

17.3.9 Research progress against SDG 9 – Industry, Innovation and Infrastructure

CONTENTS

- 1. List of research publications for 2023 related to SDG 9
- 2. Events contributing to developing research and better interface with industry requirements
- 3. Memorandum of Understanding (MoU) with industry giants for developing research capacity
- 4. List of patents and copyrights related to industry and innovation

Sno	Name of the University / Campus		Corresponding Author	Name of Authors	Order of Authors as appearing in the paper	Title of the Paper	Name of Journal /Book	Name of Conference	Published	Presented	If indexed in Scopus (ELSEVIER) (Yes/No)	if indexed in other than scopus in Pubmed/ Medline/DOI/ IDOSI (Yes/No)	Web of Science (Thomson Reuters) (Clarivate Analytics) (Yes/No)	UGC Listed/Indexe d	LINK OF THE PAPER	If any other information
1	AUUP	ASAP	Neeharika Kushwaha	Neeharika Kushwaha Dr. Charu Nangia	1 2	Impediments in contextualizing SDGs: Review on India's City Plan Framework towards Agenda 2030	Recent Developments in Energy and Environmental Engineering.	4th International Conference on Trends and Recent Advances in Civil Engineering (TRACE- 2022)	YES	YES	YES	N.A.	N.A.	N.A.	https://link.springer.com/ chapter/10.1007/978-981- 99-1388-6_19	Jun-23
2	AUUP	ASAP	Vikas Kumar Nirmal	Vikas Kumar Nirmal Priyanka Singh Vilak K Bakde Ekta Singh	1 2 3 4	Agenda 2030 Evaluation of Property Pricing Structure of Residential Neighborhoods in correlation with Urban Green Spaces of Noida City	Recent Developments in Energy and Environmental Engineering.	4th International Conference on Trends and Recent Advances in Civil Engineering (TRACE- 2022)	YES	YES	YES	N.A.	N.A.	N.A.	https://link.springer.com/ chapter/10.1007/978-981- 99-1388-6-38	Jun-23
3	AUUP	ASAP	Sandeep Kumar	Sandeep Kumar	1 2 3	Legibility in a City: An overview of the Factors affecting Perceptions of Way-finding in the Built Environment	Recent Developments in Energy and Environmental Engineering.	4th International Conference on Trends and Recent Advances in Civil Engineering (TRACE 2022)	YES	YES	YES	N.A.	N.A.	N.A.	https://link.springer.com/ chapter/10.1007/978-981- 99-1388-6 37	Jun-23
4	AUUP ASAP	Snigdha Choudhary	Snigdha Choudhary	1	PERTAINING TO URBAN	REINVENTING PUBLIC TRANSPORT PERTAINING TO URBAN REINVENTING PUBLIC ZEMCH 2022 International Conference Proceedings	9th ZEMCH International Design Conference	YES	YES	N.A.	N.A.	N.A.	N.A.	ISBN: 978-81-960746-2-3 ISSN: 2652-2926	Jun-23	
5	AUUP	ASAP	Susan J. Chacko	Dr. Charu Nangia Dr. Manoj Kumar Susan Dr. Charu Nangia	2 3 1 2	MOBILITY AS SUSTAINABLE SOLUTION Identification of Critical Project Success (CPS) Factors for Construction Projects in India - An	November 03- 05, 2022 Recent Developments in Geotechnics and Structural	4th International Conference on Trends and Recent Advances		YES	YES	N.A.	N.A.	N.A.	https://link.springer.com/ chapter/10.1007/978-981-	Jun-23
6	AUUP	ASAP	Neeharika Kushwaha	Dr. R.S. Rai Dr. Vanita Ahuja Necharika Kushwaha Dr. Charu Nangia Dr. Bhargav	3 4 1 2	Overview Achieving Localization of SDG11: A critical review of South Asian	Engineering International Review for Spatial Planning and Sustainable Development	in Civil Engineering (TRACE - 2022) N.A.	YES	N.A.	YES	N.A.	N.A.	N.A.	99-1886-7 23 https://www.jstage.ist.go .jp/article/irspsd/11/3/11 _6/_article	Jul-23
7	AUUP	ASAP	Snigdha Choudhary	Adhvaryu Snigdha Choudhary Dr. Charu Nangia	1 2	region and learnings for India A Critical Review on Transitopia of Tomorrow as a solution of the transit system to stimulate the use of public	-	4th International Conference on Trends and Recent Advances in Civil Engineering (TRACE		YES	YES	N.A.	N.A.	N.A.	https://link.springer.com/ chapter/10.1007/978-981- 99-2905-4_23	Sep-23
8	AUUP	ASAP	Jyoti Chhabra	Dr. Manoj Kumar Jyoti Chhabra Amit Kumar Jaglan	1 2	Exploring the land-use efficiency dynamics and improvement potential in the smart city mission	Advances in 21st Century Human Settlements	2022) International Conference on Sustainable Resilient Built Environments 2022	In process	YES	YES	N.A.	N.A.	N.A.		
9	AUUP	ASAP	Susan J. Chacko	Susan Dr. Charu Nangia Dr. R.S. Rai Dr. Vanita Ahuja	1 2 3 4	A Review of Critical Risk Identification and Assessment for Construction Projects on India	International Conference for Advances in Civil Engineering proceedings	International Conference for Advances in Civil Engineering	YES	YES	N.A.	N.A.	N.A.	N.A.	978-81-948951-5-2 (Ebook)	Dec-23
10	AUUP	ASAP	Prerna Sharma	Prerna Sharma Amit Kumar Jaglan	2	Fire Safety of Urban Villages in Noida: Gap Identification in Policies and Building Norms	Advances in 21st Century Human Settlements	International Conference on Sustainable Resilient Built Environments 2022		YES	YES	N.A.	N.A.	N.A.		
11	AUUP	ASAP	Prerna Sharma	Prerna Sharma Dr. Ritabrata Ghosh	2	Benchmarking Existing Fire Safety Norms for Urban Villages in Noida with Best Practices	Proceedings of SECON'23	Fourth International Conference on Structural Engineering and Construction Management	YES	YES	YES	N.A.	N.A.	N.A.	https://link.springer.com/ chapter/10.1007/978-3- 031-39663-2 57	Nov-23

Activities related to SDG 9

ICEIL (14.09.2023)













R. L. Walecha & Associates (P) Ltd.





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ICEIL (14.09.2023)

Speakers Invited

- Mr. Chakresh Jain, CEO, Capricot Technologies Pvt Ltd.
- Ar. Kavi Jain, Principal Architect and Director, Nirman Consultants
- Ar. Tarun Walecha, Director, RLaPL
- Ar. Bhaskar Kandpal, Senior Design BIM Manager (Design & Technology Project Manager)
- Ar. Chenthur Raaghav Naagendran, CEO, A PLUS R Architects



Introduction to the event by Ar. Jinisha Jain



Opening remarks by Moderator Prof. (Dr.) D.P.Singh



Ar. Kavi Jain



Ar. Traun Walecha



Month of the event	Workshops	Name of the Event	Workshop Expert	Proposed brief event outcomes	Faculty Coordinators
Sep 2023	Workshop	Workshop on Application of BIM	Ar. Prasoon Saxena, Founder PS Architects working on BIM softwares	Hands-on experience with creating 3D models, adding components, and managing project data using BIM tools	Dr. Charu Nangia Neeharika Kushwaha Luvditya Khurana







Month of the event	Workshops	Name of the Event	Workshop Expert	Proposed brief event outcomes	Faculty Coordinators
Oct 2023	Workshop	Blum Training	Mr. Michael Dsouza- Head Trainer Blum,	Comprehensi ve learning of kitchen and cupboard hardware from Blum experts in and interactive and demonstrativ e session	Alankrita Pagare Rajeev Sinha Neeharika Kushwaha







Date: 17th October 2023| Time: 10AM | Location: K1-G119

Prof. (Dr.) Devendra Pratap Singh Dean Faculty of Architecture, Planning & Design Amity University



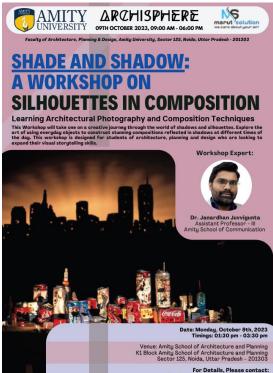
Month of the event	Workshops	Name of the Event	Proposed brief event outcomes	Faculty Coordinators
Oct 2023	WALKSHOP	Kaagaz ki Minar	Student from Amity Schools came to participate in hands on workshop and competition to build paper towers balancing aesthetics and structural stability	Kuldeep Kumar Alankrita Pagare







Month of the event	Workshops	Name of the Event	Workshop Expert	Proposed brief event outcomes	Faculty Coordinators
Oct 2023	Workshop	Workshop on Silhouettes	Dr. Janardhan Juvvigunta , Ast. Professor, ASC	To explore the art of using everyday objects to construct stunning compositions reflected in shadows at different times of the day.	Sandeep Kumar Luvditya Khurana Preeti Mishra



Faculty Coordinator: Mr. Sandeep Kumar







Month of the event	Workshops	Name of the Event	Guest Speaker	Proposed brief event outcomes	Faculty Coordinators
Oct 2023	Workshop	Spaces: A surface development workshop	Ar. Anuj Kumar Drall , Principal Designer at Base Musc, New Delhi	Insight into the structural properties of origami and how they relate to architectural stability and load-bearing consideration s.	Alpna Rohatgi Luvditya Khurana









GUEST LECTURES

Month of the event	Guest Lectures	Name of the Event	Guest Speaker	Proposed brief event outcomes	Faculty Coordinators
Aug 2023	Guest Lecture	Green Building rating Systems in India	Mr. Anshu Gupta , Director, MAG Consultants	To introduce the students of architecture with the concept of Green Building Rating Systems in India.	Alankrita Pagare Vivek Walia
Oct 2023	Guest Lecture	Efficient Site Planning and Group housing Unit design	Ar. Sudhir Khandelwal , Director SK Architects	Familiarity with sustainable design strategies, including energy efficiency, water conservation, and the use of eco-friendly materials.	Dr. Charu Nangia Neeharika Kushwaha Luvditya Khurana
Oct 2023	Guest Lecture	Urban Design For 'Us' through ongoing works at Kamonyi district, Rwanda	Ar. Vibhav Kharagpuria, Architect-Urban Designer	Aspects in consideration related to working closely with local communities, policymakers, and stakeholders to develop innovative urban design solutions that address the unique challenges and opportunities	Jinisha Jain

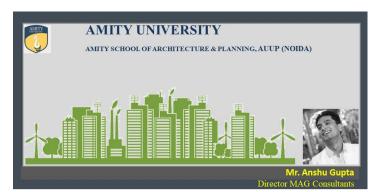


GUEST LECTURES

Month of the event	Guest Lectures	Name of the Event	Guest Speaker	Proposed brief event outcomes	Faculty Coordinators
Oct 2023	duest Lecture	Bauhaus Pedagogy for design projection and critical	Ar. Pappal Suneja, Founder and Curator: Architectural Journalism & Criticism Organization, PhD. Scholar, Bauhaus- Universität Weimar and International PhD	Curation of design problems through	Jinisha Jain Luvditya Khurana
Oct 2023	Guest Lecture	important tool for building	Ar. Prachi Aswani, Lighting Design Consultant	To introduce students to the aspects of : • Different types of architectural lighting • The latest trends in architectural lighting	Vivek Walia Kuldeep Kumar



GUEST LECTURES



GREEN BUILDING RATING SYSTEMS IN INDIA

FACULTY COORDINATORS: Asso. Prof. Alankrita Pagare Asst. Prof. Vivek Walia

Date-8th August 2023 Time: 2.30PM to 4.00PM Venue: Room No. 116, K1 Block Prof. (Dr.) Devendra Pratap Singh

Architecture, Planning & Design







1)	Name of Collaborating University / Institution / Department/Company/ Firm CU-1480.
i) 3)	Fields of Collaborating University / Institution / Department/Company/ Firm please tick (1) Medical () ii) Research () iii) Education (1) Engineering and Science () v) Consultancy () vi) Others
	Duration of MoU/NDA/ NDA-MTA/TOT/Agreement (Months/Years)
	Type of MoU/NDA/ NDA-MTA/TOT /Agreement please tick ($$) (a) National ($$) (b) International () MoU/NDA/ NDA-MTA/TOT /Agreement signed By Regis from - Aup.
) 1	MoU/NDA/NDA-MTA/TOT/Agreement Initiated by: Name and signature with Emp ID and Mo. 1 Prof. (Dr) Amil Hyela - 307015 H: 9810170496
	Name of Institution/Department Anily School of Architecture lanning.
_ _	Ame of Hol/HoD Prof (br) Amil Hajcea
)) If	NDA/NDA-MTA/TOT Mention Technology name
) T	echnology Inventor Name



Signature of HOI THIST

Prof.(Dr.) AMIT HAJELA
Director
Amity School of Architecture & Planning
Amity University, Noida-201313

AMITY SCHOOL OF ARCHITECTURE & PLANNING





Memorandum of Understanding (MOU)

This MOU is made on this 14th day of October 2022

BETWEEN

Amity School of Architecture & Planning an institution of Amity University Uttar Pradesh (AUUP), a University established and incorporated under Amity University Uttar Pradesh Act, 2005 (UP ACT No.11 of 2005) and UP Private Universities Act 2019 (UP ACT No.12 of 2019) situated at Sector-125, Noida-201313, U.P. (hereinafter referred to as "ASAP", which expression, unless repugnant to the context thereof, shall mean and include its successors and assignees) through its duly authorized representative, Dr B.L.Arya, Registrar, Amity University Uttar Pradesh of the FIRST PART

AND

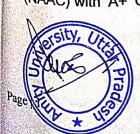
CII – Indian Green Building Council having its registered Office at Confederation of Indian Industry, The Mantosh Sondhi Centre, 23, Institutional Area, Lodi Road, New Delhi - 110 003 (hereinafter referred to as "CII-IGBC", which expression, unless repugnant to the context thereof, shall mean and include its successors and assignees) through its duly authorized representative, Mr Sachin Sharma, Chairman, IGBC Western UP Chapter of the SECOND Party.

"ASAP-AUUP" and "CII-IGBC" are referred to collectively as 'PARTIES' and individually as 'PARTY' as the context may require.

WHEREAS

Amity School of Architecture & Planning an institution of Amity University Uttar Pradesh which is part of Amity Education Group which has been sponsored and promoted by Ritnand Balved part of Amity Education Group which has been sponsored and promoted by Ritnand Balved part of Amity Education Group students studying across over 1300 acres of hi-Education Foundation (RBEF) has over 1,75,000 students studying across over 1300 acres of hi-Education Foundation Group has 11 Universities, 26 schools and pre-schools, tech campuses. Today Amity Education Group has 11 Universities and researchers. Faculty 17 global campuses. Over 1700 patents are filed by the faculty, Scientists and International agencies. has 300+ collaborative funded projects from Government, Industry and International agencies. Amity group has 4000+ faculty including eminent scientists with diverse disciplines. Amity University Amity group has 4000+ faculty including eminent scientists with diverse disciplines. Amity University Uttar Pradesh has been accredited by National Assessment and Accreditation Council Uttar Pradesh has been accredited by National Assessment

WHEREAS



The Indian Green Building Council (IGBC), which is part of CII, was formed in the year 2001. The vision of the council is to "Enable sustainable built environment for all and make India one of the global leaders in sustainable built environment by 2025". With a footprint of 20,000 sq. ft. in 2003, today IGBC has over 7,128 projects equivalent to 8 billion sq. ft. of green building footprint, spread across various geographic locations of the country.

The Council's activities have enabled a market transformation regarding green building concepts, materials and technologies. The Council members work together to develop green building standards and guidelines and educational tools that enable the adoption of sustainable building designs and practices. IGBC has more than 320 student chapters in engineering and architectural colleges across the country for educating students on the latest green building concepts.

AND WHEREAS

Both parties have entered into this MOU with an objective "to launch 'Courses on Green Education' in Departments of Architecture and Planning and prepare the students to become Industry-ready in their Careers in 'Green Built Environment'.

NOW IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

0 Scope of Work / Services

- 1.1 Develop and offer 'Practical & Industry Oriented Course' on 'Green Built Environment' for Architecture & Planning students.
- 1.2 Train nominated faculty from the college on the concepts of green built environment and certify them as 'Accredited Faculty'.
- 1.3 Offer the course on 'Green Built Environment' as an elective in above mentioned departments with the support of the Accredited Faculty.
- 1.4 Provide classroom training and online courses
- 1.5 Facilitate practical exposure by guest industry experts & site visits.
- 1.6 Prepare students to become 'IGBC Accredited Professional Associate' and Industry ready for their careers in green built environment.
- 1.7 Other related activities as found appropriate by both the parties

LO Roles and Responsibilities

The roles and responsibilities of the Parties under this MOU will be as follows:

ASAP-AUUP will be responsible for the following activities:

(i) Offer elective course on "Green Built Environment" for Architectural & Planning students in the College.

Roles and Responsibilities of CII-IGBC

Develop the course content for Architectural & Planning under-graduate students

Train the faculty for offering the courses and award accreditation to faculty.

(iv) Provide support for giving practical insights (like online courses) to the students and facilitate them to become Accredited Professionals

Assessment

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- (a) Parties to assess the students for the assessment as per the University laid down framework.
- (b) The students must pass the exam of the course. Reappearance for failed / uncompleted exam is mandatory.
- (c) The marks secured by the student in course exam will be reflected in the semester and final grade sheet.
- (d) Certificates issued for the qualified students will have logos and authorized signatures of both the parties.

Confidentiality

Both Parties shall not, without the express written permission, disclose any confidential information to any third Party, person, entity, etc. in any manner, directly or indirectly. For the purpose of this MOU, "Confidential Information" shall mean any and all technical or non-technical information or know-how relating to the business, services and/or products of the disclosing Party or a third party, including without limitation of any research, products, services, ideas, know-how, methods, business plans, developments, inventions, trademarks/logos, processes, techniques, designs, components, parts, documents, drawings, electronic files, data, sketches, plans, programs, specifications, software, and/or distribution, engineering, marketing, customer, vendor, financial, merchandising, sales, and employee information and/or other materials which are disclosed by one Party or on its behalf to the other Party or its employees or agents, directly or indirectly, in writing, orally, electronically, or by drawings or inspection. However, it excludes any information which is:

- (i) already in the public domain or becomes published or available to the public other than by a breach of this Agreement or any confidentiality obligation owed to the disclosing Party, but Confidential Information shall not be deemed to be in the public domain merely because any part of the said Confidential Information is embodied in general disclosures or because individual features, components or combinations thereof are known or become known to the public;
- (ii) rightfully received from a third party without breaching any obligation of confidentiality under this agreement and that the received information is not derived out of or pursuant to the confidential information disclosed by the Disclosing Party pursuant to this MOU.;
- (iii) independently developed by employees or agents of the receiving Party without direct or indirect access to or use of the Confidential Information of the disclosing Party;
- (iv) known to the receiving Party at the time of disclosure without an obligation of confidentiality; or
- (v) produced in compliance with applicable Law or a court order, provided that the receiving Party first gives the disclosing Party reasonable notice of such Law or order and gives the

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disclosing Party opportunity to oppose and/or attempt to limit such production, unless the Law or court order prohibits giving of such notice. In such cases, the receiving Party will only disclose portions of the Confidential Information that are legally required and will use all reasonable efforts to maintain the confidential treatment of such Confidential Information.

General Conditions

- This MOU does not establish a joint venture or partnership between the Parties. The MOU does not imply any financial obligations or legal binding on either party and is intended only to provide the general principles and key terms for initial co-operation and to facilitate further discussions.
- Financial obligations with regard to any programs/activities shall be discussed and acted upon by the parties through separate agreement in writing.
- Both parties hereby agree, under this MOU, to indemnify and hold each other harmless.
- Both parties shall mutually respect the confidentiality and intellectual ownership of information shared between them.

If new intellectual property being developed /generated during the course of this MoU then rights of ownership among AUUP and CII-IGBC be governed by a separate agreement in writing based on proportion of contribution of the parties.

0 Term and Termination

- 1 This MOU will be effective for 36 months from the date of signing. It may be further renewed by mutual agreement in writing.
- 2 Amendments and additions may be made to the MOU subject to the written consent of both the parties.
- MOU can be terminated by either party with minimum 90 days prior notice in writing to the other party.

Governing Law and Dispute Resolution

The validity, interpretation, enforceability and performance of this MOU shall be governed and constructed in accordance with the Laws in India.

Venue of settlement for any disputes which may arise under this MOU shall be at Noida.

Disputes arising between the parties out of or in connection with this MOU shall as far as possible be settled amicably.

If amicable settlement cannot be reached within 30 days from the date of the occurrence of the dispute, the matter under dispute shall be finally settled without recourse to the courts, in accordance with the provisions of the Arbitration and Conciliation Act 1996 and amendments accordance with the provisions of the Arbitration and Conciliation Act 1996 and amendments thereto, if any. The arbitration shall be conducted by the arbitrator(s) appointed by mutual thereto, if any. The arbitration shall be conducted by the said Act. The arbitral award shall consent of both the parties in accordance with the rules of the said Act. The arbitral award shall be finally sinding upon both the parties. The arbitration proceedings shall be held at Noida.

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All proceedings shall be conducted, including all documents presented in such proceedings, in English language.

Notices

Any and all notices, consents, claims, requests or other communications required or permitted to be given under any of the provisions of this MOU shall be in writing either through facsimile or by mail to be delivered by hand or by post / courier against acknowledgement. The notice shall be deemed to have been received on the next day of transmission if sent through facsimile and five days of date of dispatch if sent through mail. The notice aforementioned shall be given in attention of the concerned persons at the following addresses (or to such other address as any Party may specify by notice to other Party):-

In case of ASAP-AUUP:-

Registrar Amity University Uttar Pradesh Sector-125, Noida 201313 (U.P.)

In case of CII-IGBC :-

Mr. Sachin Sharma Chairman, IGBC Western UP Chapter Confederation of Indian Industry The Mantosh Sondhi Centre, 23, Institutional Area, Lodi Road, New Delhi - 110 003

WITNESS WHEREOF, parties hereto set and subscribe their respective hands on the 14th day of ctober 2022.

IGNED AND DELIVERED

YTHE WITHNAMED

ARTY OF THE FIRST PART

the presence of:

of (Dr.) Amit Hajela Director,

Amity School of Architecture & Planning (AUUP)

SIGNED AND DELIVERED

BY THE WITHNAMED

Mr Sachin Starma

Chairman

IGBC Western UP Chapter

PARTY OF THE SECOND PART

In the presence of:

Mr K D Sing

Co-Chair

IGBC Western, Uttar Pradesh Chapter

Patents

Faculty Name	(Professor/Assoc.	Filed/Published/granted	Month of filing	Topic	(No of Patents/Copyrights/Designs to be filed)	
r acuity ivaine	Professor/Asstt. Professor)	Theu/Tublisheu/granteu	Hondr or ming	Τοριε	No. of patents in process	No. of patents yet to be submitted
Bhuvan Mitra	Asst Professor	Filed	October,2023	Al Based water motor pump detection device with In Built IP compatible system and their working method	1	2
Mr. Luvditya Khurana Mr. Kuldeep Kumar Mr. Umesh Govil	Assistant Professor Associate Professor Assistant Professor	Published	December,2023	Integrated System and Framework for a sustainable transient Megapolis: Harnessing riverine ecology in the context of ephemeral urbanism		
Mr. Luvditya Khurana Mr. Kuldeep Kumar Mr. Umesh Govil	Assistant Professor Associate Professor Assistant Professor	Published	December,2023	Design Synthesis: Adaptive Hierarchical Image Understanding Using Learning Networks		