

RESPONSIVE CITIES SYMPOSIUM

DESIGN MATTER(S) FOR DECARBONIZATION

BARCELONA 2025

25.02 - 26.02

RESPONSIVE CITIES IS A BIENNIAL INTERNATIONAL SYMPOSIUM ON THE FUTURE OF CITIES ORGANIZED BY THE ADVANCED ARCHITECTURE GROUP OF IAAC AND HOSTED BY DISSENY HUB BARCELONA. THE 2025 EDITION FOCUSES ON "DESIGN MATTER(S) FOR DECARBONIZATION" AND TAKES PLACE WITHIN THE FRAMEWORK OF THE CIRCULAR DESIGN (CID) PROJECT, CO-FUNDED BY THE ERASMUS+ PROGRAMME OF THE EUROPEAN UNION.

BACKGROUND

RESPONSIVE CITIES 2025 AIMS TO SHIFT THE CONVERSATION ON RESOURCE DEPLETION BY FOCUSING ON ABUNDANCE RATHER THAN SCARCITY, ADVOCATING FOR MATERIAL-DRIVEN INNOVATIONS IN ARCHITECTURE AND URBAN DESIGN THAT CHALLENGE TRADITIONAL MATERIAL PRACTICE AND ADVANCE DECARBONIZATION GOALS. ADOPTING AN ABUNDANCE MINDSET IS A NEW PARADIGM RELEVANT TO DESIGN AND CONSTRUCTION PRACTICES, EXPANDING THE DEFINITION OF "RESOURCES" AND EXPLORING WHERE BOTH RAW AND NON-RAW MATERIALS CAN BE SOURCED AND "MINED" TO OFFSET CARBON EMISSIONS.

THE INTEGRATION OF RECLAIMED MATERIALS, AND THE UPCYCLING OF WASTE STREAMS, COMBINED WITH DESIGN STRATEGIES THAT FACILITATE DISASSEMBLY, PROMOTE ADAPTIVE REUSE, OR PRIORITIZE THE REPURPOSING OF EXISTING BUILDING STOCK, CHALLENGES CONVENTIONAL DESIGN AND CONSTRUCTION NORMS WHILE PLACING MATERIALS AT THE CORE OF CIRCULAR DESIGN AND CIRCULAR CARBON ECONOMY. EMBODIED CARBON MEASUREMENTS AND MATERIAL ANALYTICS ON THIS FRONT BECOME CRUCIAL FOR INFORMED DECISION-MAKING. CONCEPTS SUCH AS URBAN MINING AND BUILDINGS AS MATERIAL BANKS CALL FOR NEW PRACTICES IN DIGITIZING THE PHYSICAL WORLD, INCLUDING THE USE OF ADVANCED COMPUTATION FOR MONITORING MATERIAL FLOWS AND CARBON OFFSETS, PERFORMING LIFE CYCLE ASSESSMENTS, AND CREATING DIGITAL MATERIAL LIBRARIES FOR REUSE.

DESIGN MATTER(S) FOR DECARBONIZATION SEEKS TO EXPLORE PROPOSALS FOR NOVEL MONITORING, DESIGN, AND MANUFACTURING PROCESSES THAT EFFECTIVELY DETECT AND RECONSTITUTE MATERIALS WHILE IMPROVING THE PERFORMANCE OF MATERIAL ASSEMBLIES TO FACILITATE REUSE. IT ALSO ADVOCATES FOR A VISION OF METABOLIC ARCHITECTURE: AN ARCHITECTURE THAT DIGESTS ITS WASTE OR DECOMPOSES ITSELF; AN ARCHITECTURE WHERE ITS FORM ADAPTS TO MATERIAL AVAILABILITY, INTRODUCING NEW AESTHETICS; AN ARCHITECTURE THAT REDEFINES BUILDING LIFECYCLES AND ULTIMATELY REGENERATES RATHER THAN MERELY REDUCING ITS NEGATIVE ENVIRONMENTAL AND ECONOMIC FOOTPRINT.

THE THEME OF RESPONSIVE CITIES 2025 ADDITIONALLY MARKS THE IMPORTANCE OF DESIGNING AND BUILDING WITH MATERIAL LIBRARIES THAT EVOLVE TOWARDS ORGANIC AND NATURAL PROPERTIES, OR EVEN TOWARDS SYNTHETICALLY CREATED LIVING MATERIALS THAT CAN GROW AND BE HARVESTED. BIOMATERIALS SUCH AS EARTH, BAMBOO, BIOCHAR, TIMBER, FIBERS, OR CORK, AS WELL AS LIVING MATTER SUCH AS MYCELIUM, ALGAE, MICROBES, OR NATURE-BASED SOLUTIONS, NOT ONLY CONTRIBUTE TO REDUCING THE CARBON FOOTPRINT OF THE BUILDING INDUSTRY AND ENHANCING BIOGENIC CARBON STORAGE, BUT ALSO SUPPORT A RESTORATIVE, DECARBONIZING APPROACH TO DESIGN AND PRODUCTION. BUILDINGS BECOME CARBON SINKS WHILE CARBON IS TRANSFORMED INTO VALUE FOR THE BUILT ENVIRONMENT.

DESIGN MATTER(S) FOR DECARBONIZATION INTEGRATES THE IMPORTANCE OF ETHICAL DECISIONS IN MANAGING RESOURCES AND IN DESIGNING AND CONSTRUCTING WITH THEM. ETHICAL DESIGN PRACTICES ENSURE THAT CONSTRUCTION PROJECTS DO NOT CONTRIBUTE TO THE DISPLACEMENT OR HARM OF VULNERABLE COMMUNITIES AFFECTED BY RESOURCE EXTRACTION. MANAGING RESOURCES, SUCH AS LAND OR FORESTS, ON THE OTHER HAND, PRIORITIZES THE CONSERVATION AND RESPONSIBLE USE OF NATURAL RESOURCES, SUPPORTING ECOSYSTEMS AND BIODIVERSITY WHILE PROMOTING PRACTICES THAT MITIGATE ENVIRONMENTAL DEGRADATION AND FOSTER LONG-TERM ECOLOGICAL HEALTH. THIS DUAL APPROACH ADVANCES DECARBONIZATION GOALS AS MUCH AS IT SUPPORTS NEW (BIO)ECONOMIC MODELS, ALIGNING WITH BROADER OBJECTIVES OF SOCIAL EQUITY AND ENVIRONMENTAL STEWARDSHIP. SUCH A NEW PARADIGM COULD DISRUPT "BUSINESS AS USUAL" IN THE BUILT ENVIRONMENT, FAVORING PRACTICES THAT DO NOT EXPLOIT THE CLIMATE CRISIS OVER THOSE THAT DO.

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SYMPOSIUM PROGRAM

TUESDAY 25.02
DISSENY HUB

09:00 – 09:30 PARTICIPANTS REGISTRATION

09:30 – 10:00 WELCOME

JOSE LUIS DE VICENTE - DHUB

RUTH SCHAGEMANN - ARCHITECTS' COUNCIL OF EUROPE

INTRODUCTION

ARETI MARKOPOULOU - RESPONSIVE CITIES SYMPOSIUM CHAIR

10:00 – 11:15 SESSION 1: BUILDING MATTER(S)

SPEAKERS:

CHRISTIAN DE HEER - HIVE EARTH

FLOORTJE VAN SANDICK - SUPERUSE

SIV HELENE STANGELAND - HELEN & HARD

MODERATORS:

PAU BAJET - BAJET GIRAMÉ

ARETI MARKOPOULOU - IAAC, ADVANCED ARCHITECTURE GROUP

ROUND TABLE DISCUSSION

11:15 – 11:45 COFFEE BREAK

11:45 – 13:00 SESSION 2: DIGITIZING MATTER(S)

SPEAKERS:

LORENZO PIROSA - LAND

DEEPIKA RAGHU - CIRCULAR ENGINEERING FOR ARCHITECTURE, ETH ZÜRICH

MAX LATOUR - URBAN REEF

MODERATORS:

LOLA BEN-ALON - COLUMBIA GSAPP

MATHILDE MARENGO - IAAC, URBAN SCIENCES LAB

ROUND TABLE DISCUSSION

13:00 – 13:45 LUNCH BREAK

14:00 – 15:15 SESSION 3: REGENERATING MATTER(S)

SPEAKERS:

TONI RUBIO SOLER - EFFEKT

ELENA ALBAREDA FERNANDEZ - CÍCLICA

PHILIP MAUGHAN - BLACK ALMANAC

MODERATORS:

OLGA SUBIRÓS - OLGA SUBIRÓS STUDIO

CHIARA FARINEA - IAAC, ADVANCED ARCHITECTURE GROUP

ROUND TABLE DISCUSSION

15:15 – 16:00 SESSION 4: LAND MATTER(S)

SPEAKERS:

JOAN ROVIRA - CONSORCI FORESTAL DE CATALUNYA

MARINA ESPINACH - IAAC, VALLDAURA LABS

MARIELENA PAPANDREOU - DARE / ForestED / IAAC

MODERATOR:

VICENTE GUALLART - URBANITREE / IAAC

16:00 – 16:15 CLOSING COMMENTS

ARETI MARKOPOULOU - RESPONSIVE CITIES SYMPOSIUM CHAIR

16:30 – 18:30 EXHIBITION OPENING - URBAN SHIFT

IAAC, CALLE PUJADES 102, 08005, BARCELONA

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WEDNESDAY 26.02

DISSENY HUB

09:00 - 09:30	PARTICIPANTS REGISTRATION
09:30 - 09:40	WELCOME ROBERTO CAVALLO - PRESIDENT OF EAEE
09:40 - 10:40	THE CID PROJECT INTRODUCTION SPEAKERS: FIONA DEMEUR (IAAC) ANNA PAPE (LUH) & MARTYNAS GERMANAVICIUS (ARCHFONDAS) FIONA DEMEUR (IAAC), PILAR BOLUMBURU & CHARLENE SMITH (MATERIOM) FEDERICA DELPRINO (UNIGE) & NELE PULUTUS (TEI) CIRCULAR DESIGN FOR EDUCATION ROUNDTABLE SPEAKERS: RADKA ONDRACKOVA (ReSITE), GONÇALO CANTO MONIZ (UNIVERSITY OF COIMBRA), ANTONELLA ANDRIANI (ADI), ROBERTO CAVALLO (EAEE) MODERATORS: LARISSA DE ROSSO (ACE) & GABRIELE JUREVICIUTE (IAAC, ADVANCED ARCHITECTURE GROUP)
10:40-11:25	SESSION 1: DESIGN & MAKE SPEAKERS: HANNAH SCHÜRMANN & JONATHAN HERNANDEZ LOPEZ (UNIVERSITY OF STUTTGART, ILEK), IREM SEZER (AIA VIRGINIA), QONITA AFNANI FIRDAUS (INSTITUT TEKNOLOGI BANDUNG), ANDREA CONSERVA (IAAC, ADVANCED ARCHITECTURE GROUP) MODERATOR: GUILLEM CAMPRODON (FABLAB BARCELONA) ROUND TABLE DISCUSSION
11:25 - 11:55	COFFEE BREAK
11:55 - 12:50	SESSION 2: DECARBONIZE SPEAKERS: NIKOL KIROVA (IAAC), REBECA DUQUE-ESTRADA & TZU-YING CHEN & SHIRIN SHEVIDI (UNIVERSITY OF STUTTGART), EDYTA SKIBA (LODZ UNIVERSITY OF TECHNOLOGY), ERZË DINARAMA (INDEPENDENT RESEARCHER), WILLIAM SHIVERS (UNIVERSITY OF VIRGINIA), GRAHAM CRIST (RMIT UNIVERSITY) MODERATOR: KEVIN MATAR (IAAC, ADVANCED ARCHITECTURE GROUP) ROUND TABLE DISCUSSION
12:55 - 13:40	SESSION 3: ADAPT TO CLIMATE & PERFORM SPEAKERS: ELISA FERNANDEZ RAMOS (SEACITIES LAB- GRIFFITH UNIVERSITY), LAURA GUIMARÃES (IAAC, URBAN SCIENCES LAB), PAOLO CASCONI & MADDALENA LADDAGA (UNIVERSITY OF WESTMINSTER & POLITECNICO DI MILANO), AAMLAN MISHRA & ZIYU WEI (UCL) MODERATOR: YARA TAYOUN (IAAC, ROBOTICS LAB) ROUND TABLE DISCUSSION
13:40 - 15:10	LUNCH BREAK
15:10 - 15:55	SESSION 4: ADAPT TO CLIMATE & PERFORM SPEAKERS: JIL BERENBLUM (CARNEGIE MELLON UNIVERSITY), VASILY SITNIKOV (ETH ZÜRICH), MIRAN CALMANOVICI (TECHNION, ISRAEL INSTITUTE OF TECHNOLOGY), ANDREAS KÖRNER & ANETE SALMANE (UCL & UNIVERSITY OF INNSBRUCK) MODERATOR: ALEXANDRE DUBOR (IAAC, ROBOTICS LAB) ROUND TABLE DISCUSSION
16:00 - 16:40	SESSION 5: DIGITIZE THE PHYSICAL SPEAKERS: NATHANAEL MYERS (UCL), SMARO KATSANGELOU (PhD CANDIDATE CREATIVE AI LAB), MOHAMMAD JAVAD KHODAPARAST & CHIARA PASQUALINI & GRAZIANO ENZO MARCHESANI (UNIVERSITY OF CAMERINO) MODERATOR: OANA TAUT (INFRARED.CITY) ROUND TABLE DISCUSSION
16:45 - 17:25	SESSION 6: ETHICS & POLICIES SPEAKERS: SEDA ZAFER KÜÇÜK (YILDIZ TECHNICAL UNIVERSITY), YMBAR POLANCO PINO & ISABEL LANGLOIS-ROMERO (TUFTS UNIVERSITY & NATIONAL RENEWABLE ENERGY LABORATORY), CHAITALI PHULAMBRIKAR & YICHEN-LU (IAAC) MODERATOR: ANA GALLEGO (IAAC, URBAN SCIENCES LAB) ROUND TABLE DISCUSSION
17:25 - 17:30	CLOSING COMMENTS ARETI MARKOPOULOU - RESPONSIVE CITIES SYMPOSIUM CHAIR

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UNIVERSITY OF GENOVA

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[HTTPS://WWW.CID-INNOVATIONALLIANCE.EU/](https://www.cid-innovationalliance.eu/)

MORE INFO:

[RESPONSIVECITIES.IAAC.NET](https://www.cid-innovationalliance.eu/) /// [CONTACTS: RC.SYMPOSIUM@IAAC.NET](mailto:RC.SYMPOSIUM@IAAC.NET)



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