

Dr. Yuval Shay-El

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Year of birth: 1963 *Place of birth:* Ramat-Gan, Israel *Marital status:* married; one child

EDUCATION

- 1993 - 1998 **TEL AVIV UNIVERSITY**, Tel Aviv, Israel.
PhD in Meteorology, March 1999.
- 1991 - 1993 **BOSTON UNIVERSITY**, Boston, Massachusetts.
MusM (Master of Music) in Composition, May 1993.
- 1986 - 1990 **TEL AVIV UNIVERSITY**, Tel Aviv, Israel.
MSc in Geophysics and Planetary Sciences, June 1990.
- 1981 - 1984 **TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY**, Haifa, Israel.
BA in Physics, December 1984.

PROFESSIONAL EXPERIENCE

- 2003 – present **ITAMAR MEDICAL LTD**, Caesarea, Israel
senior algorithm engineer. research and development of applications in physiological signal processing : arterial stiffness, hemodynamic modeling, blood waveform analysis, measurement process control, oximetry, statistical analyses, clinical trial conduction, QA.
- 2000 - 2003 **IMADENT LTD**, Rehovot, Israel
physicist. developing an ultrasound imaging device for dental use: algorithms, signal processing, image processing, tomography, wave propagation models, SAFT.
- 1993 - 2000 **DEPARTMENT OF GEOPHYSICS AND PLANETARY SCIENCES, TEL AVIV UNIVERSITY**, Tel Aviv, Israel
scientific manager of NASA EOSDIS data center in Israel; development team leading; publishing studies in dynamic meteorology, climatology, hydrology, weather forecasting and data assimilation; teaching an advanced course in dynamic meteorology.
- 1994 - 1998 **INTERDISCIPLINARY CENTER FOR TECHNOLOGICAL ANALYSIS AND FORECASTING AT TEL-AVIV UNIVERSITY**, Tel Aviv, Israel.
research worker. projects include: remote sensing and applications; energy/electricity planning; education forecasting and planning; mobile wireless communication; municipal waste management; university-industry relations; phosphogypsum uses; cryogenic cooling.
- 1991 - 1993 **SCHOOL OF MUSIC, BOSTON UNIVERSITY**, Boston, Massachusetts.
teaching assistant. teaching music ear training, and keyboards.
- 1990 - 1991 **DEPARTMENT OF GEOPHYSICS AND PLANETARY SCIENCES, TEL AVIV UNIVERSITY**
research assistant. researches in meteorology; scientific programming.
- 1984 - 1990 **ISRAELI AIR FORCE**
meteorology research officer. rank of Captain. development of computer aided numerical models for weather forecasting.

COMPUTER SKILLS

22 years of experience with Matlab, Fortran, C, Microsoft Office, Unix, GrADS.

PERSONAL SKILLS

intelligent, thorough, multidisciplinary, inventive and practical, can work individually or in team.

OTHER PROFESSIONAL ACTIVITIES

composer of contemporary classical music and jazz performer (trumpet and piano). music performed in Israel and abroad, recorded CDs.

Articles

1. Shay-El Y., P. Alpert and A. da Silva, 2000: Preliminary estimation of horizontal fluxes of cloud liquid water in relation to subtropical moisture budget studies employing ISCCP, SSMI and GEOS-1/DAS datasets. *J. Geoph. Res.*, **105**, 18067-18090.
2. Shay-El Y., P. Alpert and A. da Silva, 1999: Reassessment of the moisture source over the Sahara Desert based on NASA reanalysis. *J. Geoph. Res.*, **104**, 2015-2030.
3. Shay-El Y., 1998: *Aspects of the Hydrological Cycle and Assimilated Datasets in the Subtropical Atmosphere*. PhD Thesis, Submitted to the Senate of Tel-Aviv University, September 1998, 173 pp.
4. Alpert P., Y. J. Kaufman, Y. Shay-El, D. Tanre, A. da Silva, S. Schubert, and J. H. Joseph, 1998: Quantification of dust-forced heating of the lower troposphere. *Nature*, **395**, 367-370.
5. Shay-El Y., P. Alpert, Y. J. Kaufman, D. Tanre, A. da Silva, S. Schubert, and J. H. Joseph, 1998: Lower-tropospheric response to dust as inferred from correlations between dust frequencies and analysis increments from GEOS-1 multiyear assimilation. Submitted to *Tellus*.
6. Alpert P., Y. Shay-El and E. Heifetz, 1995: A comment on the geostrophic wind divergence, *Quart. J. Roy. Meteor. Soc.*, **121**, 227-228.
7. Alpert P., and Y. Shay-El, 1994: The moisture source for the winter cyclones in the eastern Mediterranean. *Israel Meteor. Res. Pap.*, **5**, 20-27.
8. Alpert P., and Y. Shay-El, 1993: The paradox of the winter net moisture sink over Arabian-Iraqi desert, *Annales Geophysicae.*, **11**, 190-194.
9. Shay-El Y., and P. Alpert, 1991: A diagnostic study of winter diabatic heating in the Mediterranean in relation with cyclones, *Quart. J. Roy. Meteor. Soc.*, **117**, 715-747.
10. Shay-El Y., 1990: *Dynamic Analysis of the Mediterranean Cyclones*. M.Sc. Thesis, Tel Aviv Univ., March 1990, 72 pp. (in Hebrew).
11. Alpert P., B. U. Neeman and Y. Shay-El, 1990: Climatological analysis of Mediterranean cyclones using ECMWF data, *Tellus*, **42A**, 65-77.
12. Alpert P., B. U. Neeman and Y. Shay-El, 1990: Intermonthly variability of cyclone tracks in the Mediterranean, *J. Climate*, **3**, 1474-1478.

Papers presented in Scientific Meetings

1. Shay-El Y., P. Alpert and A. da Silva, 1999: Applying GEOS-1/DAS for moisture budget calculations over the Sahara Desert. *2nd International Conference on Reanalysis*, WCRP, August 23-27, Reading, UK. (sponsored speaker)
2. Shay-El Y., P. Alpert, Y. J. Kaufman, D. Tanre, A. da Silva, S. Schubert and J. H. Joseph, 1999: "Lower-Tropospheric Response to Dust and Clouds as Inferred from Analysis Updates of NASA/GEOS", *Proceedings of the International Conference and Workshops on the contribution of POLDER and new generation spaceborne sensors to global change studies*, CNES/ALPS99, January 18-22, Meribel, France, Vol. 2, WK1&WK2-O-04 p.1-4. (sponsored speaker)
3. Shay-El Y., P. Alpert and A. da Silva, 1999: Reassessment of the moisture source over the Sahara Desert based on NASA reanalysis. *Preprint, Supplementary Collection, 3rd International Scientific Conference on the Global Energy and Water Cycle*, WCRP, June 16-19, Beijing, China, 8-9. (sponsored speaker)
4. Alpert P., Y. Shay-El, and A. da Silva, 1996: Moisture sinks/sources over the Mediterranean and Arabia/Iraqi desert. *Preprint, 2nd International Scientific Conference on the Global Energy and Water Cycle*, WCRP, June 17-21, Washington D.C., USA, 105-106.

5. Alpert P., A. da Silva, and Y. Shay-El, 1996: Evaluation of the GEOS-1 DAS reanalysis data over a mesoscale Mediterranean domain. *Proceedings of the 11th Conference on NWP*, AMS, Aug. 19-23, Norfolk, VA, 183-185.
6. Alpert P., and Y. Shay-El, 1990: Role of diabatic sources in mesoscale cyclones in the eastern Mediterranean, *Preprints, Fourth Conference of Mesoscale Processes*, Amer. Meteor. Soc., Boulder, 20-21.
7. Alpert P., B. U. Neeman and Y. Shay-El, 1988: Some characteristics of Mediterranean circulations, *Preprints, Palmem Memorial Symposium on Extratropical Cyclones*, Amer. Meteor. Soc., Helsinki, 282-285.

Reports

1. Shay-El Y., A. Tal, and Y. Sharan, 2001: *Assessing the Solar Energy Balance in the City of Tel Aviv-Yaffo*. Report to the Belfer foundation and the Israel Ministry of Energy and Infrastructure , May 2001 (in Hebrew).
2. Hauptman A., E. Tapuchi, and Y. Shay-El, 1999: *Cryogenic Cooling: State-of-the-Art and Development Trends*. Report to the Ministry of Defense, Interdisciplinary Center for Technological Analysis and Forecasting, February 1999 (in Hebrew).
3. Sokolov M., T. Sofer, A. Hauptman, M. Harel, and Y. Shay-El, 1999: *ORT - Hermelin College in Netanya: Registration Potential and Preferred Learning Disciplines*. January 1999 (in Hebrew).
4. Raban Y., and Y. Shay-El, 1998: *Options for municipal waste management - Developing a methodology for Kfar Saba municipality*. Report to the Kfar Saba Municipality, Interdisciplinary Center for Technological Analysis and Forecasting, May 1998 (in Hebrew).
5. Tapuchi E., and Y. Shay-El, 1998: *Techno-economic evaluation of the uses of phosphogypsum*. Report to the Ministry of Environment, Interdisciplinary Center for Technological Analysis and Forecasting, February 1998 (in Hebrew).
8. Harel M., Y. Raban, E. Verdoner, and Y. Shay-El, 1997: *Mobile Personal Communication Services*. Report to the Ministry of Communication, Interdisciplinary Center for Technological Analysis and Forecasting, March 1997 (in Hebrew).
9. Raban Y., and Y. Shay-El, 1997: *The obstructing factors for researchers in the academy in collaborations with the industry in Israel*. Report to the Ministry of Science, Interdisciplinary Center for Technological Analysis and Forecasting, April 1997 (in Hebrew).
10. Sokolov M., T. Sofer, Y. Shay-El, Y. Baal-Shem, and Y. Raban, 1996: *Forecasting of the Israel education workers for 2005*. Report to the Ministry of Education, Culture, and Sports, Interdisciplinary Center for Technological Analysis and Forecasting, May 1996 (in Hebrew).
11. Baal-Shem Y., Y. Raban, Y. Shay-El, V. Lev, V. Shacham, and B. Schwartz, 1996: *Cross impact analysis between sectors in the technological forecast of the electricity demand*. Report to the Israel Electricity Company, Interdisciplinary Center for Technological Analysis and Forecasting, May 1996 (in Hebrew).
12. Shay-El Y., and A. Tal, 1994: *Monitoring absorbed energy in the salt pans of the Dead Sea Works*. Proprietary report to the Dead Sea Works, Interdisciplinary Center for Technological Analysis and Forecasting, May 1994, 46 pp. (in Hebrew).
13. Tal A., and Y. Shay-El, 1994: *Use of TIROS/AVHRR for thermal monitoring of the Dead Sea Works evaporation pans*. Proprietary report to the Dead Sea Works, Interdisciplinary Center for Technological Analysis and Forecasting, August 1994 (in Hebrew).