



Joint Research and Education Programme “Palestinian-German Science Bridge PGSB”

***Forschungszentrum Jülich GmbH
&
Palestine Academy for Science and Technology***

6 – 10 December 2016,
Forschungszentrum Jülich

- ❑ **The Arab American University-Jenin (AAUJ), located in the Governorate of Jenin in the northern West Bank**
- ❑ **AAUJ was established in September 2000 as the first private university in Palestine.**

- ❑ **Institutional Growth**
 - ** In 2000 AAUJ began with an initial enrollment of 270 students, a couple dozen academic and administrative staff, one faculty (Art and Sciences) and a single building.**

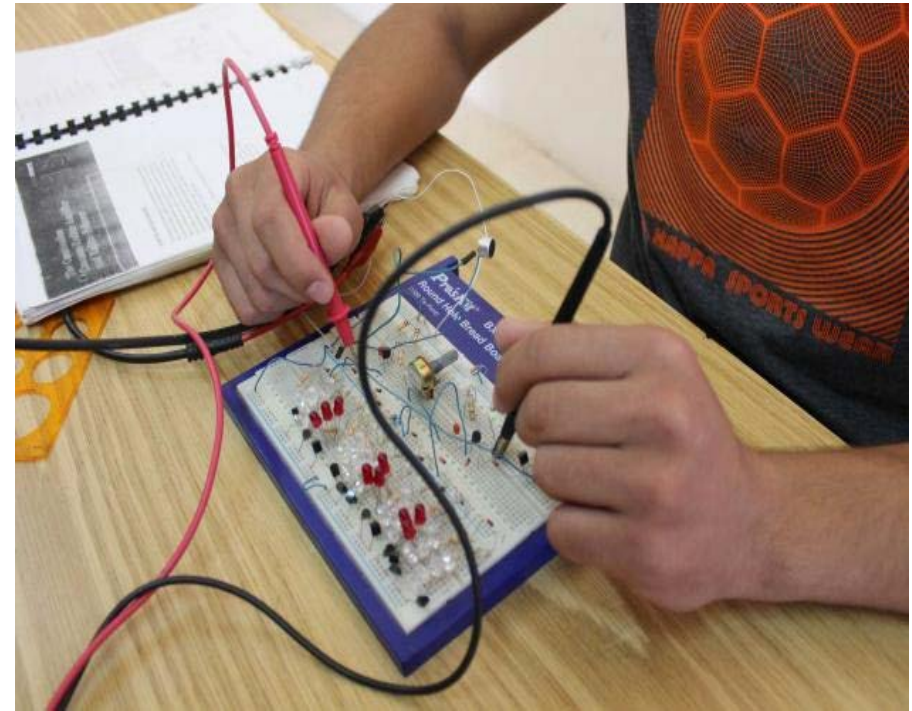
By the end of 2015, AAUJ has grown to include:

- ❖ Approximately 10,000 students (among them 3870 Arab students from inside Israel, and 400 graduate students).**
- ❖ Approximately 650 academic and administrative employees**
- ❖ Eight major academic faculties (Bachelor Degree):**
 - Faculty of Arts:** *Modern Languages Department, Sport Sciences, Media & Arabic Language, Elementary Education, General Education*
 - Faculty of Law:** Law (Public, International and Private), Fiqh & Law

- **Faculty of Sciences:** *Chemistry, Biology & Biotechnology, Physics, Mathematics & Statistics Departments*



- **Faculty of *Engineering and Information Technology* :**
Multimedia, Computer Science, Telecommunication Engineering, Computer Systems Engineering, Geographic Information Systems, and Computer Information Technology Departments



- **Faculty of Allied Medical Sciences:** *Environment and Community Health, Medical Imaging, Medical Laboratory Sciences, Occupational Therapy and Physio-Therapy Departments.*



Faculty of Administrative and Financial Sciences: *Accounting, Business Administration, Financial and Banking Sciences, Hospitals and Health Care Management, Management Information Systems, and Marketing Departments*



- **Faculty of Dentistry: *Dental Surgery***
- **Faculty of Nursing**
- **Pre – Medical Program with The University of Jordan**



- **Faculty of Graduate Studies: Master Programs**
 - **Master in Applied Mathematics**
 - **Master in Physics**
 - **Master of Computer Science**
 - **High Diploma in Oral Implantology**



- **Faculty of Graduate Studies: Master Programs (400 student)**
 - **Master in Commercial Law**
 - **Master in Conflict Resolution and Development**
 - **Master in Intercultural Communication and Literature**
 - **Master in Quality Management**
 - **Master in Strategic Planning and Fundraising**
 - **Master of Business Administration (MBA)**



Deanship of student Affairs

AAUJ has the largest sport village in Palestine and the largest sport hall



Research Potential

Deanship of Scientific Research

- **The Journal of the Arab American University**
- **The Award of the Arab American University for the best applied research for the Palestinian Researchers**
- **The Award of Eng. Zuhair for Undergraduate Scientific Research in Palestine**
- **Internal Research Projects (funded by the University)**
- **External Research Projects (Funded by others)**

External Research Projects

| No | Project Title | Funded by |
|----|--|--|
| 1. | Design and Characterization of MgO/GaSe_{0.5}S_{0.5} Multifunctional Resonant Microwaves Optoelectronic Sensors | Palestinian Scientific Research council |
| 2. | Intercropping Fodder Corn and cowpea on Fresh water, Treated Grey water and waste water | FAO |
| 3. | In vitro evaluation of the anti – inflammatory effects of Hypcricum triquetrifolium | The Union of Arab Universit. |
| 4. | In vitro evaluation of the anti –apoptitic effects medical plants as a promising strategyin cancer therapy | The Union of Arab Universit. |
| 5. | Measurement of the indoor outdoor Radiofrequency radiation Levels in the city of Jenin | The Union of Arab Universit. |
| 6. | Identificatiion of Pure Awasi Breed using SSR markers | Bank of Palestine |
| 7. | Reducing Soil degradation by Improving Soil conservation using fallout radionuclides (phase i) | International Atomic Energy Agency |

Research Groups (funded by the Deanship of Scientific Research at AAUJ)

| | Field | Researchers | Project Title | Budget (\$) |
|----|----------------------|--|---|---------------|
| 1. | Physics & TCE | A. Qasrawi, H. Khanfar, A. Omar | AAUJ design of optoelectronic Devices for Microwave and Visible Light Communications | 40,000 |
| 2. | Biotech. & Chemistry | H. Zaid, N. Diab, F. Batta, B. Ghareeb | Anti-Cancer and metabolic disorders medical planets: active compounds and machines of action in Vitro and Vivo | 40,000 |
| 3. | Biotech. & Chemistry | B. Saad, O. Houshiya, S. Shanak, A. Kmeal | Palestine anti Diabetic Herbs: in virto, in vivo, and in silico drug discovery and protein target identification | 40,000 |

Internal Research: funded by AAUJ

Period 2015/2016

| No | Research Title | Researchers | Faculty | Budget (\$) |
|----|---|-------------|-----------------|-------------|
| 1 | Exploring the possibilities of converting Alpechin (Zeebar) into Liquid Fertilizer | O. Hoshya | Sciences | 9,000 |
| 2 | Factors and Self-care Behaviors Predicting Diabetic Foot Ulcers in Palestine | B. Salameh | Medical Science | 5,000 |
| 3 | Molecular Basis of Alpha-Globin Gene Defect in Palestinian Pediatric Population | F. Samarah | Medical Science | 8,500 |
| 4 | Cross cultural adaptation and psychometric properties of the Arabic version of the child occupational self-assessment | J. Diabes | Medical Science | 4,500 |
| 5 | A new tissue-equivalent material applied to Radiation therapy | A. AbuArrah | Medical Science | 3200 |
| 6 | Molecular Dynamic Simulations for DNMT1 Protein in Complex with Methylated, Hemi-methylated and non-Methylated DNA Oligomers. | S. Shanak | Sciences | 10500 |

Internal Research: funded by AAUJ

Period 2014/2015 (cycle 2)

| No | Research Title | Researchers | Faculty | Budget (\$) |
|----|---|--------------------|-----------------|-------------|
| 1 | Investigating the possible adaptation techniques for audio, video and communications in the context of Adaptive 3D virtual Learning Environment | A. Ewais | Eng. IT | 3,000 |
| 2 | Novel anti-diabetic medicinal plants extracts: active compounds detection and action mechanism in treating insulin resistance in vivo | H. Zaid & A. Kmail | Sciences | 10,000 |
| 3 | What is the Prevalence and Risk Factors of Common Community Health Disorders among ?AAUJ Staff, Students and Local Community | M. Asia | Medical Science | 8,500 |
| 4 | Polymorphism in neonate hyperbilirubinemia associated genes among Palestinians | M. Khader | Medical Science | 4,500 |
| 5 | Molecular characterization of occult hepatitis B virus and occult hepatitis C virus among multiply-transfused Thalassemia patients in northern West Bank, Palestine | K. Dumaidi | Medical Science | 3200 |
| 6 | Polarization sensitive reflection and dielectric spectra in GaSe thin films | H. Khanfar | Eng. IT | 10500 |

Period 2014/2015 (cycle 2)

| No | Research Title | Researchers | Faculty | Budget (\$) |
|----|---|-------------|------------------|-------------|
| 7 | The effect of math teachers participating in mathematical problem solving workshops about several Topics in mathematics on their teaching and on their students' learning | Y. Jaber | Art. | 6,500 |
| 8 | Multiple Ontology-based Ad Serving – From Content to Context Advertising | M. Maree | Eng. IT | 4,000 |
| 9 | Mechanical and electrical properties of Bi _{1.5} -xLa _x Zn _{0.92} Nb _{1.5} O _{6.92} Pyrochlore Ceramics | A. Qasrawi | Sciences | 10,500 |
| 10 | The effect of chronic smoking on brain structure through Voxel base morphology (VBM) method | A. Assi | Medical Sciences | 9,000 |
| 11 | Anti-inflammatory Effect of Several Herbal Extracts on Lipopolysaccharide induced Polymorphonuclear Cells. | K. Qabaha | Medical Sciences | 9,000 |
| 12 | Status of radiation protection at different hospitals in West bank-Palestine | M. Aljamal | Medical Sciences | 7,000 |

Period 2014/2015 (cycle 1)

| No | Research Title | Researchers | Faculty | Budget (\$) |
|----|--|--------------------------------|-------------------------|-------------|
| 1 | The impact of the proliferation of Israeli products on the performance, sustainability and development of Palestinian products in local markets. | A. Saleh | Adm.& Financial Science | 2,200 |
| 2 | In vitro assessment of the role of apoptosis and cell cycle modulation in the observed anticancer effects of Hypericum triquetrifolium: An in vitro study using liver and colon cancer cell lines. | B. Saad J. Daraghmeh | Sciences | 10,500 |
| 3 | Prevalence and Impact of Health Education on Decreasing Low Back Pain Among Operative Room Nurses. | R. Anabtawi | Medical Sciences | 3,000 |
| 4 | Antimicrobial Activity of Heribal Extracts on Staphylococcus aureus , E. col and Pseudomonas aerugonasa isolated from clinical patients in Jenin District | R. Jadallah | Sciences | 8,200 |
| 5 | The Impact of Compliance with the principles of Corporate Governance on level of Disclosure: Comparative Study between Palestine and Jordan | N. Abdelkarem M. Abu Sharbi | Adm.& Financial Science | 2,400 |
| 6 | Modified Graphene Nanomaterial's for Biomedical and Environmental Applications | N. Diab | Sciences | 9,000 |

Period 2013/2014 (cycle 2)

| No | Research Title | Researchers | Faculty | Budget (\$) |
|----|--|-------------|------------------|-------------|
| 1 | The action mechanism of five local medicinal plants in treating insulin resistance: advanced in vitro study | H. Zaid | Sciences | 7,500 |
| 2 | Measurements of the Indoor and outdoor Radiofrequency Radiation Levels in the City of Jenin | I. Alawneh | Eng & IT | 7,500 |
| 3 | RFID technology: Modeling and building Intelligence in Product using Multi Agents Systems for Locating and transportation systems (Libraries or traffic) | A. Ratrot | Eng & IT | 7,500 |
| 4 | Optical dynamics in CdSe/InSe interface | S. Rabaah | Sciences | 7,500 |
| 5 | Prevalence and Genotyping of Echinococcus garnulosus in Definitive Host, Canis lupus familiaris in Palestine | A. Jawabreh | Medical Sciences | 7,500 |
| 6 | Fabrication and characterization of Ag/BN/Ni microwave sensor | H. Kanfar | Eng & IT | 7,500 |

Period 2013/2014 (cycle 1)

| No | Research Title | Researchers | Faculty | Budget (\$) |
|----|---|----------------------|------------------|-------------|
| 1 | Titanium doping effects on the electrical properties of Neodymium Stannate | A. Saleh | Sciences | 10,000 |
| 2 | Social Responsibilities Reporting by Islamic Banks in Palestine | S. Abukaresh | Adm.& Finance | 1,000 |
| 3 | Design and application of ultra-wideband radar sensor array for microwave medical tomography. | T. Za'noon | Eng & IT | 7,500 |
| 4 | Standardization and application of Tensiometer for estimation of Crop Water Requirements of Cucumber (Cucumis Sativus) in Jenin | R. Jadallah | Sciences | 3600 |
| 5 | Characteristics of Streptococcus mutans genotypes and dental caries in Palestinian adults. | T. Abdlagany | Medical Sciences | 6,200 |
| 6 | Fabrication of Gallium Selenide nano-layers for optoelectronic device applications | A. Qasrawi | Physics | 7500 |
| 7 | Physical characterization of semiconducting ZnPc films sandwiched between Metallic (Ag, Au, C, Ni) electrodes | M. Abu Samrah | Physics | 7500 |
| 8 | Electromagnetic dynamics in BN/In₂Se₃ interfaces | A. Omar | Physics | 7500 |

Future Plans

- A Central Lab to accommodate AAUJ scientists in particular, Palestinian and visiting scholars and scientists on the whole. It aims at advancing applied research as a new Palestinian frontier for economic growth and development as well as to contribute to humankind progress, development and happiness.
- Green Campus: producing solar energy at AAUJ for all our power consumption and the proceeds of this income will be distributed as scholarships and research equally.
- Also, a water treatment plant and recycling project is under planning.

Challenges

- ❖ **Shortage of Research Resources**
- ❖ **Mobility of Students and Professors (External and Internal)**
- ❖ **The Gap between the private sector and the academic**
- ❖ **Weak collaboration between the Palestinian universities**

Needed from Palestinian-German Science Bridge

- New Partnerships and Collaboration
- International Exchange of Students (especially; graduate students)
- Summer school, Visiting the related institutions, workshops, ...
- Joint Programs or dual degree (MBA at AAUJ with Indiana university/USA)
- Joint researchers: one –one or unit – unit
- Access to the scientific Journals