



# KAREEMI MUHAMMAD AJMAL

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Nationality: | Gender: | |

About me: I am a young, qualified, energetic, hardworking and self-motivated person, looking to work in a firm with a professional work driven environment where I can apply and utilize my knowledge and skills which would enable me to grow while fulfilling organizational goals.

## ● WORK EXPERIENCE

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01/11/2019 – CURRENT – Rome, Italy

**OPTIMIZATION OF (TTP) TRUSS-TYPE PREFABRICATED BEAMS.** – FACULTY OF CIVIL AND INDUSTRIAL ENGINEERING, SAPIENZA UNIVERSITY OF ROME

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Scheme of Research

- **Phase 1:** Formulation of a shear capacity equation for TTP Beams according to Eurocode 2, based on the theory of the variable-angle strut typically used in reinforced concrete, adapted to TTP.
- **Phase 2:** Calibration of model partial factor according to NTC-18 and EN 1990 (“Design by testing”) to correct the reliability of the predictive equation with respect to experimental results. This calibration will be based on experimental results, performed and available in the literature.
- **Phase 3:** Reformulation of the shear capacity equation to consider subsequent construction phases and possible collaboration between first and second phase of the constructed trusses.
- **Phase 4:** Optimization of TTP beams using equations obtained from phases 1-3, considering the hierarchy with the bending capacity, in order to identify the most efficient truss topologies, also in terms of costs.

Department of Structural and Geotechnical Engineering, Faculty of Civil and Industrial Engineering | Education |

<https://www.ing.uniroma1.it/> | Via Eudossiana 18, 00184, Rome, Italy

07/2017 – 10/2018 – Rome, Italy

**RESEARCH ACTIVITIES** – FACULTY OF CIVIL AND INDUSTRIAL ENGINEERING, SAPIENZA UNIVERSITY OF ROME

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- Treatment of Uncertainties in Assessment of Existing Reinforced Concrete Structures.
- Treatment of constructive and technological uncertainties in design and evaluation of composite steel-concrete beams.

Department of Structural and Geotechnical Engineering | Via Eudossiana 18, 00184, Roma, Italy

04/2016 – 06/2016 – Grebenhain, Germany

**INTERNSHIP** – ARCHITECTURE OFFICE

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- Roof material calculations
- Insolation calculation
- Usage of (VOB) as the basis for tenders
- Visiting different construction sites

Professional, scientific and technical activities | An der alten Schule 14, 36355, Grebenhain, Germany

Rome, Italy

**RESEARCH ASSISTANT ON A PROJECT ON COMPOSITE TRUSS BEAMS** – SAPIENZA UNIVERSITY OF ROME

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- Strain Gages Installation
- Concrete Casting
- Experimental Test Setup
- Everyday Test Report
- Experimental Test Results

Department of Structural and Geotechnical Engineering | Professional, scientific and technical activities



08/2011 – 01/2012 – Nangarhar and Kabul, Afghanistan

**SITE ENGINEER** – NAZIR IRFAN CONSTRUCTION COMPANY (NICC), AND BARAK SHIRZAI CONSTRUCTION COMPANY (BSCC)

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- Advice in the planning
- Overseeing building work
- Solving technical issues
- Providing technical advice
- Supervising contracted staff
- Ensuring site safety
- Ordering and negotiating the price of materials
- Organizing meeting for problems solving
- Checking and preparing site reports

2201, Gardez, Afghanistan

## ● EDUCATION AND TRAINING

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01/11/2018 – CURRENT – Via Eudossiana 18, Rome, Italy

**THIRD YEAR DOCTORAL (PH. D.) SCHOLAR** – Faculty of Civil and Industrial Engineering, Sapienza University of Rome

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- Direct and Inverse Dynamic Problems in Random Vibrations
- CORSO - Costruzioni esistenti in muratura "Marcello Ciampoli"
- Teoria Strutturale
- Modelling of Offshore Structures
- APESS 2019 (12th Asia-Pacific-Euro Summer School) on Smart Structures Technology
- Dynamics of Structures (Linear and Non-linear Dynamic Analysis of Structures)
- Information Literacy Skills, Research Strategies and Sharing your Findings

EQF level 8

01/11/2014 – 16/03/2016 – Via Eudossiana 18, Rome, Italy

**MASTER IN "ADVANCED MODELLING, ANALYSIS AND DESIGN OF STRUCTURES ACCORDING TO EUROCODES (MASTER EUROPROJECT)** – Faculty of Civil and Industrial Engineering, Sapienza University of Rome

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- Basis of Probability
- Modelling and Analysis of Structures
- Eurocodes 0, 1: Basis of structural design, Action on structures
- Eurocodes 2, 3: Design of concrete structures, Design of steel structures
- Eurocodes 4, 5: Design of composite steel and concrete structures, Design of timber structures
- Eurocodes 6, 7: Design of masonry structures, Geotechnical design
- Eurocodes 8, 9: Design of structures for earthquake resistance, Design of aluminium structures

EQF level 7

15/02/2012 – 15/02/2013 – Via Antonio Gramsci 53, Rome, Italy

**EXCHANGE STUDENT TO MASTER IN EVALUATION CONTROLLED AND REDUCTION OF THE ENVIRONMENTAL SEISMIC RISK** – Sapienza University of Rome

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- Earthquake Engineering
- Anti-Seismic Design of Reinforced Concrete
- Seismic Isolation
- Design of Masonry Structures
- Assessment of Existing Masonry Structures

EQF level 5



09/2007 – 06/2012 – Kabul-Jalalabad Highway, Daronta, Jalalabad, Afghanistan  
**BACHELOR OF SCIENCE (B. SC) 5 YEARS DEGREE IN CIVIL ENGINEERING** – Nangarhar University

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- Engineering Mechanics Statics
- Mechanics of Materials
- Structural Analysis
- Soil Mechanics (Geotechnical Engineering)
- Reinforced Concrete Design to ACI Code
- Road Construction
- Environmental Engineering
- Construction Project Quality Management (CPQM)
- Construction Safety

EQF level 6

09/2003 – 06/2006 – Baroo, Rodat, Jalalabad, Afghanistan  
**HIGH SCHOOL (12 GRADE) DEGREE** – Baroo High School

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- Mathematics / Algebra
- Physics
- Geometry
- Chemistry
- Trigonometry etc.

EQF level 4

## ● LANGUAGE SKILLS

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**Mother tongue(s):** PASHTO

**Other language(s):**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	C1	C1	C1	C1	C1
<b>ITALIAN</b>	B1	B1	B1	B1	B1
<b>GERMAN</b>	B1	B1	B1	B1	B1
<b>DARI (PERSIAN)</b>	C1	C1	B2	C1	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## ● DIGITAL SKILLS

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Microsoft Word | Microsoft Excel | Microsoft Powerpoint | Auto CAD | Primavera P6 | SAP 2000

## ● PUBLICATIONS

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**Experimental Tests on Composite Steel-Concrete Truss Beams**

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<https://www.scientific.net/AMM.847.68> – 2016

M. A. Kareemi, F. Petrone, G. Monti, (2016) Experimental Tests on Composite Steel-Concrete Truss Beams, Applied Mechanics and Materials, Vol. 847, pp. 68 – 75.  
10.4028/www.scientific.net/AMM.847.68



- **DRIVING LICENCE**

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Driving Licence: AM

Driving Licence: B

- **CONFERENCES AND SEMINARS**

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Seminar

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Experimental Evaluation for Correct Interventions on the Structures - Buildings, Bridges,

- **RECOMMENDATIONS**

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Giorgio Monti – Professor (Supervisor) – [giorgio.monti@uniroma1.it](mailto:giorgio.monti@uniroma1.it)

Prof. Monti is a Full Professor at the Department of Structural and Antonio Geotechnical Engineering, Sapienza University of Rome, via Gramsci, 53 – 00197, Rome, Italy, and at the Department of College of Civil Engineering and Architecture, Zhejiang University, 866 Yuhangtang Rd, Hangzhou 310058 P.R. China.

Sashi Kunnath – Professor – [skkunnath@ucdavis.edu](mailto:skkunnath@ucdavis.edu)

Prof. Kunnath is a Full Professor at the Department of Civil and Environmental Engineering, University of California at Davis One Shield Avenue, CA 95616, USA.

Giuseppe Carlo Marano – Professor – [giuseppe.marano@polito.it](mailto:giuseppe.marano@polito.it)

Prof. Marano is a Professor and Vice Head of Department of Structural Engineering, Construction and Soil Mechanics at St Politecnico di Torino, Corso Duca degli Abruzzi, 24, 10129 Torino, Italy.

- **HONOURS AND AWARDS**

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2014

**Second Level Master – Sapienza University of Rome**

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Master in “Advanced Modelling, Analysis and Design of Structures according to Eurocodes (Master EuroProject)”.

16/01/2012

**Scholarship winner under EU-NICE- Erasmus Mundus Action 2 Program – Sapienza University of Rome**

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The Erasmus Mundus Project “EU-NICE: Eurasian University Network for International Cooperation in Earthquake” was a scholarship awarded after a selection among about 1000 candidates for study in Europe, and it was funded by the European Commission



## ● ORGANISATIONAL SKILLS

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### Organizational skills

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- Good command of organizational and managerial skills learnt through the opportunity of working with Nazir Irfan Construction Company (NICC) and Barak Shirzai Construction Company (BSCC), Camp Thunder, Gardez Project of USACE, Paktia Province, Afghanistan.

## ● COMMUNICATION AND INTERPERSONAL SKILLS

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### Interpersonal Skills

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- Apart from Conflict resolution, Authenticity, Emotional intelligence, Articulation and tone of voice, I have good ability to listen and communicate effectively with a wide range of people, and to adapt in multicultural environments gained during my stay generally in Europe and specifically in Italy & Germany  
- Good communication skills expanded through my experience as Research Assistant in different research activities during my research career.

## ● COURSES

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### Various course in different dates

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Course of Existing masonry buildings "M. Ciampoli ", 13-29 May 2020, Sapienza University of Rome.

1st Short Course on Multihazard for Extreme Events: *Fires, Explosions, Flood, Earthquakes*, September 17-20, 2019, University of Cagliari (Italy).

5th International Workshop DISS\_17- Dynamic Interaction of Soil and Structure, October 19 -20, 2017, Roma Tre University of Rome.

2nd International Short Course on "Seismic Analysis of RC Structures using OPENSEES", February 17, 2017, Roma Tre University of Rome.

SLT (Seminar for Language Teachers), Kabul English Language Center, Sanayee Development Foundation, May 3, 2005, Peshawar, Pakistan.

Special writing class, Kabul English Language Center, Sanayee Development Foundation, July 20, 2005, Peshawar, Pakistan.

## ● CERTIFICATES

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### Various Certificates

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Specialization Course, issued by EDIL CAM ® Sistemi S.r.l in partnership with GLIS, Seismic Isolation Working Group, order of Architects of the Province of Rieti, order of Engineers of the Province of Rieti, May 21, 2015, ATER of the Province of Rieti.

## ● PRESENTATIONS

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16/10/2020 - 16/10/2020

### Optimization of (TTP) Truss-Type Prefabricated Beams

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Introduction to TTP Beams (productions stages, advantages of TTP beams and this system usage).

Formulation of a shear capacity equation according to Eurocode 2, based on the theory of the variable-angle strut typically used in reinforced concrete

Calibration of an "external" safety coefficient according to NTC-18 and Eurocode 0 ("Design by testing") to consider the variability of predictive models with respect to experimental results. This calibration will be based on the results of studies available in the literature, both theoretical and experimental.



10/03/2016 – 10/03/2016

**Experimental Behaviour of Composite Truss Beams, March 10, 2016,**

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Introduction to Composite Truss Beams, Production Stages, Advantages of REP<sup>®</sup> Beams, REP<sup>®</sup> System Usage, Geometrical and Mechanical Parameters of CTB, Members Geometrical and Mechanical Properties, Experimental Tests, Strain Gages Installation, Concrete Casting, Experimental Test Setup, Experimental Test Results & Further Research

2012

**Design of 8 km long road on Turkham Jalalabad road.**

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