

## Sevugan Rajkannu J., Ph.D.

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### Objective and Research Interest

- Long term career goals include the pursuit of research in the field of Civil Engineering and teaching in an academic environment.
- Areas of interests include **Stability of structures, Cold-formed steel design, Finite Element Analysis, Structural Analysis, Structural Health Monitoring, Modelling of Materials and Structures.**

### EDUCATION

Program	Institution	%/CGPA	Year of Completion
M.S. and Ph.D. in Civil Engineering (Structural Engineering)	Indian Institute of Technology Madras, Chennai	8.1	2021
B.E. in Civil Engineering	Vickram College of Engineering, Madurai	7.8	2012
HSC (XII)	A.V Higher Sec. School, Madurai	81	2008
SSLC (X)	A.V Higher sec. school, Madurai	91.6	2006

### PUBLICATIONS – JOURNALS

1. **J Sevugan Rajkannu** and Arul Jayachandran (2020) “Flexural torsional buckling strength of Thin –walled channel sections under warping restraint” *Journal of constructional steel research*. DOI :10.1016/j.jcsr.2020.10641
2. **J Sevugan Rajkannu** and Arul Jayachandran “Experimental evaluation of DSM beam-column strength of cold-formed steel member under uniaxial eccentric compression” *Thin-walled structures*. (Tentatively Accepted).
3. **J Sevugan Rajkannu** , Akshay Mangal mahar and Arul Jayachandran “Influence of Moment Gradients on the Behaviour and Performance of Cold-Formed Steel Beam-Columns” *Engineering structures*. (Under review).

### PUBLICATIONS – CONFERENCE

1. **J Sevugan Rajkannu** and Arul Jayachandran (2018) “Investigations on Design implementation of cold-formed steel beam-column members using direct strength method” **Eighth International conference on Thin Walled Structures**. Lisbon, Portugal.

2. **J Sevugan Rajkannu** and Arul Jayachandran (2019) “*Investigation on effects of warping on the behaviour of cold formed steel beam-columns*”, *Proceedings of the Annual Stability Conference Structural Stability Research Council, St. Louis, Missouri, USA.*
3. **J Sevugan Rajkannu** and Arul Jayachandran (2020) “*Investigation on the stability behaviour of cold formed steel beam-columns under bi-axial bending*”, *Proceedings of the Annual Stability Conference Structural Stability Research Council, Atlanta, USA.*
4. J Sevugan Rajkannu and Arul Jayachandran (2018) "**Nonlinear framework for Design of cold-formed steel beam-column**" *proceedings of Eleventh Structural Engineering Convention (SEC 2018), Jadavpur University, Kolkata, India.*
5. J Sevugan Rajkannu and Arul Jayachandran (2018) “**Numerical study on the effect of warping in cold-formed steel beam-column**” *Proceedings of the International Conference on Advances in construction materials and structures, IIT Roorkee, India.*
6. J Sevugan Rajkannu, Chinmai Goripathi and Arul Jayachandran(2020) “**Investigation on non-linear interaction framework for zee shaped cold-formed steel beam-column**” *proceedings of Indian structural steel conference*”, *IIT Hyderabad, India.*

### **THESIS PROJECTS**

Beam-column behaviour of cold-formed steel members influenced by cross-section warping **M.S -Ph.D.**

Cross-sectional warping has been ignored in the cold-formed steel (CFS) design due to its complex behaviour, resulting in a conservative design. In this study, for the first time in the literature, the effect of restrained warping has been incorporated explicitly in the design expression of cold-formed steel members using the direct strength method (DSM). Further, the CFS beam-column design framework has been formulated and evaluated for possible inclusion in revised IS: 801.

### **TEACHING ASSISTANCE EXPERIENCE**

- Teaching assistance for the following course in IIT Madras
  - Advance metal structures, Structural stability,
  - Structural analysis, Basic steel design,
  - Experimental Techniques, Non-destructive testing (Laboratory Course)

### **EMPLOYMENT**

**Experience: \_**  
(From **01/11/2020** to **Till Date**)

**Post-Doctoral Researcher**, Department of Civil Engineering, IIT Madras, Chennai.

### **Research Projects**

- Revision of IS-806, code of practise for structural steel Tubular section in building construction.
- Enhancing the use of tubular section and concrete filled tubular section –Sponsored research project from TATA Steel.

### **PROFESSIONAL EXPERIENCE**

**2 Years**

Worked as a Site Engineer in **Jayam consultancy Private Limited**, Chennai.

[July 2012 to Feb 2013].

Worked as a Project Assistant in **Structural Engineering Research Centre (SERC)**, Chennai.

[FEB 2013 to Feb 2014].

Worked as a Project Associate in Ocean Engineering, **IIT Madras** Chennai.

[FEB 2014 –July 2014].

### **Real-Time project**

- Carry out the Proof load testing and structural assessment of the second longest steel bridge in India, Marthandam, Tamilnadu, India.
- Involved in Structural Health monitoring and retrofitting of bridges under southern Railways (Ennore, Udumelpet).
- Involved in the Bathymetric survey on the seacoast of kollachel (Kanyakumari) for building breakwater and sea wall.

### **POSITIONS OF RESPONSIBILITY**

- Head -coordinator of Structural Research forum (2016-2018).
- Member and Post graduate coordinator in Civil Engineering Association CEA (2017-2018).

### **AWARDS & RECOGNITIONS**

- First Prize in Paper Presentation in symposium held at RVS Engineering College in 2011.
- Won first and Second prize in code cracking event (RVS Engineering College, Thiagaraja College, KLN college of Engineering).

### **SOFT SKILLS**

Commercial Technical Software: ABAQUS, STAAD Pro, ANSYS, ATENA, Solidworks and AutoCAD

### **Reference**

*Dr. Arul Jayachandran*  
*Professor*  
*Department of Civil Engineering*  
*Indian Institute of Technology Madras*  
*Chennai*  
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**J. Sevugan Rajkannu**

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