**EUROPEAN CURRICULUM VITAE FORMAT**

ARAFAH, DIYA' ZOHDI RATIB
01.FEB.1983
Palestinian
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## EDUCATION

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| • Dates | **JANUARY 2011- JULY 2014** |
| • Name and type of organization providing education and training | Politecnico di Milano |
| • Principal subjects covered | Structural integrity assessment |
| • Title of qualification awarded | PhD in Mechanical Engineering (with merit) |
| • Research topic | Structural integrity assessment of cracked components subjected to biaxial loading (in particular: Pipelines, Pressure vessels, Gas turbines); Fracture instability analyses (analytical methods and testing); Finite element simulations of stationary and propagating cracks (cohesive zone modeling); Constraint effects in fracture assessment methods (testing of dedicated specimens). PhD thesis title: Fracture assessment of cracked components under biaxial loading. |
| • Supervisor | Prof. Stefano Beretta |
| • Opponent | Prof. Nicola Bonora |

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| • Dates | **SEPTEMBER 2008- JULY 2010** |
| • Name and type of organization providing education and training | Politecnico di Milano |
| • Principal subjects covered | Mechanical Systems Design |
| • Title of qualification awarded | Master's degree in Mechanical Engineering |
| • Level in national classification | 110/110 |
| • Title of the thesis | Feasibility analysis of innovative self-energizing electro-mechanical disc brake |
| • Supervisor | Prof. Gianpiero Mastinu |

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| • Dates | **SEPTEMBER 2001- JULY 2006** |
| • Name and type of organization providing education and training | Palestine Polytechnic University |
| • Principal subjects covered | Mechanical Engineering: Automotive Engineering |
| • Title of qualification awarded | Bachelor degree in Mechanical Engineering |
| • Level in national classification | GPA 90/100 (with honor) |

## WORK EXPERIENCE

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| • Dates | **FEBREUARY 2015 - NOW** |
| • Name and address of employer | Palestine Polytechnic University PPU, Hebron - Palestine |
| • Type of business or sector | University |
| • Occupation or position held | Assistant Professor |
| • Main activities and responsibilities | Faculty member – College of Engineering<br>Academic Supervisor – Automotive Engineering |

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| • Dates | **MAY 2015-NOW** |
| • Name and address of employer | Palestine Standard Institue, Ramallah- Palestine |
| • Type of business or sector | Government |
| • Occupation or position held | Technical committee member |
| • Main activities and responsibilities | Representative of the Universities union (Academia Sector) in the technical committee of vehicle and auxiliaries. |

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| • Dates | **NOVEMBER 2017-NOW** |
| • Name and address of employer | Ministry of National Commerce, Ramallah- Palestine |
| • Type of business or sector | Government |
| • Occupation or position held | Technical committee member |
| • Main activities and responsibilities | Representative of the Academia Sector in the Technological and Innovation Support Center (TISC). The main role include: Intellectual property rights and Patents investigation. |

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| • Dates | **JULY 2014-JANUARY 2015** |
| • Name and address of employer | Politecnico di Milano, Milano-Italy |
| • Type of business or sector | University |
| • Occupation or position held | Postdoctoral Research Fellow |
| • Main activities and responsibilities | Fracture instability analysis of long test specimens: tubes and rails. Fracture toughness testing at high temperature using non-standard fracture specimen. Numerical simulation of stationary and propagating cracks. |

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| • Dates | **APRIL 2013- OCTOBER 2013** |
| • Name and address of employer | Federal Institute for materials research and testing (BAM), Berlin-Germany |
| • Type of business or sector | Research Institute |
| • Occupation or position held | Visiting researcher in Service Loading Fatigue and Structural Integrity Division (9.1) |
| • Main activities and responsibilities | Extension of European “fitness-for-service” procedure to biaxial loading. Fracture instability analysis of pressurized pipes. Fracture toughness testing of non-standard fracture specimen. Finite element modeling and fracture mechanics analyses of cracked geometries. |

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| • Dates | **SEPTEMBER 2006 - SEPTEMBER 2008** |
| • Name and address of employer | Palestine Polytechnic University, Hebron-Palestine |
| • Type of business or sector | University |
| • Occupation or position held | Laboratory Supervisor |
| • Main activities and responsibilities | Teaching and Research assistant, development of Hydraulic and Thermal Laboratories at Mechanical Engineering Department. |

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| • Dates | **JULY - SEPTEMBER 2006** |
| • Name and address of employer | Al-Salam Investment Group, Hebron-Palestine |
| • Type of business or sector | Volkswagen, Audi and Skoda Agency |
| • Occupation or position held | Service advisor |
| • Main activities and responsibilities | Diagnosis of Vehicles, after sales customer care. |

## PUBLICATIONS

Arafah D., Qarqash A., Abu Taleb M. (2018). The effect of injectineg water to the air fuel mixture in a spark ignition engine.The Ninth Jordanian International Mechanical Engineering Conference.

Arafah D., Iwaiwi Kh., Salhab M. (2018). The effect of solar cells control strategy on the net power in single axis rotation.The Ninth Jordanian International Mechanical Engineering Conference.

Arafah D., Salman S., Amro L. (2018). A comparison of two engines ECU.The Ninth Jordanian International Mechanical Engineering Conference.

Arafah D., Madia M., Zerbst U., Beretta S., Cristea M. (2015). Instability Analysis of Pressurised Pipes With Longitudinal Surface Cracks. International Journal of Pressure Vessels and Piping.

Madia M., Arafah D., Zerbst U. (2014). Reference Load Solutions For Plates With Semi-Elliptical Surface Cracks Subjected To Biaxial Tensile Loading. International Journal of Pressure Vessels and Piping.

Zerbst, U. Madia, M. Arafah, D. (2014). Referenzlastlösungen für die Ermittlung der elastisch-plastischen Rissspitzenbeanspruchung in Platten-Strukturen unter Zug-, Biege-, kombinierter Zug-Biege- und zweiaxialer Zugbelastung. (DVM AK BRUCH).

Brocks W., Arafah D. (2014). Computational fracture mechanics. Milano/Kiel, Technical report.

Zerbst U., Madia M., Arafah D. (2014). Reference load solutions for plates with semi-elliptical surface cracks subjected to biaxial tension loading. European Conference on Fracture (ECF20), Trondheim-Norway, 30 June - 04 July 2014

Hegana A.,Arafah D. (2014). Self-energizing Electromechanical Disc Brake: Innovative Analysis of Electromechanical Disc Brake. LAP LAMBERT Academic Publishing.

Brocks W., Arafah D. (2013). Exploiting symmetries of FE models and application to cohesive elements. Milano/Kiel, Technical report.

Arafah D., Madia M., Beretta S., Cristea M. (2012). Structural Integrity Assessment of Thick Wall Pipes under Biaxial Loading. European Conference on Fracture (ECF19). Kazan – Russia, 26-31 August 2012

Arafah D., Cristea M., Madia M. (2012). Analytical and numerical approach to the effect of biaxial loading on the estimation of burst pressure for pressurized pipes. European Structural Integrity Society (ESIS) joint technical meeting TC1 & TC8, Berlin – Germany, 14-15 June 2012.

Madia M., Rabbolini S., Arafah D., Rossetti A. (2011). Effetto della biassialità sulla valutazione dell'integrità strutturale di componenti contenenti difetti. Convegno Nazionale Gruppo Italiano Frattura (IGF 21) 13 - 14 JUNE 2011, CASSINO, ITALY. (Winning Award for young researchers)

## TRAINING

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| • Dates | **MAY 2018** |
| • Name and address of employer | International Standard Organization (ISO) |
| • Type of business or sector | Organization |
| • Position | Regional Workshop (MENA) on stakeholder engagement |

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| • Dates | **MARCH 2018** |
| • Name and address of employer | National Instrument (NI) |
| • Type of business or sector | Company |
| • Position | Certified LabVIEW Associate Developer (CLAD), vision and embedded control and automation. |

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| • Dates | **NOVEMBER 2017** |
| • Name and address of employer | World Intelectual Property Organization (WIPO) |
| • Type of business or sector | Organization |
| • Position | Regional Workshop (MENA) on Intellectual property and Patents investigation |

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| • Dates | **NOVEMBER 2011** |
| • Name and address of employer | Politecnico di Milano |
| • Type of business or sector | University |
| • Position | Fatigue strength of welded structures |

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| • Dates | **JULY - AUGUST 2005** |
| • Name and address of employer | Aqaba ports corporation, Aqaba-Jordan |
| • Type of business or sector | Government Institute |
| • Position | Mechanical Field Engineer - Trainee |
| • Main activities and responsibilities | Maintenance of hydraulic systems in heavy equipments, Diagnosis of shipping-related vehicles. |

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| • Dates | **JULY - AUGUST 2004** |
| • Name and address of employer | Minia University, Minia-Egypt |
| • Type of business or sector | University |
| • Position | Automotive Engineer - Trainee |
| • Main activities and responsibilities | Maintenance of automotive electrical and electronic systems. |

## FELLOWSHIPS AND AWARDS

PhD Scholarship, Politecnico Di Milano
Master Degree scholarship, Politecnico Di Milano
Bachelor Degree scholarship, Palestine Polytechnic University

Award for Young Researchers – IGF 21, June 2011, Cassino-Italy. (Award given to the best paper presented by authors under the age of 35 years).

## LANGUAGE SKILLS

MOTHER TONGUE **ARABIC**

OTHER LANGUAGES

**ENGLISH**

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| • Reading skills | Excellent |
| • Writing skills | Excellent |
| • Verbal skills | Excellent |

**ITALIAN**

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| • Reading skills | GOOD |
| • Writing skills | GOOD |
| • Verbal skills | GOOD |

**GERMAN**

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| • Reading skills | BASIC |
| • Writing skills | BASIC |
| • Verbal skills | BASIC |

**HEBREW**

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| • Reading skills | BASIC |
| • Writing skills | BASIC |
| • Verbal skills | BASIC |

**ORGANIZATIONAL SKILLS**

Working with my colleagues allowed me to improve: team work spirit, flexibility, technical reporting and communication skills.

**MAIN TECHNICAL COMPETENCES**

Analytical and numerical analysis
Problem solving techniques
Finite element modeling
Computational fracture mechanics
Cohesive zone modeling of damage/degradation
Material testing with universal testing machines
Fracture toughness testing (at different temperatures and using non-standard specimens)
Fracture assessment of cracked components
Structural integrity procedures: R6, FITNET/SINTAP, BS 7910

**COMPUTER SKILLS**

Microsoft Windows, Unix, Linux
Microsoft Office package, LaTeX
MATLAB, SIMULINK, MINITAB, ABAQUS, CATIA, LABVIEW.

**TEACHING ACTIVITIES**

Teaching assistant of the following courses:
Computational fracture Mechanics and Cohesive Models for Damage/Degradation (PhD course).
Computational structural analysis
Applied mechanics - Statics
Applied mechanics - Dynamics
Mechanical behavior of Materials
Applied Engineering Mathematics
Machine Design
Engineering drawing
Thermodynamics
Heat transfer

Personal data could be processed in accordance with Italian law D.LGS. 196/2003

**Diya Arafah**
**(Hebron; June 28, 2021)**