



الجامعة الألمانية الأردنية
German Jordanian University

RESEARCH INTERESTS AND OUTCOMES

SCHOOL OF ELECTRICAL
ENGINEERING AND INFORMATION
TECHNOLOGY, GJU, AMMAN, JORDAN

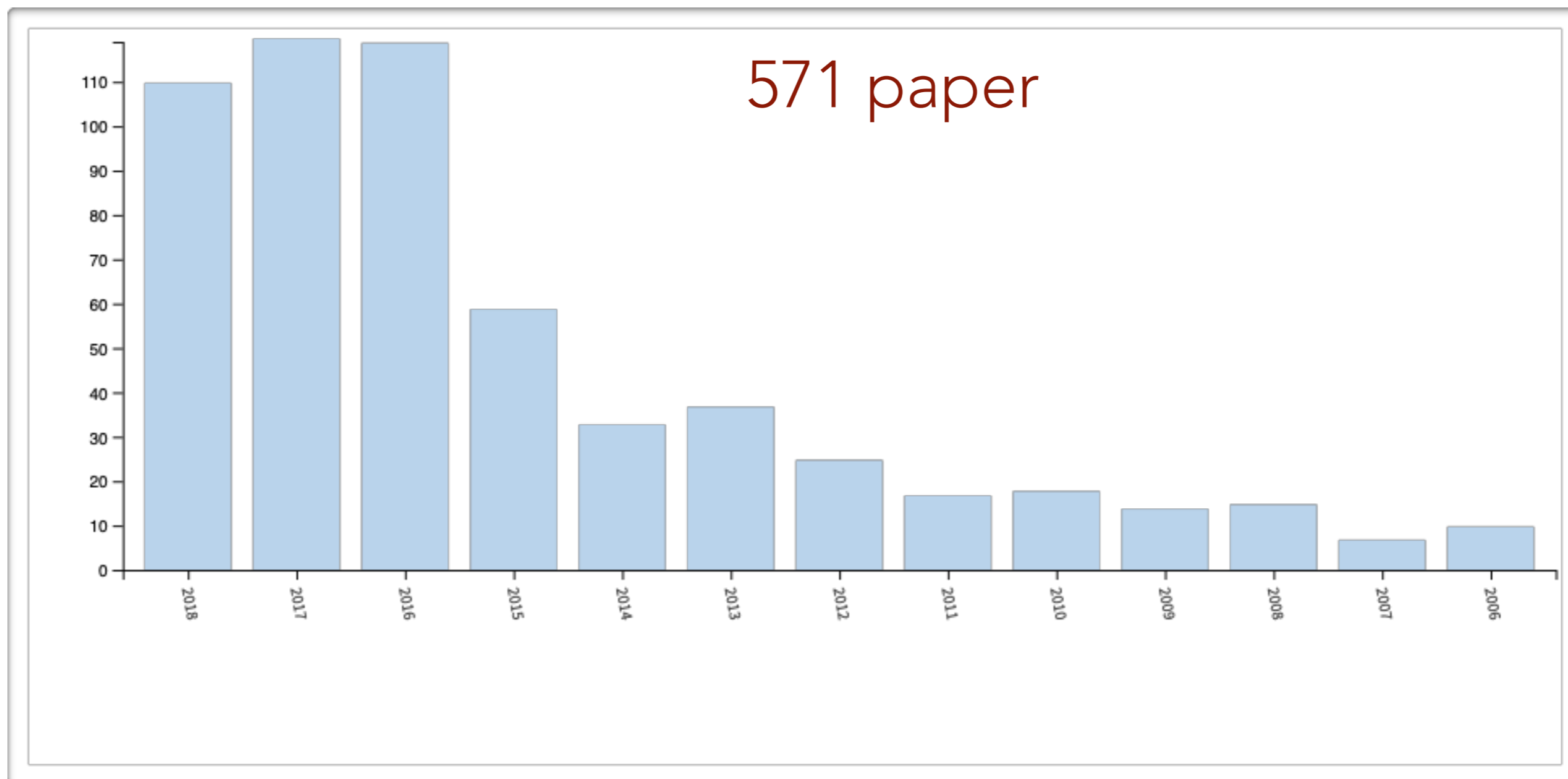
NETWORK MEETING, BONN-RHEIN-SIEG
8 NOVEMBER 2018, BONN-RHEIN-SIEG, GERMANY

DR RAED MESLEH, RAED.MESLEH@GJU.EDU.JO

GJU ISI (WEB OF SCIENCE) PUBLICATIONS



الجامعة الألمانية الأردنية
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GJU QS RANKING





الجامعة الألمانية الأردنية
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QS UNIVERSITIES

OVERVIEW (Universities/german-jordanian-university) UNDERGRADUATE (Universities/german-jordanian-university/undergrad) POSTGRADUATE (Universities/german-jordania



German Jordanian University

 Add to shortlist  Compare

QS Global World Ranking **#751-800** Status **Public** Research Output **High**

Total Students **4,042** Academic Faculty Staff **355**

University Highlights

RANKINGS STUDENTS & STAFF

QS World University Ranking #751-800	Arab Region Rankings #61-70 (/qs-profiles/rank- data/nojs/295596/3412/null)	Top 50 under 50 #101-150 (/qs-profiles/rank- data/nojs/295596/1561/null)
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QS World University Ranking

2019
#751-800

GJU ISI (WEB OF SCIENCE) PUBLICATIONS TYPES



الجامعة الألمانية الأردنية
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GJU ISI (WEB OF SCIENCE) FUNDING AGENCIES



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GJU ISI (WEB OF SCIENCE) RESEARCH AREAS



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SEEIT ISI (WEB OF SCIENCE) PUBLICATIONS/YEAR



الجامعة الألمانية الأردنية
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112 papers
20% of GJU papers



SEEIT ISI (WEB OF SCIENCE) FUNDING AGENCIES



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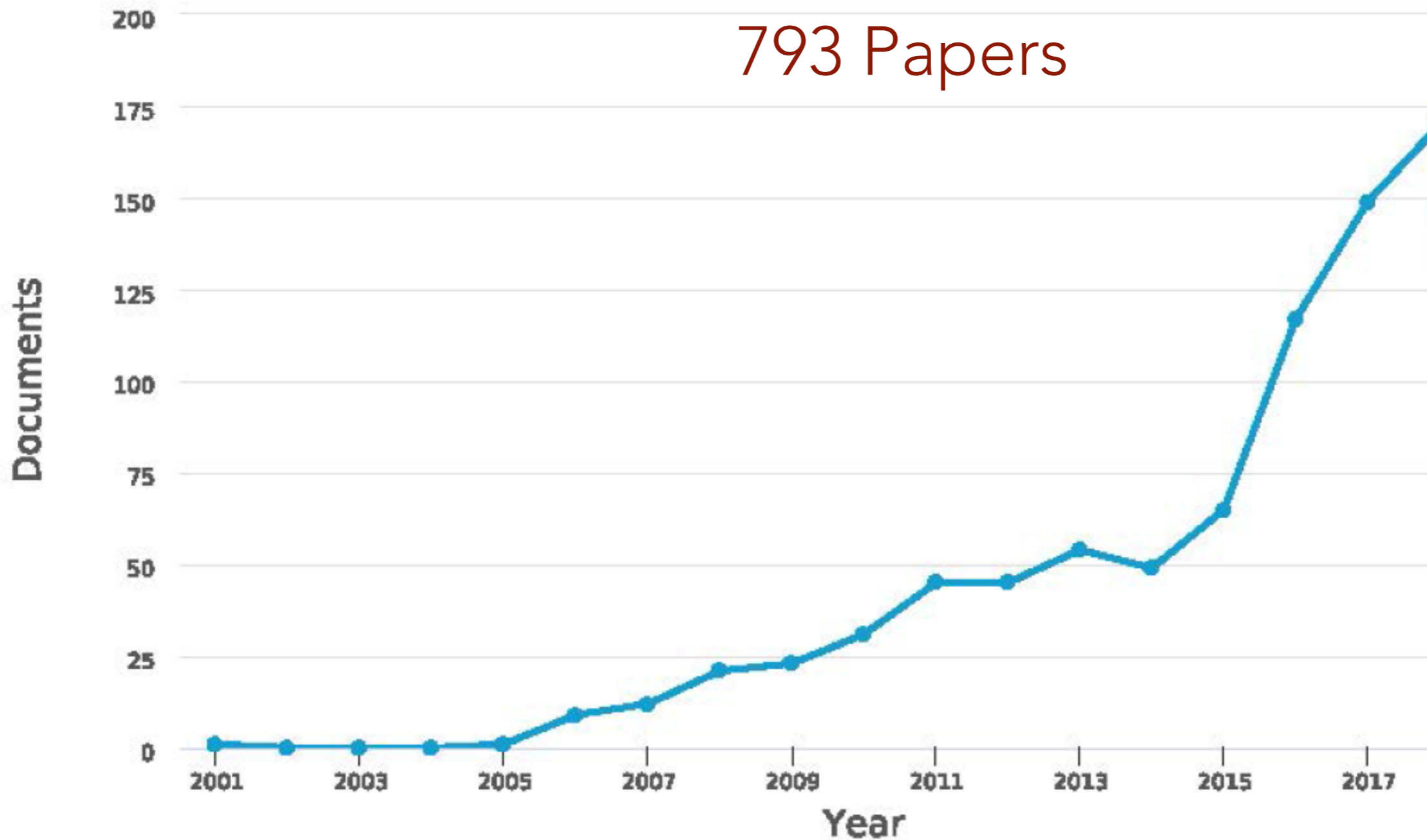
GJU SCOPUS PUBLICATIONS/YEAR



الجامعة الألمانية الأردنية
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Documents by year

Scopus



RESEARCH TOPIC: WIRELESS COMMUNICATION



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- An US patent was filed last year
- Hardware development phase using FPGA
- Target is to implement all techniques in software defined radio (SDR) platform



(12) **United States Patent**
Hiari et al.

(10) **Patent No.:** **US 9,954,586 B1**
(45) **Date of Patent:** **Apr. 24, 2018**

(54) **SINGLE RF CHAIN TRANSMITTER
IMPLEMENTING SPACE MODULATION**

(71) Applicants: **Omar Hiari**, Amman (JO); **Raed Mesleh**, Amman (JO)

(72) Inventors: **Omar Hiari**, Amman (JO); **Raed Mesleh**, Amman (JO)

(73) Assignee: **GERMAN JORDANIAN
UNIVERSITY**, Amman (JO)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/632,151**

(22) Filed: **Jun. 23, 2017**

2012/0134433 A1 5/2012 Haas et al.
2015/0146803 A1* 5/2015 Kim H04L 27/2627
375/260

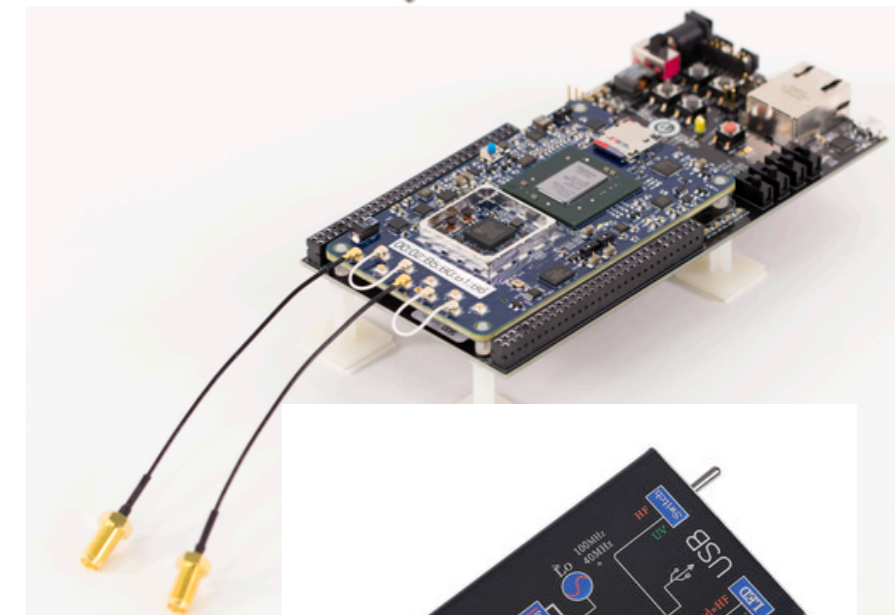
2015/0146815 A1 5/2015 Berretta et al.
2016/0126627 A1 5/2016 Lee et al.
2016/0352362 A1* 12/2016 Fonseka H03M 13/2906

OTHER PUBLICATIONS

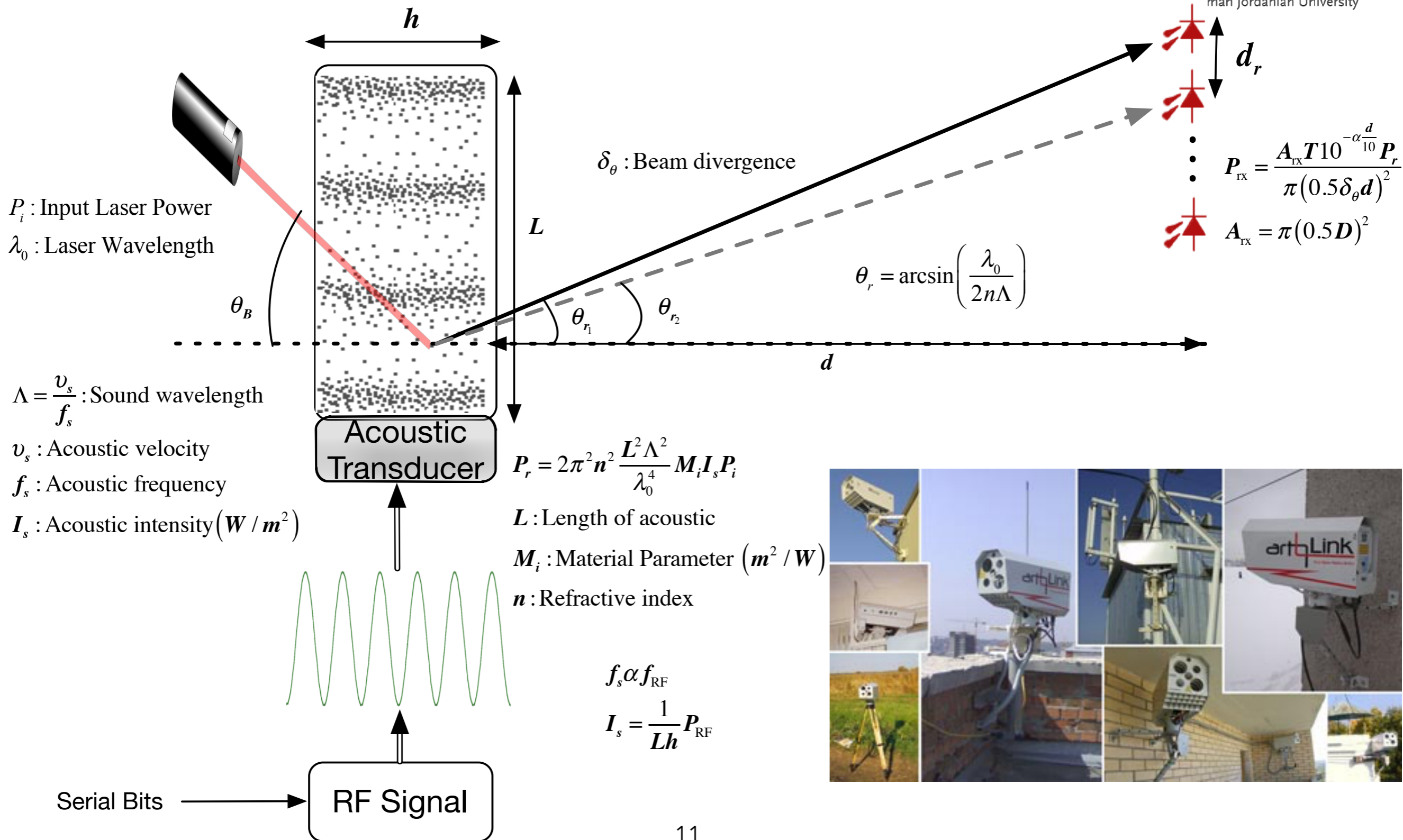
Mesleh et al., "Spatial Modulation", IEEE Transactions on Vehicular Technology, vol. 57, No. 4 (2008), pp. 2228-2241.
Jeganathan et al., "Keying Modulation for MIMO Channels", IEEE Transactions on Wireless Communications, vol. 8, No. 7 (2009), pp. 3692-3703.
Barousis et al., "A Complete MIMO System Built on a Single RF Communication Ends", PIERS Online, vol. 6, No. 6 (2010), pp. 559-563.

(Continued)

Primary Examiner — Janice Tieu
(74) Attorney, Agent, or Firm — Richard C. Ltman



RESEARCH TOPIC: OPTICAL WIRELESS COMMUNICATION



RESEARCH FUNDING



الجامعة الألمانية الأردنية
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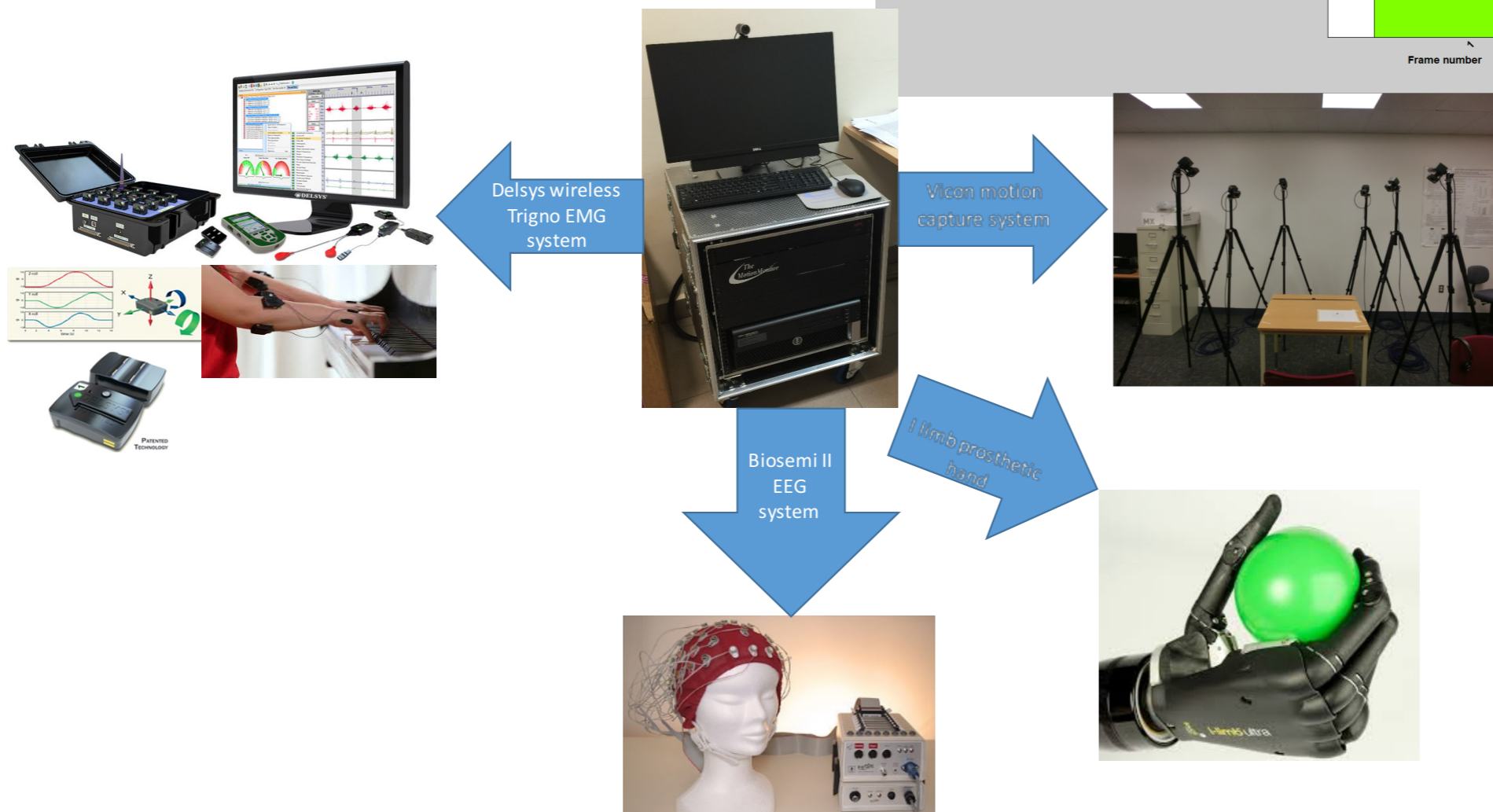
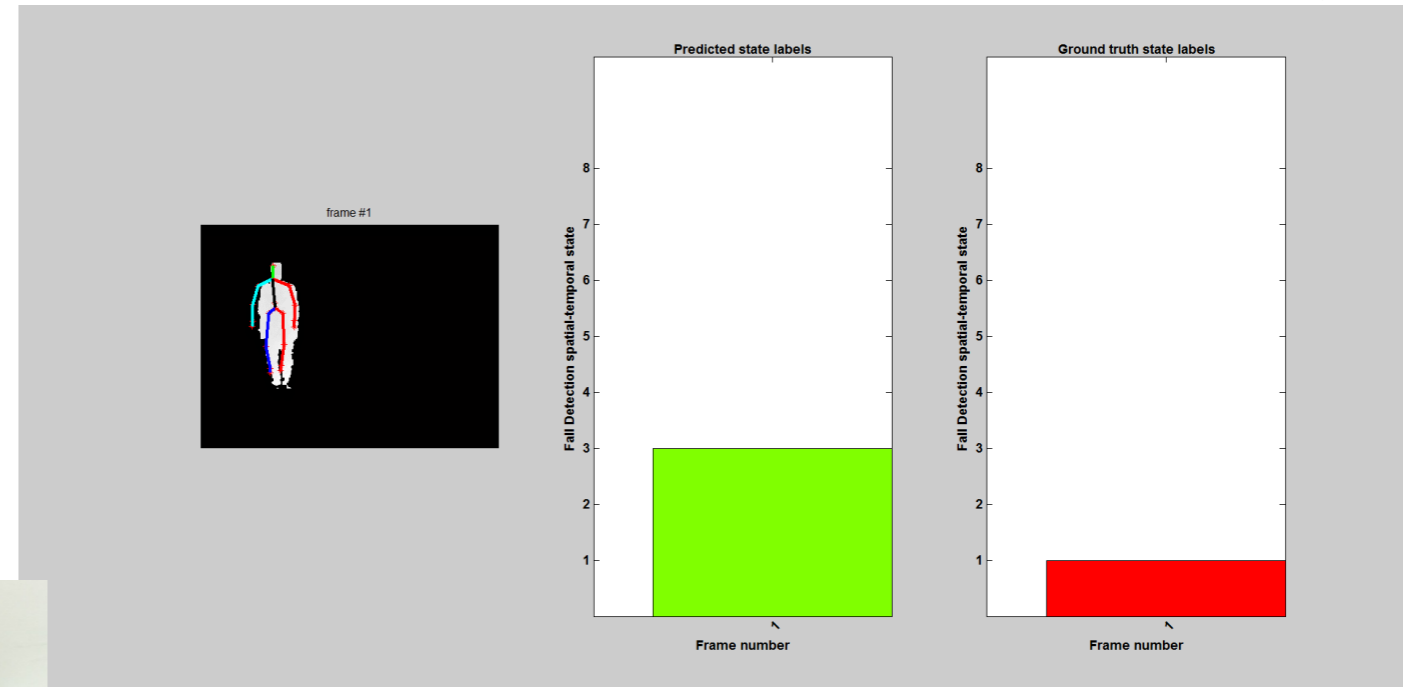
- “Hardware Implementations Reliability Analysis of Space Modulation Techniques”, Abdul Hameed Shoman Foundation, October 2018—September 2019, **15,000.00 JDs.**
- “Acousto Optical Modulator for free Space Optical Communication”, Funded by Scientific Research Funding (SRF), Ministry of Higher Education, Amman, Jordan 8 June 2017—8 June 2019, **52,630.00 JDs.**
- “Implementation of Index Modulation Transmitters for IoT Wireless Applications”, Funded by Deanship of Scientific Research, German Jordanian University, January 2017—January 2019, **54,400.00 JDs**
- “Single RF Chain MIMO Index Modulation Techniques”, Funded by Deanship of Scientific Research, German Jordanian University, January 2017—January 2018, **18,660.00 JDs.**

RESEARCH TOPIC: HUMAN-CENTERED COMPUTING



الجامعة الألمانية الأردنية
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- Human-centered computing (HCC)
- Brain-computer interfaces (BCIs)
- Non-verbal human-behavior analysis (HBA)



RESEARCH TOPIC: WIRELESS SENSOR NETWORKS



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- Wireless Sensor Networks and remote sensing for military application
- Project title: Hybrid sensor networks for emergency critical scenarios Supporting authority: NATO Countries Role: NATO partner director Grant amount: 400,000 Euro Duration: Sep 2015-Sep 2018.



SUMMARY



الجامعة الألمانية الأردنية
German Jordanian University

- GJU is a relatively new university
- GJU has major focus on applied research and invest hugely in research projects
- The school of EEIT promises substantial and multidisciplinary research platform
- The achievements of the SEET in the past few years were very substantial and opens global and local research collaboration
- The school is always searching for new research partners and projects

Thank
you

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