1st International Seminar on Stainless Steel Structures (iS4 2021)

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'Stainless' steel is a promising alternative construction material possessing good mechanical properties over other materials, the most unique being its **corrosion-resistant** property. The low life cycle cost of stainless steel structures owing to its low maintenance cost prevail over its high initial cost. Its high strength to weight ratio and high durability topped with a lustrous attractive appearance has become a reason of increasing acceptance and appreciation of stainless steel as a construction material by engineers and architects around the world. Recent development of design codes for stainless steel structures viz., AISC 370 (2021) Specification for Structural Stainless Steel Buildings (draft for public review) and SCI P413 (2017) Design Manual for Structural Stainless steel may be regarded as a significant step, for helping engineers and architects in using stainless steel structural members, in construction industry.

International Seminar on Stainless Steel Structures (iS^4) is an initiative to introduce and popularise the use of stainless steel structural members. The chief aim of iS^4 is to create a platform or an opportunity to disseminate technical/research advancements associated with stainless steel structural members or structures.

The first edition of International Seminar on Stainless Steel Structures (iS^4 2021) would be held on 27th May, 2021. The inaugural technical talk would be delivered by Prof. Leroy Gardner, Imperial College London, on the topic 'Stainless steel structures – stability and design'.

Webinar on Stainless steel structures – stability and design

Date: 27th May, 2021; Thursday
Time: 2:30 om (India); 10:00 am (UK), 5:00 pm (Hong Kong)

Join the webinar: tinyurl.com/is4airmeet

Sl no.	Speaker	Topic	Time (pm) (IST)
1	**Prof. Konjengbam Darunkumar Singh**, *Organiser* Indian Institute of Technology Guwahati www.iitg.ac.in/darun	Welcome address and introduction to speakers	2:30 – 2:35 pm (5 min)
2	**Prof. TG Sitharam** *Director* Indian Institute of Technology Guwahati www.iitg.ac.in/director	Welcome address	5 min
3	**Prof. Leroy Gardner** *Speaker* Imperial College London www.imperial.ac.uk/people/leroy.gardner	**Stainless steel structures – stability and design**	60-90 min
4	**Prof. Konjengbam Darunkumar Singh**, Organiser Indian Institute of Technology Guwahati	Limited Q&A session	5-10 min
5	**Dr. Sanasam Vipej Devi** *Organiser* **National Institute of Technology Mizoram** www.nitmz.ac.in/emp_profile.aspx?nDeptID=cag	Vote of Thanks	2-5 min

Thank you so much!

Annexure A: Seminar topic

Stainless steel structures – stability and design

Leroy Gardner
Imperial College London

Abstract

Stainless steel is a high-performance construction material that is synonymous with modern, resilient and sustainable construction. There is a wide variety of grades to suit a range of applications and demands. The nonlinear stress-strain characteristics of stainless steel give rise to a structural response that differs somewhat from that of structural carbon steel. Depending on the type and proportions of the structural element or system, the nonlinear material response can lead to either a reduced or enhanced capacity relative to an equivalent component featuring an elastic, perfectly plastic material response. This behaviour is observed at all levels of structural response including at cross-sectional level, member level and frame level, as described in this talk. Current and emerging design approaches that capture this response are also discussed. Lastly, with a view to the future, the application of advanced analysis to the design of stainless steel structures and the use of 3D printing for the construction of stainless steel structures are explored.

Speaker bio

Leroy Gardner is Professor of Structural Engineering at Imperial College London and Fellow of the Royal Academy of Engineering. He is engaged in teaching at both undergraduate and postgraduate level, industry training, specialist advisory work and leading an active research group in structural engineering.

Prof. Gardner's principal research interests, in respect of which he has co-authored 4 textbooks, 7 book chapters and over 400 technical papers, lie in the areas of structural testing, numerical modelling and the development of design methods for steel structures. He is Editor-in-Chief of two international journals and serves on a number of code committees in Europe and the US. Prof. Gardner was awarded the prestigious IABSE prize in 2017 and was appointed Distinguished Visiting Professor at Tsinghua University in 2018.

Annexure B: IIT Guwahati Organising Team

- **Suman Kr Mushahary**, IIT Guwahati, PhD scholar
- **Prasanta Kar**, IIT Guwahati, PhD scholar
- **Jyotirmoi Haloi, IIT Guwahati**, PhD scholar
- **PVR Narendra**, IIT Guwahati, PhD scholar
- **Sanasam Vipej Devi**, NIT Mizoram, Assistant Professor
- **Tekcham Gishan Singh**, IIT Jodhpur, Assistant Professor
- **Ricky Lalthazuala**, NIT Mizoram, Assistant Professor
- **Ningthoukhongjam Sukumar Singh**, MIT Manipur, Assistant Professor
- **G. R. Patil,** SVERI's College of Engineering, Assistant Professor
- **Sonu J.K**., Amal Jyothi Engineering College, Assistant Professor
- **Khwairakpam Sachidananda**, NIT Manipur, Assistant Professor
- **M. Longshithung Patton**, NIT Meghalaya, Assistant Professor
- **Ms. Shravani Dhamane, MTech student**, IIT Guwahati