

## Dhiah el Diehn I. Abou-Tair

---

CONTACT INFORMATION	Computer Science Department School of Electrical Engineering and Information Technology  German-Jordanian University Amman, 11180 Jordan	<i>Telephone:</i> +962 (0) 6 429-4132 <i>Fax:</i> +962 (0) 6 429-4132  <i>E-mail:</i> dhiah.aboutair@gju.edu.jo <i>Homepage:</i> <a href="http://www.dtair.de">http://www.dtair.de</a>
RESEARCH INTERESTS	Privacy-enhancing technologies, Cyber security, System-of-systems, Distributed ledger technologies, Blockchains, Internet of Things	
EDUCATION	<b>University of Siegen</b> , Siegen, Germany <i>Department of Electrical Engineering and Computer Science</i>  Dr. rer. nat. (rerum naturalium), Computer Science, August 2008 Dissertation Title: "An Ontology-Based Approach for Managing and Maintaining Privacy in Information Systems"  <b>Dortmund University</b> , Dortmund, Germany Diplom (German graduate degree), Computer Science, July, 2002  <b>Yarmouk University</b> , Irbid, Jordan B.Sc., Mathematics (major) and Computer Science (minor), June, 1998	
ACADEMIC EXPERIENCE	<b>German Jordanian University</b> , Amman, Jordan <i>Full Professor</i> Computer Science Department School of Electrical Engineering and Information Technology  <i>Project Manager</i> EDU-SYRIA Project  <i>Associate Professor</i> Computer Science Department School of Electrical Engineering and Information Technology  <i>Assistant Professor</i> Computer Science Department School of Electrical Engineering and Information Technology  <b>University of Siegen</b> , Siegen, Germany <i>Postdoctoral Researcher</i> Security and Privacy Group  <i>Full-time Research Assistant and Lecturer</i> Database and Software Engineering Group	<b>June, 2024 - present</b>  <b>December, 2015 - present</b>  <b>March, 2015 - June, 2024</b>  <b>February, 2010 - March, 2015</b>  <b>June, 2008 - February, 2010</b>  <b>October, 2002 - March, 2008</b>

**Fraunhofer Institute**, Dortmund, Germany  
*Software Developer (part time)*  
Institute for Software and Systems Engineering

**February, 2000 - June, 2002**

GRANTS AND  
EXTERNAL  
FUNDING

German-Jordanian-Tunisian Cooperative Partnership Enabling Academic and Industrial Networking in the Field of Internet of Things Supporting Scientific, Teaching, and Management Competencies -GJTNET (Principal investigator), German Academic Exchange Service (DAAD) contract no. 57698673, (€40.000).

Project Innovation Hub (PIH) - Collaborative Learning Platform for Students from MENA Crisis Regions to Participate in International Project Cooperation and Research (Co-Principal investigator), 2023, Exchange Service (DAAD) contract no. 57682712, (€194,070).

Bringing Data Literacy to Jordan -BDL2JO (Co-Principal investigator), 2023, German Academic Exchange Service (DAAD) contract no. 57681055, (€37.137,17).

Cooperative Project “Digitalization of Cultural Heritage” (Co-Principal investigator), 2023, German Academic Exchange Service (DAAD) contract no. 57681316, (€39,362.57).

Introducing Data Literacy at the German Jordanian University -IDL@GJU (Co-Principal investigator), 2021, German Academic Exchange Service (DAAD) contract no. 57588019, (€38.156,50).

Higher Education Support to Syrian Refugees and Underprivileged Jordanian Youths of Host Communities -EDU-Syria III (Grantholder and Principal investigator), 2020, Direct Award, European Union contract no. TF-MADAD/2020/T04.215, (€15,000,000).

Internation Master Of Science On Cyber Physical Systems (Co-Principal investigator), 2019, European Union Erasmus Plus contract no. 598750-EPP-1-2018-1-DE-EPPKA2-CBHE-JP, (€950.005,30, own funds €111,201.03).

Deutsche IT-Woche (Co-Principal investigator), 2019, German Academic Exchange Service (DAAD) contract no. PKZ 57546853, (€ 17,201).

Vocational Education and Training & Higher Education Programme for vulnerable Syrian youth -EDU-SYRIA II - Additional Scholarships (Grantholder and Principal investigator), 2019, Direct Award, European Union contract no. TF-MADAD/2019/T04.166, (€EUR 2,600,000).

Vocational Education and Training & Higher Education Programme for vulnerable Syrian youth EDU-SYRIA II (Grantholder and Principal investigator), 2017, Direct Award, European Union contract no. MADAD/2017/T04.29, (€11,000,000).

Higher Education for Young Syrians and Jordanians - A Scholarship Program -EDU-SYRIA (Grantholder and Principal investigator), 2015, Direct Award, European Union contract no. ENI/2015/368-804, (€4,000,000).

Architecture for Safe, Adaptive and Robust IoT (Principal investigator), 2014, Mobility Grant, European Union JordanNet II, (€2,500).

Examining an Adaptive Context-aware Security Framework for Enterprise Ubiquitous Environments (Principal investigator), Faculty Research Grant, 2013, German Research Foundation (DFG) contract no. MA 328612-1, (€12,000, own funds €5,800).

Exporting Master Programme in Enterprise Systems Engineering to Jordan, Syria, Tunisia and Egypt (Co-Principal investigator), Higher Education Grant, 2012, European Union Tempus contract no. 530260-TEMPUS-1-2012-1-DE-TEMPUS-JPCR, (€1,001,639.48, own funds €83,000).

A Privacy Framework for Mobile Applications (Principal investigator), Faculty Research Grant, 2012, German Research Foundation (DFG) contract no. KE 1213/3-1, (€9,200, own funds €7,700).

## PUBLICATIONS

### *Journal Papers*

A. Khalifeh, **D. Abou-Tair**, R. Obermaisser, M. Abuteir, K. Darabkh  
A Reliable System-of-Systems Healthcare Monitoring Framework  
IEEE Access, vol. 11, pp. 145679-145691, 2023, doi: 10.1109/ACCESS.2023.3343414.

**D. Abou-Tair**; R. Haddad; A. Khalifeh; S. Alouneh; R. Obermaisser  
A Distributed and Secure Self-Sovereign-Based Framework for Systems of Systems  
Sensors, vol. 23, no. 17, 7617, doi: doi.org/10.3390/s23177617.

**D. Abou-Tair** and A. Khalifeh  
Distributed Self-Sovereign-Based Access Control System  
IEEE Security & Privacy, vol. 20, no. 6, pp. 35-42, Nov.-Dec. 2022, doi: 10.1109/MSEC.2022.3148906.

**D. Abou-Tair**, A. Khalifeh, S. Al-Dahidi, S. Alouneh and R. Obermaisser  
Coordination Protocol and Admission Control for Distributed Services in System-of-Systems with Real-time Requirements  
IEEE Access, vol. 10, pp. 100194-100207, 2022, doi: 10.1109/ACCESS.2022.3207550.

**D. Abou-Tair**, A. Khalifeh, S. Alouneh and R. Obermaisser  
Incremental, Distributed, and Concurrent Service Coordination for Reliable and Deterministic Systems-of-Systems  
IEEE Systems Journal, vol. 15, no. 2, pp. 2470-2481, June 2021, doi: 10.1109/JSYST.2020.3020430.

**D. Abou-Tair**, S. Büchsenstein, A. Khalifeh  
A Fog Computing-based Framework for Privacy Preserving IoT Environments  
International Arab Journal of Information Technology. Volume 17, No. 3, PP:306-315, 2020. DOI: 10.34028/IAJIT/17/3/4.

S. Almajali, **D. Abou-Tair**, H. Bany Salameh, M. Ayyash, H. Elgala  
A Distributed Multi-Layer MEC-Cloud Architecture for Processing Large Scale IoT-based Multimedia Applications  
Multimedia Tools and Applications. doi: 10.1007/S11042-018-7049-3.

**D. Abou-Tair**, M. Bourimi, R. Tesoriero, D. Kesdgoan, M. Heupel. B. Ueberschaer  
An end-user tailorable generic framework for privacy-preserving location-based mobile applications  
Journal of Applied Mathematics & Information Sciences. Volume 7, No. 6 (Nov. 2013), PP:2137-2148, 2013.

M. Bourimi, D. Kesdogan, M. Heupel, **D. Abou-Tair**, N. Lambropoulos  
PETs at CSCL Service: Underutilised Potentials for Privacy-Enhancing Distance Education  
Journal of Universal Computer Science, vol. 19, no. 7 (2013), 912-931, 2013.

M. Bourimi M, Barth T, D. Kesdogan, **D. Abou-Tair**, F. Hermann, S. Thiel  
Using distributed user interfaces in collaborative, secure and privacy-preserving software environments  
International Journal of Human-Computer Interaction 28(11), 748-753, 2012.

**D. Abou-Tair**, I. Köster and K. Höfke  
Security and Privacy Requirements in Interactive TV  
The ACM/Springer Multimedia Systems Journal, Volume 17, Number 5, 393-408, 2011. doi:  
10.1007/s00530-010-0221-x.

*Book Chapters*

Ala' F. Khalifeh, Adham Saleh, Mahmoud AL-Nuimat, **D. Abou-Tair**, Nasim Alnuman  
Design and Implementation of Internet of Things and Cloud Based Platform for Remote Health  
Monitoring and Fall Detection, Communications in Computer and Information Science, vol 1002.  
Springer, Cham, 2019.

M. I. Daoud, R. Alazrai, A. Alhousseini, D. Shihan, E. Alhwayan, **D. Abou-Tair** and T. Qadoummi  
Interactive Kinect-Based Rehabilitation Framework for Assisting Children with Upper Limb Cere-  
bral Palsy ICTs for Improving Patients Rehabilitation Research Techniques, Volume 665 of the  
series Communications in Computer and Information Science, pp 126-140, Springer Berlin Heidel-  
berg, 2017.

R. Obermaisser, M. Abuteir A. Khalifeh and **D. Abou-Tair**  
Systems-of-Systems Framework for Providing Real-Time Patient Monitoring and Care: Challenges  
and Solutions ICTs for Improving Patients Rehabilitation Research Techniques, Volume 515 of the  
series Communications in Computer and Information Science, pp 129-142, Springer Berlin Heidel-  
berg, 2015.

*Conference Papers*

R. Haddad, **D. Abou-Tair**, A. Khalifeh  
A Blockchain-Based Verification Process for Smart Cities. In the proceeding of 2023 IEEE/ACIS  
21st International Conference on Software Engineering Research, Management and Applications  
(SERA), Orlando, FL, USA ,2023. doi: 10.1109/SERA57763.2023.10197780.

S. Alouneh, A. Khalifeh, **D. Abou-Tair**, K. Aldahdouh, F. Al-Hawari  
An Open Source LoRaWAN Simulator Framework for the Internet of Things Applications. In the  
proceeding of 2021 8th International Conference on Internet of Things: Systems, Management and  
Security (IOTSMS), 2021, pp. 1-5, doi: 10.1109/IOTSMS53705.2021.9704982.

I. Ishaq et al. including **D. Abou-Tair**  
Work in Progress – Establishing a Master Program in Cyber Physical Systems: Basic Findings and  
Future Perspectives, 2019 International Conference on Promising Electronic Technologies (ICPET),  
Gaza City, Palestine, pp. 4-9, 2019. doi: 10.1109/ICPET.2019.00009.

**D. Abou-Tair**, Büchsenstein, A. Khalifeh  
A Privacy Preserving Framework for the Internet of Things. In the proceeding of the 018 19th  
IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking  
and Parallel/Distributed Computing (SNPD), Busan, Korea, 2018.

A. Khalifeh, **D. Abou-Tair**, S. Alouneh, R. Obermaisser, M. Schmidt  
Admission Control and Resource Allocation for Distributed Services in System-of-Systems: Chal-  
lenges and Potential Solutions. In the proceeding of the 2018 IEEE 13th International Symposium  
on Industrial Embedded Systems (SIES), Graz, Austria, 2018.

S. Almajali and **D. Abou-Tair**  
A Cloud based intelligent extensible shared context services In the proceeding of the Second Interna-  
tional Conference on Fog and Mobile Edge Computing (FMEC), Valencia, Spain, 2017, pp. 133-138,  
2017.

- D. Abou-Tair**, S. Alouneh, A. Khalifeh, R. Obermaisser  
A Security Framework for Systems-of-Systems. In: Park J., Loia V., Yi G., Sung Y. (eds) Advances in Computer Science and Ubiquitous Computing. CUTE 2017, CSA 2017. Lecture Notes in Electrical Engineering, vol 474. Springer, Singapore, 2018.
- S. Alouneh, **D. Abou-Tair**, A. Khalifeh, R. Obermaisser  
Service Identification Framework for Systems of Systems Based on MPLS Technology. In: Park J., Loia V., Yi G., Sung Y. (eds) Advances in Computer Science and Ubiquitous Computing. CUTE 2017, CSA 2017. Lecture Notes in Electrical Engineering, vol 474. Springer, Singapore, 2018.
- O. Hiari, **D. Abou-Tair**, I. Abushaikha  
An IoT-Based Virtual Addressing Framework for Intelligent Delivery Logistics. In: Kim K., Joukov N. (eds) Information Science and Applications 2017. ICISA 2017. Lecture Notes in Electrical Engineering, vol 424. Springer, Singapore, 2017.
- Y. A. Mowafi, **D. Abou-Tair**, A. Zmily, T. Aqarbeh, M. Abilov and V. Dmitriyev  
Exploring a Context-based Network Access Control for Mobile Devices In 2015 International Conference on Soft Computing and Software Engineering (SCSE'15), Berkeley, California, USA, 2015.
- Y. Mowafi, A. Zmily, **D. Abou-Tair**, D. Abu-Saymeh  
Tracking Human Mobility at Mass Gathering Events Using WISP In the proceeding of the Second International Conference on Future Generation Communication Technology (FGCT), London, UK, 12-14 December, 2013.
- D. Abu-Saymeh, **D. Abou-Tair**, A. Zmily  
An Application Security Framework for Near Field Communication In the proceeding of the 12th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (IEEE TrustCom-13), Melbourne, Australia, 16-18 July, 2013.
- A. Zmily, D. Abu-Saymeh, **D. Abou-Tair**  
Identity Hopping Based Security Framework for Social Media Applications In the proceeding of the International Conference on Soft Computing and Software Engineering 2013 (SCSE'13), San Francisco, USA, 2013.
- D. Abou-Tair**, M. Bourimi, R. Tesoriero, D. Kesdogan, M. Heupel  
A generic location-based mobile application framework supporting privacy-preserving end-user tailorability In the proceeding of the 2012 International Conference on Future Generation Communication Technology (FGCT), London, UK, 2012.
- M. Bourimi, J. Ossowski, **D. Abou-Tair**, S. Berlik, D. Abu-Saymeh  
Towards usable client-centric privacy advisory for mobile collaborative applications based on BDDs In Proceeding of the 4th IFIP International Conference on New Technologies, Mobility and Security (NTMS), February 7-10, Paris, France, 2011.
- D. Abou-Tair**, L. Pimenidis, J. Schomburg, B. Westermann  
Usability Inspection of Anonymity Networks Proceedings of the 2009 World Congress on Privacy, Security, Trust and the Management of e-Business, August 25-27, Saint John, New Brunswick, Canada, 2009.
- D. Abou-Tair**, S. Berlik and U. Kelter  
Enforcing Privacy by Means of an Ontology Driven XACML Framework In The Third International Symposium on Information Assurance and Security, IAS 2007, Aug 29 – Aug 31, Manchester, United Kingdom, pages 279-284, IEEE CS Press, 2007.

**D. Abou-Tair** and J. Niere

An Architecture for Integrating Heterogeneous University Applications that Supports Monitoring In The 2nd International Conference on Trends in Enterprise Application Architecture, TEAA 2006, Nov 29 – Dec 1, Berlin, Germany, volume 4473 of Lecture Notes in Computer Science, pages 16-24, 2006. Springer-Verlag Berlin Heidelberg, 2006.

**D. Abou-Tair** and S. Berlik

An ontology-based approach for managing and maintaining privacy in information systems In The 5th Int. Conf. on Ontologies, DataBases, and Applications of Semantics, ODBASE 2006, Oct 31 – Nov 2, Montpellier, France, volume 4275 of Lecture Notes in Computer Science, pages 983-994, 2006. Springer-Verlag Berlin Heidelberg, 2006.

**D. Abou-Tair**

A Framework Ensuring Privacy in a Distributed Environment In The 4th Annual Conference on Privacy, Security and Trust, PST 2006, Oct 30 – Nov 1, Markham/Toronto, Ontario, Canada, 2006.

*Workshop Papers*

M. I. Daoud, T. Qadoummi and **D. Abou-Tair**

An Interactive Rehabilitation Framework for Assisting People with Cerebral Palsy In 3rd Workshop on ICTs for improving Patient Rehabilitation Research Techniques (REHAB 2015), Lisbon, Portugal, 2015.

Y. A. Mowafi, **D. Abou-Tair**, T. Aqarbeh, M. Abilov, V. Dmitriyev and J. Marx Gomez

A Context-aware Adaptive Security Framework for Mobile Applications In 4th International Workshop on Pervasive and Context-Aware Middleware (PerCAM'14), Dubai, UAE, 2014.

A. Khalifeh, R. Obermaisser, M. Abuteir and **D. Abou-Tair**

Systems-of-Systems Framework for Providing Real-time Patient Monitoring and Care In 2nd Workshop on ICTs for improving Patient Rehabilitation Research Techniques (Perva-siveHealth 2014), Oldenburg, Germany, 2014.

M. Bourimi, **D. Abou-Tair**, D. Kesdogan, T. Barth and K. Höfke

Evaluating potentials of Internet- and Web-based SocialTV in the light of privacy In SocialCom/PASSAT IEEE Computer Society, p. 1135-1140, 2010.

M. Bourimi, F. Kühnel, J. M. Haake, **D. Abou-Tair**, D. Kesdogan

Tailoring collaboration according privacy needs in real-identity collaborative systems In the 15th Collaboration Researchers' International Workshop on Groupware, CRIWG 2009, September 13-17, Peso da Régua, Douro, Portugal, volume 5784 of Lecture Notes in Computer Science, pages 110–125. Springer, 2009.

*Theses*

**D. Abou-Tair**

An Ontology-Based Approach for Managing and Maintaining Privacy in Information Systems Dissertation, Aachen, Germany, Shaker Verlag, Informatik, ISBN 978-3-8322-7817-5, 2008.

**D. Abou-Tair**

ECS-Conceptualization and Realization of Profile based Cross-Medial Events Calendar System Master's thesis -Diplomarbeit-, Technical University of Dortmund, Computer Science Department, July 2002.

*Technical Report*

PG Sword Team including **D. Abou-Tair**

Dragon Slayer SWORD – Secure WAN Object Request Distribution Interne Berichte, Technical University of Dortmund, Computer Science Department, March 2001.

## TEACHING

### *Lecturer*

**Computing Fundamentals** (undergraduate course, German Jordanian University).

**Discrete Structures** (undergraduate course, German Jordanian University).

**Object Oriented Programming** (undergraduate course, German Jordanian University).

**Component-Based Computing** (undergraduate course, German Jordanian University).

**Computer Graphics** (undergraduate course, German Jordanian University).

**Software Engineering** (undergraduate course, German Jordanian University).

**Database Management Systems** (undergraduate course, German Jordanian University).

**Web Infrastructure, Services, and Applications** (undergraduate course, German Jordanian University).

**Software Engineering for Mechatronics** (graduate course, University of Siegen).

### *Teaching Assistant*

**Softwaretechnik I / Datenbanksysteme I** (courses on Software Engineering and Database Systems, taught in German, University of Siegen).

**Programmierpraktikum** (programming course in Java, taught in German, University of Siegen).

**Einführung in die Wirtschaftsinformatik I** (an introductory course to Business Informatics, taught in German, University of Siegen).

**Einführung in die Wirtschaftsinformatik II** (a course in advanced Business Informatics, taught in German, University of Siegen).

**Proseminar: Information Security Management** (an intensive course for graduate students focusing on Information Security Management, taught in German, University of Siegen).

**Proseminar: Neue Formen und Modelle interaktiven Fernsehens - Sicherheitsaspekte** (an intensive course for graduate students focusing on new forms and models of interactive television with an emphasis on security aspects, taught in German, University of Siegen).

### *Supervised Students*

#### *Master of Computer Science*

**Dania Alsawalmeh**, Intrusion Detection System to Protect the Network from the DDoS Attack, Princess Sumaya University for Technology and German Jordanian University, 2023 (in progress).

**Odai Mohammad Mukhaimer**, A Framework for E-Healthcare Services in Jordan Exploiting Cloud Computing and the Internet of of Things (IoT), Princess Sumaya University for Technology and German Jordanian University, 2018.

#### *Graduation Projects*

**Khaled Rumman**, E-Voting Website Using Hyperledger Fabric Platform, German Jordanian University, 2022.

**Laith Rihani**, Case Study: Smart Contracts, Blockchain, and the Food Supply Chain, German Jordanian University, 2021.

**Raad Haddad**, Implementation of Self-Sovereign Identity on Vanet Communication, German Jordanian University, 2020.

**Simon Büchsenstein**, A Privacy Preserving Framework for the Internet of Things, German Jordanian University, 2018.

#### ACTIVITIES

##### *Editorial Boards*

**Co-Editor:** The Quarterly on Refugee Problems – AWR Bulletin (QRP).

**Guest Editor:** The Special Issue "Communication, Sensing and Computing for Intelligent Internet of Things Enabled Applications" of the Electronics Journal.

##### *Program Committee Memberships*

**ISDIA 2023:** The 8th Edition of International Conference on Information System Design and Intelligent Applications (ISDIA), Dubai, UAE.

**OL2A 2023:** The International Conference on Optimization, Learning Algorithms and Applications 2023.

**ICTCS 2017:**The International Conference on New Trends in Computing Sciences.

**IEEE WETICE 2017:**The 26th IEEE International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises.

**IEEE TrustCom 2015:** The 14th IEEE International Conference on Trust, Security and Privacy in Computing and Communications.

**IDEE 2014:** The 3rd Workshop on Interaction Design in Educational Environments.

**IEEE TSP 2013:** The 12th IEEE International Symposium on Trust, Security and Privacy for Pervasive Applications.

**INTECH 2013:** The Third International Conference on Innovative Computing Technology.

**ISEC 2013:** Information Systems Education & Curricula Workshop.

**IDEEE 2013:** ICEIS 2013 Workshop on Interaction Design in Educational Environments.

**IEEE TrustCom 2012:** The 11th IEEE International Conference on Trust, Security and Privacy in Computing and Communications.

**FGCT 2012:** International Conference on Future Generation Communication Technology.

**IDEEE 2012:** ICEIS 2012 Workshop on Interaction Design in Educational Environments.

**ISEC 2012:** Information Systems Education & Curricula Workshop.

**IEEE TrustCom 2011:** The 10th IEEE International Conference on Trust, Security and Privacy in Computing and Communications.

**IEEE TSP 2010:** IEEE International Symposium on Trust, Security and Privacy for Pervasive Applications.

**IEEE TSP 2009:** IEEE International Symposium on Trust, Security and Privacy for Pervasive

Applications.

*Journal Reviews*

International Journal of Human-Computer Studies.

Concurrency and Computation: Practice and Experience Journal.

IEEE Systems Journal.

Elsevier Internet of Things.

MDPI Sensors.