

Dr. Iasef Md Rian

Associate Professor

Department of Architecture & Design
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Founder & Chief Architect

Rian Architects & Designers
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TEACHING INTERESTS

Design Studios (All levels of UG & PG)
Computational Design and Design Optimization
Structural Design (Architecture specific)
Architectural Technology & Performance-Based Design
Integrated Building Design Studio
UG, PG & PhD Theses Supervisions

RESEARCH INTERESTS

Computational Design and Design Optimization
Lightweight Designs using Geometric Morphogenesis
Performance-Based Design & Digital Fabrication
Smart Solar Screens for Environmental Design
Fractal and Complex Geometries for Applied Designs

QUALIFICATIONS

Ph.D. in Architecture & Building Design	Politecnico di Torino, Italy [Tokyo Denki University, Japan: Visiting Research for 1 year] Thesis: Fractal-Based Computational Morphogenesis of Architectural Structures Supervisors: Mario Sassone, PhD [Politecnico di Torino, Italy] Shuichi Asayama, PhD [Tokyo Denki University, Japan]	2012-2015 2013
M. Arch. in Architectural Planning & Design	Inha University, South Korea Thesis: Pop-Up Technique of Origamic Architecture for Post-Disaster Shelters Supervisor: Jin-ho Park, PhD [Inha University, South Korea]	2005-2007
Bachelor of Architecture	Aligarh Muslim University, India Thesis: Ergonomics in the Design of Dance School Supervisors: Mohd Arif Kamal, PhD [Aligarh Muslim University, India]	2000-2005

JOB EXPERIENCES

(Total full-time experience: 10+ years)

Teaching full-time experience: 6 years 6 months+

Industrial full-time experience: 3 years 6 months+

Associate Professor [Full-time] Jan 2019 - present
Teaching, Research, and Administrative Services
Dept. of Architecture & Design, Xi'an Jiaotong-Liverpool University, China

Founder & Principal Architect [Full-time+Part-time] Aprl 2015 - present
Design consultation services and supervisions
Rian Architects & Designers, Malda, West Bengal, India

Assistant Professor [Full-time] Jan 2016 - Jan 2019
Teaching, Research, and Administrative Services
Dept. of Architectural Engineering, University of Sharjah, U.A.E.

Teaching Assistant (Voluntarily) [Part-time] Feb 2012- Aug 2014
Teaching, Assisting for tutorials, Workshop mentoring
Dept. of Architecture & Design, Politecnico di Torino, Italy

Lecturer [Full-time] Jan 2011-Dec 2011
Teaching and Administrative Services
Dept. of Architecture, Qassim University, Buraidah, Saudi Arabia

Senior Architect [Full-time] Nov 2008-Nov 2010
Designing, Coordinating, and Project Managing
S. Ghosh & Associates, Hauz Khas, New Delhi, India

Architect [Full-time] Sep 2007- Oct 2008
Drafting, Designing, and Coordinating
C. P. Kukreja & Associates, Green Park, New Delhi, India

Teaching Assistant [Full-time] Feb 2006-Aug 2007
Teaching, Assisting for making tutorials
Dept. of Architecture, Inha University, Incheon, South Korea

Research Assistant [Full-time] Feb 2006-Aug 2007
Assisting for experimental set ups, data collection, and report making
Dept. of Architecture, Inha University, Incheon, South Korea

TEACHING EXPERIENCES

Xi'an Jiaotong-Liverpool University, China [Full-Time] Jan 2019-present
Associate Professor

Courses Taught:

Design Studio (ARC 404): M.Arch. Year 1 [2019-2020]
Design Studio (ARC 204): B.Arch. Year 3 [2020]
Design Studio (ARC 001): B.Arch. Year 1 [2019]
Design Studio (ARC 205): B.Arch. Year 3 [2019]
Integrated Design Studio (ARC 111) : B.E. Year 1. [2019]

University of Sharjah, UAE [Full-Time] Jan 2016-Dec 2018
Assistant Professor

Courses Taught:

Design Studio (Design II): B.Arch. [2016, 2017]
Design Studio (Design III): B.Arch. [2016, 2017, 2018]
Design Studio (Design IV): B.Arch. [2016, 2017]
Design Studio (Design V): B.Arch. [2017, 2018]
Parametric Design: B.Arch. [2016, 2017, 2018]

Mentor:

Final Year Thesis & Design Project: Undergraduate level [2016, 2017 & 2018]

Politecnico di Torino, Italy [Part-Time] Feb 2012-Sep 2014
Teaching Assistant (**Voluntarily**)

Courses Taught/Assisted:

Structural Design & Morphogenesis: Postgraduate level [2012, 2013, 2014]
Design Workshop (Design II): Core Course [2012, 2013, 2014]

Mentoring Assistant:

Final Year Thesis & Design Project: Postgraduate level [2013, 2014]

Qassim University [Full-Time] Jan 2011-Dec 2011
Lecturer

Courses Taught:

Design Studio (Design I): B.Arch. Year 1 [2011]
Design Studio (Design II): B.Arch. Year 2 [2011]
Basic Design Studio (Design III): B.Arch. Foundation Year [2011]

Inha University, South Korea [Part-Time] Feb 2006-Aug 2007
Teaching Assistant

Courses Taught/Assisted:

Design Studio (Design I): Undergraduate level [2007]
Design Studio (Design II): Undergraduate level [2006]
Computer Aided Design (Design III): Undergraduate level [2006]

RESEARCH EXPERIENCES & GRANTS

Xi'an Jiaotong-Liverpool University, China | Digital Design Lab 2020-present

Position: Associate Professor [Principal Investigator]
Project: *Design, Optimization & Fabrication of Extra-Light Precast Concrete Panels*
Grant: **Research Development Fund, XJTU** [99,000 RMB]

Xi'an Jiaotong-Liverpool University, China | Digital Design Lab 2020-present

Position: Associate Professor [Principal Investigator]
Project: *Interdisciplinary Design-Build Workshop (Architecture + Math)*
Grant: **Teaching Development Fund, XJTU** [40,000 RMB]

University of Sharjah, UAE | Research Institute, UoS Jun 2016-Dec 2018

Position: Assistant Professor [Principal Investigator]
Project: *Computational Morphogenesis of Self-Shaded Building Façades*
Grant: **SEED Research Grant, University of Sharjah, UAE** [40,000 AED]

University of Sharjah, UAE | Dept. of Architectural Engg., UoS Feb 2013-Sep 2013

Position: Assistant Professor [Principal Investigator and Project Curator]
Project: *'Weaving the Mashrabiya Pavilion'*
Grant: **College of Engineering Grant, University of Sharjah.** [10,000 AED]

Politecnico di Torino, Italy | Computational Morphogenesis Lab Feb 2012-Sep 2012

Position: Research Assistant
Project: *FracShell and BrickShell: Freeform Masonry Shell Construction*
Grant: **Polito Research Grant, Turin, Italy** [1,000 EURO]

Inha University, South Korea | D-Lab Feb 2006-Jul 2007

Position: Research Assistant
Research Project: *Origami-Based Post-Disaster Deployable Emergency Shelters.*
Grant: **Korean Research Foundation in Incheon, S. Korea.** [125,000,000 WON]

INDUSTRIAL EXPERIENCES

Rian Architects & Designers | Malda, WB, India May 2015- present

Position: Founder & Principal Architect
Projects: Residences, Commercial Markets, B.Ed College, etc. Malda, India
Roles: Overall project management from conceptual design to final execution

S. Ghosh & Associates | New Delhi, India Nov 2008-Dec 2010

Position: Senior Architect and Project Coordinator
Projects: Ireo Uptown Housing, Gurgaon | JSPL Corporate Building, Raigarh
Roles: Conceptual design, Technical drawings, Project management, Coordination

C. P. Kukreja & Associates | New Delhi, India

Sep 2007- Oct 2008

Position: Architect

Projects: Gautam Buddha University, Noida | Tata Cumin Factory, Ludhiana

Roles: Conceptual design, Technical drawings, Project management, Coordination

UNIVERSITY SERVICES

E-Learning Coordinator | Dept. of Architecture & Design | XJTU | China 2020-present
IT Officer | Dept. of Architecture & Design | XJTU | China 2019-present
Member of UG/PG Course Learning Outcome | Dept. of Architecture & Design | XJTU | China 2019-present
Module Coordinator, Masters Y1 Design Studio | Dept. of Architecture & Design | XJTU | China 2019-present
Module Coordinator, Architectural Technology | Dept. of Architecture & Design | XJTU | China 2019-present
Module Coordinator, B.Engg. Y2 Integrated Structural Design Studio | XJTU | China 2019
Sub-Coordinator of Material Library | Dept. of Architecture & Design | XJTU | China 2019
Member of Teaching-Learning Outcome team | Dept. of Architectural Engg. | University of Sharjah 2016-2018
Member of CAA accreditation prep team | Dept. of Architectural Engg. | University of Sharjah 2016-2018
Member of the Task Force of Structure & Construction | University of Sharjah | UAE 2017-2018
Coordinator of Design 3 Studio course | Dept. of Architecture | University of Sharjah | UAE 2017-2018
Coordinator of Departmental Year Book | Dept. of Architecture | University of Sharjah | UAE 2017

PARAMETRIC DESIGN-BUILD WORKSHOPS

Parametric to BIM (IFC) | Xi'an Jiaotong-Liverpool University | China [Supporting | Attendee] Aug 2019
'Weaving the Mashrabiya Pavilion' | Dubai Design Week 2018 | D3, Dubai | UAE [Organizer] Sep2018-Nov2018
'FracShell' | Morphogenesis Design Group | Politecnico di Torino | Italy [Organizer] Feb 2014-Jul 2014
'Brick-Shell' | Morphogenesis Design Group | Politecnico di Torino | Italy [Co-Organizer] Feb2013-Aug2013
'Monalisa Pavilion' | WoodLab | Politecnico di Torino | Italy [Team Leader] Feb2012-Aug2012

EXHIBITIONS

'Weaving the Mashrabiya Pavilion' | Dubai Design Week 2018, Dubai, UAE Nov 2018
'Monalisa Pavilion' | MadeExpo 2012, 2013, Milan, Italy Sep 2012 & Sep 2013
'Fractal Pavilion' | Bamboo Technologies; Kassel Germany July 29-Aug 22, 2007

INVITED TALKS/SEMINARS/CHAIRING SESSIONS/REVIEWER

Paper Reviewer | CAADRIA 2021 Int. Conf. | Hong Kong. 2021
Invited Talk | Fractals in Applied Designs | Fractal Workshop, Design Aware | Online 2020
Charing Session | IASS Annual Symposium –Structural Membranes Conference | Barcelona Oct 2019
Invited Lecture | Beijing University of Civil Engineering and Architecture | Beijing, China. Sep 2019
Reviewing Committee | ICSCEA 2019 Int. Conf. | Ho Chi Mihn City, Vietnam. Aug 2019
Charing Session | CAAD Futures 2019, KAIST | South Korea. Jun 2019
Invited Seminar Presentation | Department of Architecture, University of Sydney | Sydney Oct 2017
Invited Speaker | 'Dubai SciFest, 2016' | Dubai. Oct 2016
Invited Seminar Presentation | Department of Architecture, KU Leuven | Brussels Nov 2015
Invited Lecture | WoodLab, Department of Architecture, Politecnico di Torino | Italy Apr 2012
Guest Reviewer | College of Fine Arts & Design | University of Sharjah | U.A.E. 2016, 2017, 2018

PROFESSIONAL MEMBERSHIPS

Registered Architect, Council of Architecture (COA), India
Association for Computer-Aided Architectural Design Research in Asia (CAADRIA)
Association for Computer Aided Design in Architecture (ACADIA), USA
International Society for Geometry and Graphics (ISGG), Austria
International Association of Shell and Spatial Structures (IASS), Spain

PEER REVIEW OF JOURNALS

Automation in Construction
Computer Aided Design
Frontiers of Architectural Researches
Fractals

HONORS & AWARDS

Winner International Design Competition 'ASCENSION: Zagreb Observation Tower' Croatia	2019
Selected Design Installation Call for Dubai Design Week 2018, Dubai Design District U.A.E.	2018
'Distinction' in PhD Politecnico di Torino Italy	2015
International Mobility Scholarship Politecnico di Torino Italy	2013-2014
First Prize Milan Scholarship Parametric Camp Italy	2012
Jungseok International Scholarship Inha University South Korea	2005-2007
Korean Research Fellowship Korean Research Foundation South Korea	2006-2007
Teaching Assistantship Inha University South Korea	2006-2007
Finalist International Bamboo Design Competition USA	2006
Honourable Mention International Competition of Kitchen Design Spain	2006
Fourth Prize 17th Inha International Design Workshop South Korea	2006

SOFTWARE COMPETENCIES

Modeling:	Rhinoceros, AutoCAD, SketchUp, Revit (BIM IFC/'geometryGym'),
Rendering:	Lumion
Language:	Python
Parametric:	Grasshopper3D
Structural:	Karamba3D, AMEBA, Oaysis GSA
Environmental:	Ladybug, Honeybee, DIVA

PERSONAL INFORMATION

Gender:	Male
Date of Birth:	24 Dec, 1980
Place of Birth:	Malda, India
Nationality:	Indian
Marital Status:	Married
Languages known:	English (Fluent), Hindi (Fluent), Bengali (Fluent), Korean (Entry level), Italian (Entry level)

PUBLICATIONS

JOURNAL ARTICLES

- 2021 Iasef Md Rian, 'Fractal-Based Generative Design of Chinese Ice-Ray Lattices', *Computer-Aided Design*. (under review).
- 2021 Iasef Md Rian, Zakieh Avazzadeh, 'Fractal Morphology of Chinese Ice-Ray Lattices and its Application in Lattice Shell Structure Design', *Fractal & Fractional*. (under review).
- 2018 Iasef Md Rian, 'Surface Texture-Based Computational Morphogenesis of a Hyperbolic Paraboloid Shell Structure', *Nexus Network Journal*. Vol. 20, No. 2, p437-458.
- 2018 Iasef Md Rian, Mario Sassone, Shuich Asayama, 'From Fractal Geometry to Architecture: Designing of a Grid-Shell-Like Structure Based on the Takagi-Landsberg Surface', *Computer-Aided Design*. Vol. 98, Issue 2018, p40-53
- 2016 Iasef Md Rian, Shuich Asayama, 'Computational Morphogenesis of a Nature-Inspired Canopy Structure using the Concept of Self-Similar and Random Fractals', *Automation in Construction*. Vol. 66, Issue 1, p43-58.
- 2015 Iasef Md Rian, Mario Sassone, 'Fractal-Based Generative Design of Structural Trusses using the Iterated Function System', *International Journal of Space Structures*. Vol. 29, Issue 4, p182-203.
- 2014 Iasef Md Rian, Mario Sassone, 'Tree-Inspired Dendriforms and Fractal-Like Branching Structures in Architecture: A Brief Historical Overview', *Frontiers of Architectural Researches*. Vol. 3, Issue 3, p298–323.
- 2013 Mohd Faheem, Muzaffar Ali, Iasef Md Rian, 'A Wondrous Heritage Hub for Tourists: A Case of Fatehpur Sikri, India'. *Asian Academic Research Journal of Multidisciplinary*. Vol. 1, Issue 15, p226-237.
- 2008 Iasef Md Rian, Dongkuk Chang, Jin-Ho Park, 'Pop-Up Technique of Origamic Architecture for Post-Disaster Emergency Shelters'. *Open House International*, Vol. 33, Issue 1, p17–24.
- 2007 Iasef Md Rian, Dongkuk Chang, Jin-Ho Park, 'Fractal Geometry as the Synthesis of Hindu Cosmology in Kandariya Temple, Khajuraho'. *Building & Environment*, Vol.42, Issue 12, p4093-4107.

CHAPTERS/PROJECTS IN BOOK

- 2019 Iasef Md Rian, 'FracShell'. In: Fabio Bianconi and Marco Filippucci (Eds) *Digital Wood Design: Innovative Techniques of Representation in Architectural Design*. Vol. 24, Springer International, pp 1459-1479.
- 2014 Iasef Md Rian, Mario Sassone & Shuichi Asayama, 'Nature-Inspired Fractal Geometry and Its Applications in Architectural Designs'. In: Alberto Ti Estevez (Ed) *Biodigital Architecture and Genetics, 2nd Int. Conf.* ACTAR D Publishing, New York.
- 2011 Iasef Md Rian, 'Multicultural Flexible Housing: Addressing the Need and Scope of Flexible Housing in Cosmopolitan Indian Cities'. In: Hanizam Awang (Ed) *Re-Humanizing the Built Environment; Vol. 2*, p 1246-1264.
- 2007 Iasef Md Rian, "Fractal Pavilion". In: D Greenberg, R Henrikson, and S Paudel (eds) *Visionary Bamboo Designs for Ecological Living*; Hawaii: Bamboo Technologies; p 81.

CONFERENCE ARTICLES

- 2019 Iasef Md Rian, Humam Al Sebai, Salem Abdalla, “*Weaving the Mashrabiya Pavilion’: A Mashrabiya-Inspired Pavilion Design based on Barycentric Subdivision.*” **60th IASS Annual Symposium 2019 – 8th Structural Membranes 2019: Form and Force**, 7 – 10 October 2019. Barcelona, Spain.
- 2019 Toshifumi Mae, Iasef Md Rian, “*A generation of frame structure based on Koch curve and an application to spatial frame*”, **60th IASS Annual Symposium 2019 – 8th Structural Membranes 2019: Form and Force**, 7 – 10 October 2019. Barcelona, Spain.
- 2019 Shuichi Asayama, Toshifumi Mae, Iasef Md Rian, Yuki Oshima, “*Mechanical effect of arch element composition of a fractal hexagon dome and its extension*” **60th IASS Annual Symposium 2019 – 8th Structural Membranes 2019: Form and Force**, 7 – 10 October 2019. Barcelona, Spain.
- 2019 Iasef Md Rian, “*IFS-Based Computational Morphogenesis of a Hierarchical Trussed Beam*” **CAAD Futures 2019: "Hello, Culture"**, June 2019. KAIST, Daejeon, South Korea.
- 2017 Iasef Md Rian, “*Fractal dimension based computational morphogenesis: An application in designing a randomly folded spatial structure.*” **IASS Annual Symposium 2017** - Interfaces: architecture.engineering.science, September 2017. Hamburg, Germany.
- 2015 Guido Callegary, Iasef Md Rian, Antonio Spinelli, “*Transforming Nature's Forest into Manmade Forest: Fractal-Based Computational Morphogenesis Approach for a Dendriform Pavilion Design*”. **IASS 2015 Tokyo Colloquium on Bio-Based and Bio-Inspired Environmentally Compatible Structures**, Tokyo, **Japan**.
- 2014 Iasef Md Rian, Mario Sassone, “*Fractal Shell Design using Iterated Function System*”. **IASS-SLTE 2014: International Association of Shell and Spatial Structures**, Brasilia, **Brazil**.
- 2014 Rajabzadeh S, Mario Sassone, Tomas E Mendez, Iasef Md Rian, “*The BRICKSHELL Meditation Centre: A Collaborative Masonry Project*”. **IASS-SLTE 2014: International Association of Shell and Spatial Structures**, Brasilia, **Brazil**.
- 2013 Guido Callegary, Iasef Md Rian, Antonio Spinelli, “*Monalisa wood Pavillon: Optimization and Parametric Design by using Poplar Plywood Engineered Components*”. **ISCHP 2013: International Scientific Conf. on Hardwood**, Florence, **Italy**.
- 2013 Osello Anna, Acquaviva A, Iasef Md Rian, Rajabzadeh S, et.al., “*Multidisciplinary Team Activity using BIM and Interoperability: A PhD Course Experience at Politecnico di Torino*”. **Le vie dei Mercanti XI Forum Int. di Studi**, Aversa-Capri, **Italy**.
- 2013 Iasef Md Rian, Mario Sassone, “*Tree-Inspired Architectural Structures and Fractal Geometry: A Brief Historical Overview of Dendriforms*”. **ATINER 2013: 3rd Annual International Conference on Architecture**, Athens, **Greece**.
- 2012 Iasef Md Rian, Mario Sassone, “*Flexible Housing, a Healthy Housing: A Brief Discussion about the Merits of Flexibility in Designing Healthy Accommodation*”. **ABITARE 2012: 2nd International Conference on 'Inhabiting the Future'**, Napoli, **Italy**.
- 2006 Iasef Md Rian, Ahn Hyung Uk, “*Pop-Up Technique of Origamic Architecture for Post-Tsunami Deployable Shelters*”. **Architecture + Technology 2006: 6th International Symposium on Architectural Interchanges in Asia**, Daegu, **South Korea**.
- 2006 Ahn Hyung Uk, Iasef Md Rian, “*Unique Local Culture & Regional Construction Technology in Louis I Kahn's Two Works: Indian Institute of Management and Bangladesh National Capital Building*”. **Architecture + Technology 2006: 6th International Symposium on Architectural Interchanges in Asia**, Daegu, **South Korea**.