

# Sohail Forouzan-sepehr

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## Personal Information

- **Nationality:** Iranian/British Citizen
- **Year of Birth:** 1977
- **Position:** Bridge Engineer
- **Specialisations:** Structural Engineering (Bridges), Computational Mechanics of Structures

## Synopsis

Sohail Forouzan-sepehr is a Bridge Engineer working in the Structures Division of Mouchel's Office in Chelmsford, Essex. He joined Mouchel in January 2008 and has worked on different stages of projects as well as mentoring Civil Engineering students of Anglia Ruskin University and participation as Environmental Coordinator and SHEQ Champion.

He has worked for about six years on several infrastructure projects (highway and railway bridges) in the Middle East as well as lecturing at universities and workshops following the completion of his BSc and MSc courses with the first and second ranks, respectively. Then after, he passed the entrance exam of PhD course in Structural Engineering with the first rank and attended the course during his professional career. Sohail has also cooperated in some academic research projects and engineering software design/development.

He started his professional engineering work in Iran as a student engineer and elevated to the design team leadership position within five years. Then after he relocated to UK and started his new professional career with Mouchel.

## Education

### 2007 | MPhil in Structural Engineering

*School of Civil Engineering, University of Tehran <<http://www.ut.ac.ir>>*

1<sup>st</sup> rank in the PhD course entrance exam (2001) scored 75.79% (further details available [HERE](#))

### 2001 | MSc in Structural Engineering

*School of Civil Engineering, University of Tehran <<http://www.ut.ac.ir>>*

2<sup>nd</sup> rank at School of Civil Engineering with GPA 18.36 out of 20 (=91.8%) and scored 20 out of 20 (=100%) in thesis (further details available [HERE](#))

## 1999 | BSc in Civil Engineering

Faculty of Civil and Environmental Engineering, Amir Kabir University of Technology (Former Polytechnic of Tehran) <<http://www.aut.ac.ir>>

1<sup>st</sup> rank among 94 BSc graduates of the faculty with GPA 17.29 out of 20 (=86.45%)

## 1995 | Diploma in Mathematics and Physics

Alborz High School <<http://www.alborz.sch.ir>>

GPA: 18.36 out of 20 (=91.8%)

## Employment

### Since 2008 | Bridge Engineer

Mouchel Plc <<http://www.mouchel.com>>

### 2007-2008 | Structures Design Team Leader

Hexa Consulting Engineers Ltd <<http://www.hexa.ir>>

### 2003-2008 | Bridge Design Engineer

Hexa Consulting Engineers Ltd <<http://www.hexa.ir>>

### 2003-2004 | Contract Lecturer

University of Tehran <<http://www.ut.ac.ir>>

### 1998 | Student Engineer

Pars Padir Consulting Engineers Ltd <<http://www.parspadir.com>>

## Professional Experiences

**Employer: Mouchel Plc**

Since 2008

**Role: Bridge Engineer**

Working on different stages of projects for 'Essex County Council' involving maintenance and refurbishment of existing bridges and providing preliminary/detailed design of new bridging structures. Also, mentoring second year Civil Engineering students of Anglia Ruskin University as well as working as Environmental Coordinator and SHEQ Champion.

To name some of the projects:

- **Client: Essex County Council**

- *Re-assessment of Essex County Culverts*: assessment of culverts using more rigorous 3D plastic analysis
- *Refurbishment and Strengthening of Maldon Road and Ladywell Bridges*: feasibility study, inspection, detailed design, scheme finalisation for strengthening of piers against vehicle collision, strengthening of deck transverse link beams, etc
- *Strengthening of Smiths Green Bridge*: detailed design, site liaison, scheme finalisation (see details [HERE](#))
- *Roscommon Way Extension New Structures*: option study, feasibility study, detailed design of Sluice Farm, Holehaven Plant Crossing, Romainville Plant Crossing Bridges
- *Refurbishment of Pitsea Flyover*: detailed design for refurbishment of piers and retaining walls

o ...

**Employer: Hexa Consulting Engineers Ltd**

2007-2008

**Role: Structures Design Team Leader**

Design supervision and leadership of a team of five structural engineers and three draftsmen involving preliminary/detailed design of several important schemes mainly for 'Iran Ministry of Roads and Transportation'. Also, directing IT Department of the firm.

**Employer: Hexa Consulting Engineers Ltd**

2003-2008

**Role: Bridge Design Engineer**

Preliminary/detailed design of several infrastructure schemes including prestressed/reinforced concrete and box-girder highway/railway bridges especially for 'Iran Ministry of Roads and Transportation'.

To name some of them (descriptive album of the projects available [HERE](#)):

• **Client: Ministry of Roads and Transportation**

- o *Mianeh – Bostanabad – Tabriz Double Track Railway Bridges*: detailed design and design supervision of eight number 40m multi-span steel box-girder bridges over valleys of 30-50m depth
- o *Kermanshah – Bisotoun Eastern Bypass Bridge*: detailed design of a 30m span voided slab reinforced concrete highway bridge
- o *Bridges of Second Runway of Chalus – Noshahr Bypass*: preliminary design of three number 2x30m spans highway bridges
- o *Chalus Grand Bridge*: detailed design of the highway bridge superstructure comprising 8x40m precast prestressed concrete beams
- o *Esfahan – Azna Single Track Railway Bridges*: preliminary design including hydraulic studies of three number 25m multi-span bridges
- o *Chabahar – Fahraj Single Track Railway Bridges*: preliminary design including hydraulic studies of seven bridges comprising 25m multi-span precast prestressed concrete beams
- o ...

• **Client: Municipality of Dezful**

- o *Dezful 5th Highway Bridges*: detailed design of a 28.35+9x45.30+28.35m bridge superstructure comprising precast prestressed concrete segments installed in place by the balanced cantilever method
- o ...

• **Client: Roads and Transportation Organisation of Bushehr**

- o *Mond 3<sup>rd</sup> Highway Bridges*: detailed design of a 28x25.0m multi-span bridge

• **Client: Boundary Terminals Organisation of Iran**

- o *Jolfa Highway Bridge*: detailed design of a multi-span totally 250.62m bridge over the Aras River connecting Autonomous Republic of Naxçivan and Azerbaijan Province in Iran

• ...

**Employer: Pars Padir Consulting Engineers Ltd**

1998

**Role: Student Engineer**

Design and control of steel structure buildings

## Academic Experiences

- **1996-1998:** Teaching "*Statics*" for BSc students as TA, Amir-Kabir University of Technology (Polytechnic of Tehran). See further details [HERE](#).
- **2000-2001:** Research Assistant in a research entitled "*3D Delamination Analysis of Composites Subjected to Impact Loading*" supported by: 1. Iranian Aircraft Manufacturing Industry (HESA) 2. University of Tehran, Vice Chancellor for Research 3. Iranian Ministry of Higher Education. See further details [HERE](#).
- **2001-2003:** Teaching "*Dynamics of Structures*" for MSc students as TA, Dept of Civil Engineering, University of Tehran. See further details [HERE](#).
- **2002-2003:** Research Assistant in a research entitled "*Meshless Methods for the Analysis of Engineering Problems*" proposed by me and supported by University of Tehran, Vice Chancellor for Research. See further details [HERE](#).
- **2002:** Proposing and planning a new MSc course entitled "*Mechanics of Composites*", Dept of Civil Engineering, University of Tehran. See further details and course outline [HERE](#).
- **2003:** Proposing and planning a new PhD course entitled "*Meshless Methods*", Dept of Civil Engineering, University of Tehran. See further details and course outline [HERE](#).
- **2003:** Teaching "*Materials and Manufacturing Methods 2 (Metals)*" for BA students, Dept of Industrial Design, Faculty of Fine Arts, University of Tehran. See further details and course outline [HERE](#).
- **2003-2006:** Programming and developing "*EFAP 2006*" software with pre-/post-processor, an object-oriented element-free Galerkin based program with error estimation options for the analysis of heat transfer problems using Visual Basic.NET 2005. See further details [HERE](#).
- **Since 2009:** Mentoring 2<sup>nd</sup> year Civil Engineering students of Anglia Ruskin University. Further details about mentoring scheme are available [HERE](#).

## Publications and Papers

### Dissertation:

1. S Forouzan-sepehr (2001); "*A Contact Based Method for 3D Delamination Analysis of Composites Subjected to Impact Loading*", Master Thesis, School of Civil Engineering, University of Tehran, Iran (See abstract [HERE](#))

### Research Reports:

2. S Forouzan-sepehr, S Mohammadi (2001); "*3D Analysis of Initiation and Propagation of Delamination in Composites Under Impact Loading*", Grant No 614/2/627, Vice Chancellor for Research, University of Tehran
3. S Forouzan-sepehr, S Mohammadi (2004); "*Meshless Methods for the Analysis of Engineering problems*", Grant No 614/2/988, Vice Chancellor for Research, University of Tehran

### Papers:

4. S Forouzan-sepehr, S Mohammadi (2010); "*A Fast Mesh-Free Galerkin Method for the Analysis of Steady-State Heat Transfer*", *Journal of Aerospace Science and Technology*, Sharif University of Technology, Tehran, Iran
5. S Forouzan-sepehr, S Mohammadi (2005); "*Dynamic Analysis of Delamination in Composite Shells*", *Journal of Faculty of Engineering, University of Tehran (Special Issue on Civil Engineering)*, Vol 39, No 3, pp 389-401
6. S Mohammadi, S Forouzan-sepehr (2003); "*3D Adaptive Multi Fracture Analysis of Composites*", in: MP Cartmell (editor); *Proceedings of the 5th International Conference*

- on Modern Practice in Stress and Vibration Analysis, Vols 440-441, pp 145-152, Glasgow, Scotland (See abstract [HERE](#))
7. S Mohammadi, S Forouzan-sepehr (2003); "3D Analysis of Initiation and Propagation of Interlaminar Cracks in Composite Shells Subjected to Impact Loading", in: Proceedings of the 4th Iranian Aerospace Society Conference, Vol 1: Aerospace Structures, pp 372-381, Tehran, Iran
  8. S Mohammadi, S Forouzan-sepehr, A Asadollahi (2002); "Contact Based Delamination and Fracture Analysis of Composites", *Thin-Walled Structures*, Vol 40, No 7-8, pp 595-609 (See abstract [HERE](#))
  9. S Forouzan-sepehr, S Mohammadi (2001); "A Contact Based Method for 3D Delamination Analysis of Composites Subjected to Impact Loading", in: S Valliappan, N Khalili (editors), Proceedings of APCOM '01: First Asian-Pacific Congress on Computational Mechanics, pp 691-696, Sydney, NSW, Australia (See abstract [HERE](#))

#### **Books:**

10. S Forouzan-sepehr (2005); "Intellectual Skill-Learning Problems", Mobtakeran, Tehran, Iran (See abstract [HERE](#))
11. S Forouzan-sepehr, A Safaeian (2000); "Problems of Maths for Middle School Students", Mobtakeran, Tehran, Iran (See abstract [HERE](#))
12. S Forouzan-sepehr (1996); "Tests of Maths for Middle School Students", Mobtakeran, Tehran, Iran (See abstract [HERE](#))

## **Computer Skills**

### **Software Design and Development:**

1. Participation in developing 'ELFEN' for the 3D delamination analysis of composites using finite/discrete element methods at University of Tehran
2. Programming 'EFAP 2006' for the analysis of heat transfer problems with error estimation using element-free methods (refer to <http://efap.sfsepehr.com/>)
3. Developing several design sheets using Mathcad and Excel

### **Programming Languages:**

1. Fortran 77
2. Turbo Pascal
3. Visual Basic.NET 2005

### **Engineering Packages:**

1. SAP 2000 ver 9.03
2. LUSAS Bridge 14.5
3. HEC-RAS 3.1.2
4. COBRAS 1.7
5. Mathcad 15.0

### **Miscellaneous Software:**

1. MS Office 2010: Word, Excel, PowerPoint, OneNote, Publisher, Visio
2. MS Office 2007: SharePoint Designer
3. MS Office 2003: FrontPage
4. AutoCAD 2008

## **Engineering Codes**

British Standards (BS), EuroCodes (BS EN), CDM 2007, American Codes (ACI, AASHTO, AREA), Iranian National Codes