 Sep 1988.
In *Minneapolis 1988, Proceedings, High-energy spin physics, vol. 1* 149-156.

Preprints

44. **Measurement of the Ω^0 lifetime.**
By SELEX Collaboration.
FERMILAB-PUB-07-011-E, Jan 2007. 5pp.
e-Print Archive: [hep-ex/0701021](https://arxiv.org/abs/hep-ex/0701021)

45. **EXPERIMENTAL STUDY OF GLUON AND SEA QUARK POLARIZATIONS (THE FIRST STAGE OF THE POLEX PROGRAM AT UNK).**
By POLEX Collaboration. IFVE-92-111, Jul 1992. 32pp.

46. **ON POLEX EXPERIMENT AT UNK. (In Russian)**
By UNK Collaboration. IFVE-89-56, Feb 1989. 27pp.