HIT – HOLON INSTITUTE OF TECHNOLOGY

Date: 28th May 2026

Name **YUVAL DORFAN** Ph.D. 029505484

(first) (last) (acad. degree) **No. id. Card**

Faculty Electrical and Electronics Engineering ***Department***

Home Address 13a Dalya Avenue, Ness-Ziona ***Phone No.*** **052-6180329**

(home) (work) (mobile)

Date/place of birth 19/7/1972 Israel ***Date of arrival in Israel*** -

(date) (country)

ZAHAL, (Israeli) Military Service 21/11/1990 - 6/10/1994

dates (enlisted) **(discharged)**

Marital Status Married ***No. of children*** four

Email: dorfany@gmail.com

A. EDUCATION

Period of Study (dates)	Name of University (including city and country if not in Israel)	Subject	Degree or Professional Licence	Date of Award
1994-1998	Electrical and Computer Engineering Ben-Gurion University of the Negev	Signal Processing, Communication and Control	B.Sc.* *summa cum laude*	1/7/1998
1998-2001	Technion – Israel Institute of Technology	Electrical Engineering	M.Sc. *magna cum laude*	1/2/2001
2005-2007	Interdisciplinary Center Herzliya (now Reichman University)	Entrepreneurship	MBA	1/5/2007
10/2013-8/2017	Bar-Ilan University	Signal Processing	Ph.D.	31/7/2017

*Supervised by Prof. Israel Rotman; Dr. Ayelet Pneuli

Title of Master's Thesis: Modeling and identification of LPTV systems by wavelets

Title of MBA Thesis: Mediocheck for acoustic sensing of pneumonia for babies (Entrepreneur of a new company)

Name of Supervisors: Prof. Arie Feuer, The Late Prof. Boaz Porat *(M.Sc. Thesis)*

Title of Doctoral Dissertation: Distributed localization and tracking of acoustic sources

Names of Supervisors: Prof. Sharon Gannot

B. FURTHER STUDIES

Period of Study (dates)	Name of University (including city and country if not in Israel)	Subject	Degree or Professional Licence	Date of Award
NONE				

C. ACADEMIC AND PROFESSIONAL EXPERIENCE

Academic:

Period (dates)	Name of Institution (city, country)	Department	Rank/Function
1998-2001	Technion – Israel Institute of Technology, Haifa, Israel	Electrical Engineering	Teaching Assistant/ Projects Supervisor❶
2006-2011	Weizmann Institute of Science, Rehovot, Israel	Molecular Genetics	Assistant❷
2013-2017	Faculty of Engineering, Bar-Ilan University, Ramat Gan, Israel	Speech and Signal Processing Laboratory	Ph.D. research and studies❸
2017-2020	MIT, Cambridge, MA, USA	Voigt Laboratory in Biological Engineering	Research Scientist❹

❶
- Leading signal processing research of students from Israel and Europe
- Teaching Assistant – two courses
- Projects supervision in signal and image processing in academic and industrial areas (Applied Materials, Nahal Sorek, Elbit, etc.). One of the projects was awarded a prize

❷
- Research in bioinformatics
- MATLAB course for graduate students

❸
- Development of new distributed expectation-maximization (EM) algorithms for acoustic source localization, tracking and source separation
- Cooperation with industry and other research groups in Israel, Europe, UK and Singapore, including visits to Grenoble and London
- Raising money from industry and other funding sources
- Supervision of master students

❹
- Managing a DARPA research project, Synergistic Discovery and Design (SD2):
  - Managing four research groups (MIT, Broad Institute, Utah University, Boston University) on a few research tasks (Bio-cyber-security, genetic circuits, RNA-seq, soil bacteria design and various software (SW) tools for synthetic biology)
  - Weekly meetings with researchers from academia and industry (various locations in America)
- Initiating and managing a 1M$ project as a collaboration between Israel and MIT: Soil project for agriculture
- Co-founding ISI in RU, Herzliya, Israel with Prof. Chris Voigt, Dr. Ben Gordon and other partners

C. ACADEMIC AND PROFESSIONAL EXPERIENCE, contd.

Academic:

Period (dates)	Name of Institution (city, country)	Department	Rank/Function
2020-2022	Innovation Center, Reichman University, Herzliya, Israel	Israeli SynBio Institute (ISI)	Initiator, Director❺
1/10/2022-	**HIT – Holon Institute of Technology, Holon, Israel**	**Electrical and Electronics Engineering**	**Founder of Bio-convergence Excellence Center❻**

	Rank:
1/10/2022-1/5/2025	Equivalent to Senior Lecturer
1/5/2025-present	**Senior Lecturer**

❺
- Founding Director of ISI as part of the Innovation Center, in close partnership with Prof. Noam Lemelshtrich Latar and Dr. Jonathan Giron
- Leading integrative applied research in IDC with multiple schools: Law, communication, computer science, etc.
- Grants and papers with industry and academia, including ZMI, with Prof. Dov Greenbaum and other Principal Investigators from universities in Israel and abroad
- Holistic research to enable new companies including old landmine detection and biochip to monitor air/water contaminations
- Founding Alagene, the first Israeli bio-foundry with hylabs (a bio-tech company from Rehovot) and Michael Eisenberg (private funder) supported by the Israeli Innovation Authority (IIA), who declared it as a national facility for SynBio local community, with an initial budget of 40Mnis for a ramp-up phase of two years

❻
- Teaching in courses of electrical engineering, Signal and systems and advanced image processing
- Leading a new M.Sc. track in bio-convergence
- Leading integrative applied research
- Grants and papers with industry and academia, including ZMI, Prof. Dov Greenbaum and other Principal Investigators from universities in Israel and Israel
- Holistic research to enable new companies, including old landmine detection and biochip to monitor air/water contaminations
- Advisor to Alagene, the first Israeli bio-foundry supported by the Israeli Innovation Authority (IIA), who declared it as a national facility for SynBio local community with an initial budget of 40Mnis for a ramp-up phase
- Supervision of undergraduate and graduate students' projects, including Ph.D. and Master's degrees in collaboration with the Hebrew University of Jerusalem, Ben-Gurion University of the Negev, and Ariel University

Professional:

Period (dates)	Name of Institution (city, country)	Department	Rank/Function
2001-2006	Comsys Communication & Signal Processing (now Intel), Herzliya, Israel	Cellular Communication Projects	Team Leader/ Senior PHY Engineer❼

❼
- Recruiting, training and managing team
- Algorithms research, development and implementation
- Cooperation with academy (Technion, Tel-Aviv University, Ben-Gurion University of the Negev) and companies (Rafael, Allvarion, etc.)

C. ACADEMIC AND PROFESSIONAL EXPERIENCE, contd.

Professional:

Period (dates)	Name of Institution (city, country)	Department	Rank/Function
2004-2005	Negevtech, Rehovot, Israel	R&D	Project Manager/ Team Leader❽
2007-2008	Intel, Haifa, Israel	System Engineering Wimax	In charge of WiFi project❾
2008-2009	Telesen, Rosh- Ha'ayen, Israel	Research and Development	Manager❿
2009-2017	Israel Aerospace Industries (AI), Beer Yaacov, Israel	Signal Processing & Communication	Algorithms & Systems Engineer①

❽
- Recruiting, training and managing team
- Innovative R&D in image processing, including a patent
- Responsibility for multidisciplinary project (SW, HW, optics and application)

❾
- Definition of multi-standard communication system
- Leading integration stages including automatic calibrations algorithms

❿
- Leading a wrist pulse measurement project by optics and acceleration sensor
- Recruiting a team system definition and algorithms development
- Patents mapping, interactions with other companies and academia (Technion, Ben-Gurion University)

①
- Planning RF communication systems
- Development of signal processing algorithms for communication, acoustics, GPS, etc.
- Projects supervision in signal processing with Tel-Aviv University

D. PROFESSIONAL AND PUBLIC ACTIVITIES

Period (dates)	Name of Institution/Conference/ Journal/Exhibitions/Projects (city, country)	Occasion
2021-present	Israeli Society for Synthetic Biology (R.A.)	Co-founder - Organizing annual conferences, raising money and supporting local research

D1. INVOLVEMENT IN HIT INSTITUTIONAL ACTIVITIES

Period (dates)	Occasion
NONE	

E. ACADEMIC AND PROFESSIONAL AWARDS

Year	Name of Institution (city, country)	Occasion
2014	Hands-free Speech Communication and Microphone Arrays (HSCMA 2014), Villers-les Nancy, France, 12-14 May 2014	Best Paper Award: Multiple acoustic sources localization using distributed expectation-maximization algorithm
2017	Bar-Ilan University, Ramat Gan, Israel	Best Paper Award: Distributed localization and tracking of acoustic sources

E1. RESEARCH GRANTS

Year	Name of Institution (city, country)	Occasion/Amount
2021	Israel Ministry of Defense, Israel	**Research Grant:** Bio-chip for bacterial pathogens in air or water Reichman University, Herzliya, Israel Amount: 400K NIS per year
2021	Israel Innovation Authority, Israel	**Research Grant:** Israeli biofoundry ramp-up Reichman University, Herzliya, Israel Amount: 40M NIS for two years
2023	HIT – Holon Institute of Technology, Holon, Israel	Internal grant: DNA transfer into WT gram+ Amount: 40K NIS for one year
2024	Israel Science Foundation (ISF), Israel	**Research Grant:** Resolviing the spatiotemporal alterations in Ca and Carbonate homeostasis in Bacillus subtilis biofilms Amount: 1.4M NIS for five years
2025	Ariel University/HIT – Holon Institute of Technology, Israel	Joint Grant: Directed evolution of Burkholderia latens to improve oil and polymer recycling Amount: 100K NIS for two years
2025	Planning and Budgeting Commission, and Ministry of Innovation, Science and Technology (PBC/VATAT & MOST), Israel	**Research Grant:** Bacteria detection and classification from environmental samples: Novel DNA transfer field technology HIT – Holon Institute of Technology, Holon, Israel Amount: 180K NIS for two years
2026	The Wohl Clean Growth Alliance (WCGA), UK	**Research Grant:** Engineer new bacterial chassis for soil and water environmental applications HIT – Holon Institute of Technology, Holon, Israel Amount: 23K$ for one year

F. MEMBERSHIP IN PROFESSIONAL SOCIETIES

Year	Society (country)
2017-2021	SD2, SynBio, USA
2021-present	Israeli SynBio Association (ISA), Israel

G. STUDENTS SUPERVISED BY CANDIDATE

HIT – Holon Institute of Technology does not currently have an accreditation for granting Dissertation (Ph.D.) degrees

G1. DOCTORAL STUDENTS

Year	Name of Student	Title of Thesis	Name of Academic Institution
2023-	Yonatan Cohen	SynBio and evolution of microorganisms	Hebrew University, and HIT – Holon Institute of Technology
2023	El-Or Sharoni	Plastic bio-degradation	Ariel University and HIT – Holon Institute of Technology

G2. M.A./M.Sc. STUDENTS *(please indicate if degree is with "thesis" or "final project")*

Year	Name of Student	Title of Thesis/Final Project	Name of Academic Institution
2023-present	Avichai Nehami	THESIS: Bio-corrosion	HIT – Holon Institute of Technology, and Reichmann University
2024-present	Ariel Ohaion	THESIS: Growing and engineering WT bacteria	HIT – Holon Institute of Technology, and Volcani Institute

PUBLICATIONS

Dr. Yuval Dorfan has an h-index of 13 (Google scholar)

C. REFEREED ARTICLES (ranked by either WoS or SCImago)

*1. E. Carmi, R. Glikman, **Y. Dorfan** (2026)
Unintended creation or insertion of antisense promoter motifs during codon optimization:
A cyber-biosecurity risk
Microorganisms, 14(3), (638), 12 March 2026
Special Issue Bio-Convergence: Microorganism Usage for Sustainability Applications
https://doi.org/10.3390/microorganisms14030638
WoS: Q2, IF: 4.2 (2024)
SCImago: Q1, h-index: 139

A. Nahami Cell Reports

*2. A. Nahami, D. Kain, Y. Cohen, Y. Kolodkin-Gal, Y. Assouline, A.H. Yona, I Kolodkin-Gal, **Y. Doran** (2025)
Automated platform for the analysis of multi-plate growth and reporter data
Microorganisms, 13(8), (1889), published 13 August 2025
WoS: Q2, IF: 4.2 (2024)
SCImago: Q2, h-index: 112

*3. N. Agmon, L. Rahamim-Ben Navi, Y. Shacham-Diamond, **Y. Dorfan**, I. Kolodkin-Gal (2025)
From academia to real-life biotech: 'It takes a village'
Trends in Biotechnology, 43(6), (1261-1264) published 14 March 2025
WoS: Q1, IF: 14.9 (2024), JCR citation: 1
SCImago: Q1, h-index: 265, Scopus citation: 1
[Google scholar citation: 1]

*4. **Y. Dorfan**, A. Nahami, Y. Morris, B. Shohat, I. Kolodkin-Gal (2024)
The utilization of *Bacillus subtilis* to design environmentally friendly living paints
with anti-mold properties
Microorganisms, 12(6), (1226), published 18 June 2024
WoS: Q2, IF: 4.2 (2024)
SCImago: Q2, h-index: 112
5. Sustainable construction: Toward growing biocement with synthetic biology

*5. S. Zilberzwige-Tal, P. Fontanarrosa, D. Bychenko, **Y. Dorfan**, E. Gazit, C.J. Myers (2023)
Investigating and modeling the factors that affect genetic circuit performance
ACS Synthetic Biology, 12(11), (3189-3204), published 2 November 2023
WoS: Q1, IF: 3.9 (2024), JCR citations: 4
SCImago: Q1, h-index: 102, Scopus citations: 4
[Google scholar citations: 7]

*6. Y. Chemia, **Y. Dorfan**, A. Yannai, D. Meng, P. Cao, S. Glaven, D.B. Gordon, J. Elbaz, C.A Voigt (2022)
Parallel engineering of environmental bacteria and performance over years
under jungle-simulated conditions
PLoS One, 1712), (e0278471)
WoS: Q2, IF: 3.752, JCR citations: 8
SCImago: Q1, h-index: 367, Scopus citations: 8

[Google scholar citations: 11]

* Since last promotion

C. REFEREED ARTICLES (ranked by either WoS or SCImago), contd.

7. M. Eslami, A.E. Borujeni, H. Eramian, M. Weston, G. Zheng, J. Urrutia, C. Corbet, D. Becker, P. Maschhoff, K. Clowers, A. Cristofaro, H.D. Hosseini, D.B. Gordon, **Y. Dorfan**, J. Singer, M. Vaughn, N. Gaffney, J. Fonner, J. Stubbs, C.A. Voigt, E. Yeung (2022)
Prediction of whole-cell transcriptional response with machine learning
Bioinformatics, 38(2), (404-409)
WoS: Q1, IF: 6.931, JCR citations: 10
SCImago: Q1, h-index: 415, Scopus citations: 10
[Google scholar citations: 19]

8. **Y. Dorfan**, B. Schwartz, S. Gannot (2021)
Forward-backward recursive expectation-maximization for concurrent speaker tracking
EURASIP J. on Audio, Speech, and Music Processing, Vol.2021, (1-13)
WoS: Q2, IF: 2.114, JCR citations: 2
SCImago: Q2, h-index: 30, Scopus citation: 1
[Google scholar citations: 2]

9. **Y. Dorfan**, O. Schwartz, S. Gannot (2020)
Joint speaker localization and array calibration using expectation-maximization
EURASIP J. on Audio, Speech, and Music Processing, Vol.2020, (1-19)
WoS: Q2, IF: 2.114, JCR citations: 7
SCImago: Q2, h-index: 30, Scopus citations: 6
[Google scholar citations: 7]

10. P. Fontanarrosa, H. Doosthosseini, A.E. Borujeni, **Y.I. Dorfan**, C.A. Voigt, C. Myers (2020)
Genetic circuit dynamics: Hazard and glitch analysis
ACS Synthetic Biology, 9(9), (2324-2338)
WoS: Q1, IF: 5.249, JCR citations: 22
SCImago: Q1, h-index: 74, Scopus citations: 22
[Google scholar citations: 34]

11. **Y. Dorfan**, A. Plinge, G. Hazan, S. Gannot (2017)
Distributed expectation-maximization algorithm for speaker localization
in reverberant environments
IEEE/ACM Trans. on Audio, Speech, and Language Processing, 26(3), (682-695)
WoS: Q1, IF: 4.364, JCR citations: 19
SCImago: Q1, h-index: 60, Scopus citations: 20
[Google scholar citations: 20]

12. **Y. Dorfan**, S. Gannot (2015)
Tree-based recursive expectation-maximization algorithm for localization of acoustic sources
IEEE/ACM Trans. on Audio, Speech, and Language Processing, 23(10), (1692-1703)
WoS: Q1, IF: 4.364, JCR citations: 37
SCImago: Q1, h-index: 60, Scopus citations: 40
[Google scholar citations: 61]

13. T. Tuller, A. Carmi, K. Vestsigian, S. Navon, **Y. Dorfan**, J. Zaborske, T. Pan, O. Dahan, I. Furman, Y. Pilpel (2010)
An evolutionarily conserved mechanism for controlling the efficiency of protein translation
Cell, 141(2), (344-354)
WoS: Q1, IF: 66.850, JCR citations: 673
SCImago: Q1, h-index: 814, Scopus citations: 696
[Google scholar citations: 1092]

C. REFEREED ARTICLES (ranked by either WoS or SCImago), contd.

14. **Y. Dorfan**, A. Feuer, B. Porat (2004)
Modeling and identification of LPTV systems by wavelets
Signal Processing, 84(8), (1285-1297)
WoS: Q2, IF: 4.729, JCR citations: 10
SCImago: Q1, h-index: 144, Scopus citations: 14
[Google scholar citations: 25]

C. REFEREED ARTICLES (non-ranked)

*1. **Y. Dorfan**, A. Zeevi, G. Reinitz, M. Mualem, Y. Shacham-Diamand (2023)
Israel and the global synthetic biology ecosystem
Engineering Biology, 7(1-4), (18-28), published December 2023
[Google scholar citation: 1]

*2. **Y. Dorfan**, Y. Morris, B. Shohat, I. Kolodkin-Gal (2023)
Sustainable construction: Toward growing biocement with synthetic biology
Research Directions: Biotechnology Design, 1, (e14), published online 18 August 2023
[Google scholar citations: 13]

D. CHAPTERS IN BOOKS

*1. N. Dalal, Y. Oren, **Y. Dorfan**, J. Gioron, R. Puzis (2023)
The attack surface of web lab automation
in: *Cyberbiosecurity* – A New Field to Deal with Emerging Threats
D. Greenbhaum (ed.)
Springer Cham. (279-304)
ISBN: 978-3-031-26033-9
[Google scholar citations: 12]

E. PAPERS PRESENTED AT SCIENTIFIC MEETINGS PUBLISHED IN PROCEEDINGS

1. A. Hasnain, S. Sinha, **Y. Dorfan**, A.E. Borujeni, Y. Park, P. Maschhoff, U. Saxena, J. Urrutioa, N. Gaffney, D. Becker, A. Siba, N. Maheshri, B. Gordon, C. Voigt, E. Yeung (2019)
A data-driven method for quantifying the impact of a genetic circuit on its host
IEEE Biomedical Circuits and Systems Conf. (BioCAS 2019)
Nara, Japan, 17-19 October 2019 (1-4)
JCR citations: 4
Scopus citations: 5
[Google scholar citations: 27]

2. C. Evers, **Y. Dorfan**, S. Gannot, P.A. Naylor (2017)
Source tracking using moving microphone arrays for robot audition
IEEE Int'l. Conf. on Acoustics, Speech and Signal Processing (ICASSP 2017)
New Orleans, LA, USA, 5-9 March 2017 (6145-6149)
JCR citations: 18
Scopus citations: 25
[Google scholar citations: 33]

* Since last promotion

E. PAPERS PRESENTED AT SCIENTIFIC MEETINGS PUBLISHED IN PROCEEDINGS, contd.

3. O. Schwartz, **Y. Dorfan**, M. Taseska, E.A.P. Habets, S. Gannot (2017)
DOA estimation in noisy environment with unknown noise power using the EM algorithm
Hands-free Speech Communications and Microphone Arrays (HSCMA 2017)
San Francisco, CA, USA, 1-3 March 2017 (86-90)
JCR citations: 21
Scopus citations: 23
[Google scholar citations: 22]

4. **Y. Dorfan**, O. Schwartz, B. Schwartz, E.A.P. Habets, S. Gannot (2016)
Multiple DOA estimation and blind source separation using estimation-maximization
IEEE Int'l. Conf. on the Science of Electrical Engineering (ICSEE 2016)
Eilat, Israel, 16-18 November 2016 (1-5)
JCR citations: 14
Scopus citations: 17
[Google scholar citations: 21]

5. O. Schwartz, **Y. Dorfan**, E.A.P. Habets, S. Gannot (2016)
Multi-speaker DOA estimation in reverberation conditions using expectation-maximization
IEEE Int'l. Workshop on Acoustic Signal Enhancement (IWAENC 2016)
Xi'an, China, 13-16 September 2016 (1-5)
Scopus citations: 22
[Google scholar citations: 25]

6. **Y. Dorfan** (2016)
Speaker localization with moving microphone arrays
European Signal Processing Conf. (EUSIPCO 2016)
Budapest, Hungary, 29 August-2 September 2016 (1003-1007)
JCR citations: 8
Scopus citations: 9
[Google scholar citations: 10]

7. **Y. Dorfan**, D. Cherkassky, S. Gannot (2015)
Speaker localization and separation using incremental distributed expectation-maximization
23rd European Signal Processing Conf. (EUSIPCO 2015)
Nice, France, 31 August-4 September 2015 (1256-1260)
JCR citations: 8
Scopus citations: 11
[Google scholar citations: 11]

8. **Y. Dorfan**, G. Hazan, S. Gannot (2014)
Multiple acoustic sources localization using distributed expectation-maximization algorithm
4th Joint Workshop on Hands-free Speech Communication and
Microphone Arrays (HSCMA 2014)
Villers-les-Nancy, France, 12-14 May 2014 (72-76)
Best Paper Award
JCR citations: 15
Scopus citations: 15
[Google scholar citations: 15]

9. G. Zilberman, A. Kleinerman, Y. Chipman, **Y. Dorfan** (2004)
A comparison of frequency offset estimators for burst communication systems
GSPx Conf., Santa Clara, CA, USA, 27-30 September 2004

H. OTHER PUBLICATIONS

H1. PATENTS

1. E. Sali, T. Yanir, M. Wagner, N. Dotan, **Y. Dorfan**, R. Zaslavsky (2010)
Method and apparatus for detecting defects in wafers
Patent No.: US 7,813,541 B2, Date of Patent: 12 October 2010
[Google scholar citations: 57]

H2. PATENT APPLICATION PUBLICATIONS

1. **Y. Dorfan**, J. Rovinsky (2018)
Missile vehicle communication unit
Israel Patent No.227279, Publication Date: July 2018

H3. TECHNICAL REPORTS

1. A.E. Borujeni, H. Doosthosseini, **Y. Dorfan**, A.J.Triassi, D.A. Anderson, Y-J Park, C.A. Voigt, B.A. Garcia, U. Saxena, A.W. Cristofaro, D.B. Gordon, T.S. Jones, D. Fu, S. Oliveira, E. Jones, R. Chen, D.M. Densmore, C.J. Myers (2022)
Genetic circuit design for extreme environments enabled by models extracted from petabyte-scale perturbation analyses
Massachusetts Institute of Technology, Cambridge, USA
AFRL-RI-RS-TR-2022-130, published 1 September 2022 (162 pages)

H4. PREPRINTS

*1. D. Tchelet, A. Nahami, A. Ioshpe, P. Anand Murugan, I. Lapsker, **Y. Dorfan**, I. Kolodkin-Gal (2026)
Assessing soluble and insoluble calcium sources for growth, biofilm formation, and biomineralization in Bacillus subtilis
bioRxiv 2026.05. 12.724540, posted 13 May 2026
https://doi.org/10.64898/2026.05.12.724540

*2. A. Hasnain, A.E. Borujeni, Y. Park, D. Becker, P. Maschhoff, J. Urrutia, L. Rydell, S. Balakrishnan, **Y. Dorfan**, C.A. Voigt, E. Yeung (2023)
Disentangling gene expression burden identifies generalizable phenotypes induced by synthetic gene networks
bioRxiv, 2023.06. 29.547078
Cold Spring Harbor Laboratory, publication date 1 July 2023
https://doi.org/10.1101/2023.06.29.547078
[Google scholar citations: 2]

* Since last promotion