

CURRICULUM VITAE AND LIST OF PUBLICATIONS

• **Personal Details**

- Name: Amit Zeev Dvir
- Born: 27/07/1976, Israel.
- Army: Served as Paratrooper, Nov. 1994 – Nov. 1997.

• **Education**

Post Doc (2011 – 2012, 18 months), CrySyS Lab, Department of Telecommunications, Budapest University of Technology and Economics, Hungary, **Founded by EU HUMAN-MB08-2.**

Advisor: Dr. Levente Buttyan.

Topic: Dependable Transport Protocol for Sensor and actuator Networks (FP7 – WSAN4CIP).

Post Doc (2010 – 2011, 18 months), KCG Lab, University Center of Samaria, Ariel.

Advisor: Dr. Boaz Ben Moshe.

Topic: NETHD and Rescue.

Ph.D. (2004 - 2010), Communication Systems Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

Advisor: Prof. Michael Segal.

Topic: Optimizing Traffic Parameters in Wireless Network Communication Backbones.

M.Sc. (2002 - 2004), Electro-Optical Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

Advisors: Prof. Michael Segal and Dr. Yehuda Ben-Shimol.

Topic: SPLAST: A Novel Approach for Multicasting in Mobile Wireless Ad Hoc Networks.

B.Sc. (1998 - 2002), Communication Systems Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

• **Academic Positions** (in reverse chronological order, including sabbatical leave)

Senior Lecturer (2014 – present): Ariel University, Computer Science Department, Israel.

Senior Lecturer (2012 – 2014): The College of Management Academic Studies, Computer Science Department, Rishon LeZion, Israel.

Lecturer: The College of Management Academic Studies (2007 – 2012), Computer Science Department, Rishon Lezion, Israel. Undergraduate courses

Teacher: Ruppin Academic Center (2012 – 2014), Computer Engineering Department, Israel. Undergraduate courses

Teaching Assistant: Budapest University of Technology (2010- 2011), Department of Telecommunication, Budapest, Hungary. Undergraduate course.

Teaching Assistant: Ben-Gurion University (2002 – 2010), Department of Communication Systems Engineering, Beer-Sheva, Israel. Undergraduate and graduate courses.

Tutor: Ben-Gurion University (2002 – 2010), Department of Communication Systems Engineering, Beer-Sheva, Israel. Tutor of final projects.

Teacher: Sapir College (2005 – 2007), Department of Software Systems, Sderot, Israel. Lecturer in undergraduate courses.

Teacher: Ort Hermelin, Department of Software Systems, Netanya, Israel. Lecturer of undergraduate courses (2005 – 2007).

NESS-ISI, Clalit Health Services, Beer-Sheva, Israel. QA and technical support for unique medical applications that operate in clinics and hospitals. (2000 – 2002)

• **Administrative Positions** (in reverse chronological order)

Member of the Committee, Cyber Center (2015 – present) – Ariel University, Israel.

Head of Student Projects (2015 – present): Computer Science, Ariel University, Israel.

Head of Cyber courses (2015 – present): Computer Science, Ariel University, Israel.

Head of Student Projects (2008 – 2014): The College of Management – Academic Studies, Computer Science Department, Rishon LeZion, Israel.

Head of M.Sc. Committee (in progress) (2012 - 2014): The College of Management – Academic Studies, Computer Science Department, Rishon LeZion, Israel.

Member of the Committee on Discipline (for Faculty Members) – (2013 – 2014): The College of Management – Academic Studies, Rishon LeZion, Israel.

Member of the Library Committee of the College – (2012 – 2014): The College of Management – Academic Studies, Rishon LeZion, Israel.

Chairman of the Library Committee of the Computer Science School (2008 – 2014): The College of Management – Academic Studies, Computer Science Department, Rishon LeZion, Israel.

Lecturer (2007 – 2012): The College of Management Academic Studies, Computer Science Department, Rishon LeZion, Israel.

Teaching Assistant (2002 – 2010): Ben-Gurion University, Department of Communication Systems Engineering, Beer-Sheva, Israel.

- **Significant professional consulting**

Consultant (2004 – 2005): **Tadiran Telecom Ltd**, Israel. Designed and simulated an army communication network.

- **Editor or member of editorial board of scientific or professional journal**

PC member:

- ICC 2014-2016
- SSCC - 2016
- MultiCom 2015
- HotWiSec 2013.

Conference Reviewer:

- InfoCom 2008-2015.
- WISEC 2011.
- MobiHoc 2008-2009.
- AlgoSensor 2009.

Journal Reviewer:

- Ad Hoc & Sensor Wireless Networks 2009 - present
- Wireless Network 2009 - present
- International Journal of Distributed Sensor Networks 2013 – present.

- **Membership in professional/scientific societies**

ACM, 2009 – present.

IEEE, 2009 – present.

- **Educational activities**

- **Introduction to Communication Networks**, undergraduate, Ariel University, 2015 – present.
- **Introduction to Communication Networks**, undergraduate, The College of Management, 2007 – 2015.
- **Advance Communication Networks**, undergraduate, The College of Management, 2012 – 2015.
- **Seminar in Advance topics in Communication Networks**, undergraduate, The College of Management, 2012 – 2015.

- **Wireless Communication Networks**, undergraduate, The College of Management, 2007 – 2013.
- **Network Protocols**, undergraduate, Ruppin Academic Center, 2012 – 2014.
- **Communication Networks Lab (OPNET)**, undergraduate, Ruppin Academic Center, 2012 – 2013.
- **Communication Networks**, undergraduate, Ruppin Academic Center, 2012 – 2013.
- **Introduction to Computer Science (Java)**, undergraduate, Ben-Gurion University, 2002 – 2009.
- **Introduction to Communication Networks**, undergraduate, Ben-Gurion University, 2002 – 2010.
- **Communication Network 1, 2**, undergraduate, Ben-Gurion University, 2006 – 2009.
- **C++ Fundamental Programming**, undergraduate, Ben-Gurion University, 2002 – 2004.
- **Operation System**, undergraduate, Spair College, 2005 – 2007.
- **Introduction to Communication Networks**, Spair College, 2005 – 2007.
- **Awards, Citations, Honors, Fellowships**
 - 1) **Honors, Citation Awards** (including during studies)
 - Encouragement Research Prize 2012-2015 – President prize in College of Management.
 - Best faculty member award 2014, College of Management
 - Best faculty member award 2013, College of Management
 - Best lecturer award 2013, Ruppin College
 - Best lecturer award 2010, College of Management
 - Student Travel Grant IEEE 2010, 2006
 - 2nd in BizTec Israel 2010
 - DFJ - Cisco Global Business Plan Competition, Semi Final 2010
 - Intel Challenge - Europe Semi Final 2010
 - Intel's Excellence Award for Higher Academic Degree Studies. (2003)
 - Teva's Excellence Award. (2002)

- The Central Organization of Iranian Immigrants in Israel Excellence Award (2000)
- 2) Fellowships (e.g. Fullbright)
 - EU Research Grant - HUMAN-MB08-2, international mobility of researchers in order to promote research careers. (2011 – 2012, 18 months, **300,00 NIS**)
- **Scientific Publications**

Refereed articles and chapters in books and scientific journals - running numbers

 - 1) R. Yozevitch, B. Ben-Moshe, **A. Dvir**, "GNSS Accuracy Improvement Using Rapid Shadow Transitions", *IEEE Transactions on Intelligent Transportation Systems*, 2014, Vol. 15, Num. 3, pp. 1113-1122. IF = 3.064, Cite = 8
 - 2) T. V. Thong, L. Buttyán, A. Dvir, "On formal and automatic security verification of WSN transport protocols", *ISRN Sensor Networks*, 2014, accepted (20 pages). IF = no impact, Cite = 3
 - 3) B. Ben-Moshe, **A. Dvir**, M. Segal, and A. Tamir, "Centdian Computation in Cactus Graphs", *Journal of Graph Algorithms and Applications*, Vol. 16, Num. 2, pp. 199 – 224, 2012. SJR = 0.8, Cite = 6.
 - 4) **A. Dvir**, and M. Segal, "Placing and Maintaining a Core Node in Wireless Ad Hoc Sensor Network", *Journal of Wireless Communications and Mobile Computing*, 10(1), 826-842, 2010. IF = 0.863, Cite = 5
 - 5) **A. Dvir**, R. Giladi, I. Kitroser and M. Segal, "Efficient Decision Handoff Mechanism for Heterogeneous Networks", *International Journal of Wireless & Mobile Networks*, Vol. 2, Num. 1, pp. 1-13, 2010. IF = 0.41, Cite = 11
 - 6) **A. Dvir**, and M. Segal, "The (k, l) Coredian Tree for Ad Hoc Networks", *Ad Hoc & Sensor Wireless Networks*, 6(1-2): 123-144, 2008. IF = 0.41, Cite = 2
 - 7) Y. Ben-Shimol, **A. Dvir**, and M. Segal. "SPLAST: A Novel Approach for Multicasting in Mobile Wireless Ad Hoc Networks", *Advances in Wireless Ad Hoc and Sensor Networks, Signals and Communication Technology* 2008, pp. 256-273. Springer, Cite = 12
 - 8) B. Ben-Moshe, Y. Ben-Yehezkel, Y. Ben-Shimol, **A. Dvir**, and M. Segal, "An Automated Wireless Fixed-Access Network Antenna Positioning Algorithm", *Journal of Heuristics*, 13(3): 243-263, 2007. IF = 1.471, Cite = 21

Refereed Conference proceedings, Festschrifte, etc.Publications since last promotion

- 1) M. Stewart, **A. Dvir**, R. Kannan, "CASPaR: Congestion Avoidance Shortest Path Routing for Delay Tolerant Networks", International Conference on Computing, Networking and Communications, 2016
- 2) R. Dubin, **A. Dvir**, O. Hadar, N. Harel, R. Barkan: Multicast adaptive logic for Dynamic Adaptive Streaming over HTTP network. INFOCOM Workshops 2015: 269-274
- 3) R. Dubin , **A. Dvir** , O. Hadar, T. Frid and A. Vesker, "Novel Ad Insertion Technique for MPEG-DASH", CCNC 2015.
- 4) R. Dubin , **A. Dvir** , O. Hadar, R. Shalala, O. Ahark, "Video Complexity Hybrid Traffic Shaping for HTTP Adaptive Streaming", CCNC 2015.
- 5) R. Dubin, **A. Dvir**, O. Hadar, Y. Freifeld, A. Ruham, N. Harel, R. Barkan, "Hybrid Clustered Peer-Assisted DASH-SVC System", Third International Workshop on Multimedia Communications and Networking, 2015.

Past Publications

- 1) **Dvir**, L. Buttyan, V. T. Ta, "Formal Security Verification of Transport Protocols for Wireless Sensor Networks", International Conference on Computer Science, Applied Mathematics and Applications (ICCSAMA), pp. 389-403 2014.
- 2) R. Dubin, O. Hadar, **A. Dvir**, "The Effect of Client Buffer and MBR Consideration on DASH Adaptation Logic", IEEE WCNC, pp. 2178-2183, 2013 (~40%).
- 3) B. Ben-Moshe, **A. Dvir**, E. Berliner, "Performance Monitoring Framework for Wi-Fi MANET ", IEEE WCNC, pp. 4463-4468, 2013 (~40%).
- 4) **Dvir**, L. Buttyan, V. T. Ta "SDTP+: Securing a Distributed Transport Protocol for WSNs using Merkle Trees and Hash Chains", IEEE ICC, pp. 2073-2078, 2013 (39%).
- 5) R. Yozevitch, B. Ben-Moshe, **A. Dvir**, "Accurate Lane Detection Using Commercial GNSS Devices", WPNC, pp. 1-5, 2013.
- 6) B. Ben-Moshe, **A. Dvir**, H. Levi, P. Shamil, "Indoor Positioning using Time of Flight Fingerprinting of Ultrasonic Signals", International Conference on Indoor Positioning and Indoor Navigation (IPIN), pp. 1-6, 2013.

- 7) B. Ben-Moshe, A. Branderud and **A. Dvir**, "Modeling adaptive rate video transmission in Wi-Fi MANET", *MSWiM*, pp. 167-174, 2012 (23%).
- 8) B. Ben-Moshe, E. Berliner, **A. Dvir** and A. Gorodischer, "A joint framework of passive monitoring system for complex wireless networks", *Workshop on Emerging Densely Connected Network, IEEE Consumer Communications and Networking Conference (CCNC, 31%)*, pp. 55-59, 2011.
- 9) B. Ben-Moshe, **A. Dvir** and A. Solomon, "Analysis and Optimization of Live Streaming for Over The Top Video", *Workshop on Emerging Densely Connected Network, IEEE Consumer Communications and Networking Conference (CCNC, 31%)*, pp. 60-64, 2011.
- 10) B. Ben-Moshe and **A. Dvir**. "Development and optimization of cache element for access layer", *Work in Progress (Short Papers), IEEE Consumer Communications and Networking Conference (CCNC, 31%)*, pp 1126 - 1127, 2011.
- 11) **Dvir**, T. Holczer and L. Buttyan, "VeRA - Number and Rank Authentication in RPL", *Workshop on Wireless and Sensor Networks Security, IEEE International Conference on Mobile Ad-hoc and Sensor Systems*, pp. 709-714, 2011, (**21 citations**).
- 12) Ben-Moshe, **A. Dvir**, M. Segal, and A. Tamir, "Centdian Computation for Sensor Networks", *Theory and Applications of Models of Computation*, pp. 187-198, 2010
- 13) **Dvir**, and N. Carlsson, "Power-aware Recovery for Geographic Routing", *IEEE Wireless Communications & Networking Conference (WCNC, 44%)*, pp. 1-6, 2009.
- 14) **Dvir**, and M. Segal, "The (k, l) Coredian Tree for Ad Hoc Networks", *Conference on Distributed Computing Systems Workshops*, 267-272, 2008.
- 15) **Dvir**, and M. Segal, "Placing and Maintaining a Core Node in Wireless Ad Hoc Sensor Networks", *IFIP Networking (32%)*, 13-24, 2007.
- 16) Ben-Moshe, Y. Ben-Yehezkel, Y. Ben-Shimol, **A. Dvir**, and M. Segal. "An Automated Wireless Fixed-Access Network Antenna Positioning Algorithm", *IEEE Consumer Communications and Networking Conference (CCNC, 30%)*, 902 - 906, 2006.
- 17) Y. Ben-Shimol, **A. Dvir**, and M. Segal. "SPLAST: A Novel Approach for Multicasting in Mobile Wireless Ad Hoc Networks", *IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC, 43% accepted)*, 1011 - 1015, 2004.

Abstract and posters:

- 1) **A. Dvir** and L. Buttyan, "Backpressure Approach for Bypassing Jamming Attacks in Wireless Sensor Networks", *Poster, IEEE INFOCOM* 2011 (16% for papers).
- 2) **A. Dvir**, A. V. Vasilakos, "Backpressure-based Routing Protocol for DTN", *Poster, ACM SIGCOMM* (12% for papers), 2010 (**79 citations**).

Unrefereed professional articles and publications (book reviews, encyclopedia articles, museum catalogs etc.)

- 1) **Internet Draft: A. Dvir**, T. Holczer, L. Dora, L. Buttyan "Version Number and Rank Authentication", draft-dvir-roll-security-authentication (work in progress), July 2012.

In progress:

- 1) **A. Dvir**, V.-T. Ta, L. Buttyan, " STWSN: A Novel Secure Distributed Transport Protocol for Wireless Sensor Networks".
- 2) R. Dubin, **A. Dvir**, O. Pele, O, Hadar, " Video Quality Representation Classification of Encrypted HTTP Adaptive Video Streaming"
- 3) R. Dubin, **A. Dvir**, O. Pele, O, Hadar, " I Know What You Saw Last Minute – Encrypted HTTP Adaptive Video Streaming Title Classification"
- 4) R. Dubin, **A. Dvir**, O. Pele, O, Hadar, R. Shalala " A Fair Traffic Shaping and Multiplexing Algorithm for HTTP Adaptive Streaming Based on Video Complexity Awareness"

Seminar presentations at universities and institutions

- 1) 2009, CrySyS Lab, BME-HIT, Budapest.
- 2) 2012, Computer Science. Interdisciplinary Center Herzliya.
- 3) 2012, Software Engineering, the Jerusalem College of Engineering.
- 4) 2012, Electrical and Electronics Engineering, University Center of Samaria, Ariel.

- **Patents**

- 1) **US Provisional Patent** Application 61/354,222 - Wireless transmission of content simultaneously accessible to multiple users using Wi-Fi infrastructure.
- 2) **US Provisional Application** 61/658,417 - Separate-Channel Transmission of Error-Correction Data.

- **Research Grants**

- 1) **2015-2016, Magnet, InfoMedia, Dr. Amit Dvir, Classification and Enrichment of Encrypted Traffic. 198,000 NIS.**
- 2) 2009 – 2014, Magnet, NETHD - Networking HDTV Over the Top (OTT), Dr. Amit Dvir, Algorithms for cooperative Multicast between ISPs. **750,000 NIS**
- 3) 2011 – 2012, EU Research Grant - HUMAN-MB08-2, international mobility of researchers in order to promote research careers, Amit Dvir, 18 months, **300,000 NIS**
- 4) 2008 – 2013 Magnet, Rescue - Rapidly Deployable Communication Infrastructures for rescue forces, **500,000 NIS.**

- **Additional Information**

- A list of project, participated/ing:
 - France Telecom – Joint grant with Prof. Michael Segal. (2011 – 2012), **500,000 NIS.**
 - EU7, WSAN4CIP - Wireless Sensor and Actuator Networks for Critical Infrastructures (2011 – 2012),
 - Magnet, REMON - Israel 4G Consortium. (2007 – 2009).
 - Intel, Wi-Fi, Wi-MAX Combination. (2005)
 - Magnet, Large Scale Rural Telephony (2004-2005).
 - Co-founded: WiFUNTV, Israel (2010 – 2014)- The Company is developing proprietary TV broadcasting technologies for Wi-Fi networks that leverage the technological capabilities of smart phone. Approved by Chief Scientist and MeyTag Capital point.

- **Graduate Students:**

1. Michel Stewart – M.Sc, collaboration with Dr. Rajgopal Kannan, Louisiana State University.
2. Ran Dubin – Ph.D., collaboration with Prof. Ofer Hadar.
3. Ronit Bar Shalom - – M.Sc. collaboration
4. Jonathan Muehlstein – M.Sc. collaboration with Dr. Ofir Pele.
5. Yehonatan zion - – M.Sc. collaboration with Dr. Ofir Pele
6. Roi Inbar - – M.Sc. collaboration with Dr. Eran Omri
7. Aviram Zilberman - – M.Sc. collaboration with Dr. Yoram Hadad