MASTER OF SCIENCE & MASTER OF ARCHITECTURE
SUSTAINABLE ENVIRONMENTAL DESIGN

sed.aaschool.ac.uk
Contents

SUMMARY PROGRAMME DATA 3

1 INTRODUCTION & OVERVIEW 4
   Introduction 4
   Chronicle: 60 Years of AA Environmental Design Teaching & Research 5
   SED Design Research Agenda 2019-20 18

2 TEACHING STAFF 25

3 PROGRAMME SPECIFICATION & CURRICULUM MAP 27

4 PROGRAMME STRUCTURE & CORE COURSES 29

5 TEACHING AND LEARNING STRATEGIES 31

6 RESOURCES 32

7 COURSE CREDITS, LEARNING OUTCOMES & ASSESSMENT 33
   Term 1 33
   Term 2 34
   Terms 3 & 4 Dissertation Projects 36
   Course Credits 38
   Assessment Procedures 39

8 ORGANISATION & SUBMISSION OF STUDENT WORK 40
   Project Reports, Technical Studies & Research Paper 40
   Dissertations 41
   Referencing 43

Appendix 1 READING LISTS & INTERNET SOURCES 45
   Reading Lists 45
   SED Student Project Publications 51
   Internet Sources 57

Appendix 2 EXTERNAL LINKS 59
   Local & International Contacts 59
   SED Alumni in London 60
   SED Alumni Abroad 61

Appendix 3 LIST OF DISSERTATION PROJECTS 65
   MArch & MSc Sustainable Environmental Design 2006-19 65
   MA Environment & Energy Studies 1994-2005 88
   MPhil & PhD 1985-2019 94
SUMMARY PROGRAMME DATA

Degree: MSc & MArch in Sustainable Environmental Design
Teaching Institution: Architectural Association School of Architecture
Programme Validated by: The Open University
Duration of Programme: 12 months full-time Master of Science (MSc)
16 months full-time Master of Architecture (MArch)
External Examiner: Paola Sassi DiplIng MSc PhD Oxford Brookes University

Teaching Staff
Simos Yannas  DiplArchEng AADiplGrad PhD SFHEA  simos@aaschool.ac.uk
Paula Cadima  DiplArch PhD  paula.cadima@aaschool.ac.uk
Jorge Rodriguez  BArch MA MSc PhD  alvarezjo@aaschool.ac.uk
Gustavo Brunelli  DiplArch MA FRSA  brunelli_gu@aaschool.ac.uk
Mariam Kapsali  DiplArchEng MSc  Mariam.Kapsali@aaschool.ac.uk
Byron Mardas  DiplArchEng MSc  byronmardas@aaschool.ac.uk

Consultants
Nick Baker  BSc PhD  nickvbaker@aol.com
Herman Calleja  RIBA BE&A(Hons) MArch  herman.calleja@aaschool.ac.uk

MSc / MArch Lecture Courses & Seminars
1 Sustainable City (Lecture Series)  Term 1
2 Adaptive Architecturing (Lecture Series)  Term 1
3 Environmental Simulation Tools & Performance Assessment (Lectures/W'shops) Terms 1&2
4 Designing for Health, Well-being and Comfort  Term 1
5 Environmental Design Research (Lecture Series)  Term 2
6 Lessons from Practice (Lecture Series) Terms 2&3
7 Research Seminar  Terms 1-3

MSc / MArch Studio Projects
1 Refurbishing the City 1: London Building Studies  Term 1
2 Refurbishing the City 2: Design Research Project  Term 2
3 Refurbishing the City 3: MSc / MArch Dissertation Research  Terms 3&4

PROGRAMME REQUIREMENTS
180 credits (1800 hours of study) toward successful completion of the following:

Term 1 (45 credits)
1 PROJECT I: London Building Studies (25 credits)
Introduction: Week 2; Final Review: Week 12; Submission: 8 January 2020
2 TECHNICAL STUDIES (10 credits)
Choice of topics: from Week 3; Submission: Week 1 Term 2 (as part of Project I)
3 RESEARCH PAPER I (10 credits)
Seminar: from Week 4; Tutorials: from Week 7; Submission: 11 December 2019

Term 2 (45 credits)
4 PROJECT II: Design Research (25 credits)
Introduction: Week 1; Final Review & Submission: 18 March 2020
5 TECHNICAL STUDIES (10 credits)
Choice of topics: Week 3; Submission: end Term 2 (as part of Project II)
6 RESEARCH PAPER II (10 credits)
Choice of topics: Week 6; Submission: 22 April 2020

Terms 3 & 4 (90 credits)
7a MSc DISSERTATION PROJECT (90 credits)
Choice of topic & submission DP Outline: end Term 2; Reviews: in Terms 3 & 4
Submission MSc Dissertation: 18 September 2020
7b MArch DISSERTATION PROJECT (90 credits)
Choice of topic & submission DP Outline: end Term 2; Reviews: in Terms 3 & 4
Submission MArch Dissertation: 8 January 2021
INTRODUCTION & OVERVIEW

Sustainable Environmental Design (SED) engages with real-life problems that affect buildings and cities across the world. Design research for the SED Masters programme is driven by evidence-based performance criteria following a process of *adaptive architecturing*, which proceeds from inside to outside, attuning built form and its constituents to natural rhythms and occupant activities. Key objectives are to improve environmental quality in cities, achieve independence from non-renewable energy sources, and develop environmentally sustainable architectures capable of adapting to changing climates and lifestyles. The taught programme is structured in two consecutive phases. Phase I is organised around team projects involving MSc and MArch students in experimental and computational studies applying the knowledge and tools introduced in weekly lectures and workshops. In Phase II, MSc and MArch students engage in design research individually following research agendas that reflect each student’s home climates, urban contexts and specific environmental interests. Dissertation projects may address home, work, learning and mixed-use environments, new or existing, thus encompassing a wide range of built densities and urban morphologies. MSc candidates explore the architectural potential and applicability of their chosen topic in its geographic and climatic context. MArch dissertations culminate in a specific design application for a given site and design brief. In the last ten years SED students have engaged in over 500 projects spread around some 60 countries and 150 cities from 0° to 60° North and South of the Equator, and from 125° West to 140° East of Greenwich.

The MSc and MArch in Sustainable Environmental Design are post-professional degrees offering graduates specialisation in an area that is in much demand in both architecture and engineering. In recent years the programme's graduates have found employment with leading architectural practices (Aedas, Arup Associates, Architype, Avanti Architects, Behnisch Architekten, Bennetts Associates, Building Design Partnership, ECD Architects, Feilden Clegg Bradley, Foster & Partners, Grimshaw, HOK, KPF, Make Architects, Mario Cucinella Architects, Midori, Morphogenesis, Populous, PRP Architects, SOM, Wilkinson Eyre and others) as well as with large environmental engineering consultancies (Arup, Atelier Ten, Atkins, Chapman BDSP, Buro Happold, Hyundai, Fulcrum, Mott MacDonald, Max Fordham & Partners, Scott Wilson, WSP Environmental and others). Many have returned home to run their own successful practices or to go into research and teaching; see External Links and SED Alumni abroad sections in the Programme Guide. Over the years many of the programme’s graduates have achieved senior positions in practice and academia and have themselves influenced the teaching, research and practice of sustainable design in many countries and climatic regions.

The SED programme’s teaching methods and student projects have featured in many international conferences and publications. These include the PLEA 2018 Conference held in Hong Kong in December 2018, PLEA 2017 in Edinburgh in July 2017, PLEA 2016 in LA, PLEA 2015 in Bologna, Italy, and PLEA 2014 in Ahmedabad, India, where the AA SED participation included an exhibition of MSc and MArch dissertation projects by twelve of the programme's Indian graduates. Earlier events have included the Ecobuild Exhibition 2012, the UIA Congress in Tokyo, the PLEA 2011 conference in Louvain-la-Neuve, Belgium, PLEA 2009 in Quebec, Canada, the Jerusalem Seminar in Architecture in 2009, the PLEA 2008 Conference “Towards Zero Energy Buildings” in Dublin in 2008, and the Sun, Wind & Architecture Conference in Singapore in 2007, the PALENC 2007 Conference on the island of Crete, Greece and many others. Forthcoming events include the PLEA ( Passive and Low Energy Architecture) 2020 Conference to be held in A Coruna, Spain in September 2020 where several recent SED projects will be presented. AA SED projects have been published in the scientific journals *Architectural Science Review*, *Energy and Buildings*, and *Sustainable Cities and Society*, as well as in a number of books and architectural journals including *Architectural Design*, *Carré Bleu, Architecture and Urbanism*, *World Architecture*, *Arquitectura e Vida, Pós, Axis, 2A Art & Architecture*, the book *Green Design: from theory to practice* edited by Ken Yeang, the AA publications *Environmental Tectonics* and *Articulated Grounds* and others. Over 100 papers were published in the last five years on the work undertaken within the AA SED MSc / MArch programme.

This Guide discusses the SED Programme’s aims and learning outcomes, its teaching and learning strategies, its resources and assessment procedures and all other matters relating to its organization and implementation. The AA School has a long history in the teaching and research of sustainable environmental design that goes back some 60 years; a brief summary follows here.
## AA CHRONICLE | 60 Years of Environmental Design Teaching and Research at the AA School

The AA School's involvement in the teaching and research of sustainable environmental design dates from the early 1950's when a Department of Tropical Architecture was formed to run postgraduate courses that continued till the early 1970's. The Tropical School was followed by the AA Graduate School's one-year Energy Studies Programme that started in 1974 and delivered annually till 1994. In 1994-95 the Energy Studies Programme was validated as a MA and since 2005-06 the MA was replaced by the 12-month MSc and 16-month MArch in Sustainable Environmental Design. The listing below chronicles some key events and developments over these 60 years:

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954-56</td>
<td>The Department of Tropical Architecture (known as the Tropical School) was established at the AA under Maxwell Fry to offer a six-month postgraduate course leading to an AA Certificate in Tropical Architecture.</td>
</tr>
<tr>
<td>1957-71</td>
<td>Otto Koenigsberger restructured the course extending it to nine months on a curriculum that encompassed building construction, production and financing, as well as site factors and urban aspects. The course was open to 5th year AA students as a specialisation option on their final year. The Tropical School engaged in research and consultancy in several countries. The collective experience of its teaching and research was compiled into a book that has since become a classic: the &quot;Manual of Tropical Housing and Building - Part 1 Climatic Design&quot; by Otto Koenigsberger, T.G Ingersoll, Alan Mayhew and S.V. Szokolay, published by Longman in 1974.</td>
</tr>
<tr>
<td>1973-77</td>
<td>Under Gerry Foley and George Kasabov the Rational Technology Unit (AA Diploma Unit 10) was a true pioneer in the energy debates of the 1970's. A fairly anarchic bunch of students engaged hands-on with solar and wind technologies, self-building and urban farming. The map of the UK was redrawn in anticipation of the rise in sea level due to global warming. Symposia at the AA School debated the role of alternative technology and the prospects for alternative societies. The Unit's 1973-74 publication displayed an impressive range of interests and expertise. Gerry Foley's &quot;The Energy Question&quot;, authored with Charlotte Nassim, was published by Penguin Books in 1976. George Kasabov curated the exhibition &quot;Buildings – the Key to Energy Conservation&quot; at the RIBA in 1979.</td>
</tr>
<tr>
<td>1974-</td>
<td>The Energy Studies Programme (later Environment &amp; Energy Studies Programme, AA E+E) embarked on its first academic year in October 1974 as one of three new postgraduate programmes started by AA Chairman Alvin Boyarsky in the restructured Graduate School under Royston Landau. It offered a one-year AA Graduate Diploma in Energy Studies and was directed by Robert Drew in its first year, followed by Gerry Foley in the mid-1970's, and by Simos Yannas from 1980.</td>
</tr>
</tbody>
</table>
| 1976-80| A collaboration with the Essex Council's Architects Department led to a series of research projects on energy use in school buildings with funding from the Science Research

![Rational Technology Unit 73-4](image1.png)

![Energy Strategies for Secondary Schools in Essex](image2.png)
Council, the UK Department of Education and Science and the Department of Energy. The last of these projects dealt with energy education and its the adoption in the curriculum of primary and secondary schools around the country.

1980-
Since 1980 over 700 MA, MSc and MArch and some 40 PhD and MPhil degree projects were successfully completed on various topics of sustainable environmental design.

1982-
Simos Yannas became a founding member of the international PLEA (Passive Low Energy Architecture) network and was entrusted with the technical programme of the 2nd PLEA Conference that was held on Crete, Greece in 1983. He then served as PLEA Director and continues in the capacity of permanent secretary. PLEA has since held over thirty annual conferences and many other events.

1986-94
AA E+E was awarded a contract from the UK Department of Energy to produce a handbook on housing design in the context of the UK Solar Energy Research Programme. A further contract was awarded to AA Publications for the publication of the two volumes of the handbook. *Solar Energy and Housing Design* was published in 1994 and continues to be used widely by students and practising architects in many countries.

1992-95
Funding from the European Commission for a series of projects undertaken in collaboration with teams from several other European schools. Publications produced by these projects included a series on Building Science and Environment-Conscious Design under EC Tempus, books and posters on the Design of Educational Buildings under EC Solinfo and a two-volume manual on passive cooling under the EC Joule programme.
1995  The AA became an Open University Accredited Institution and the postgraduate Diploma in Energy Studies was validated for the Master of Art (MA) in Environment & Energy Studies.

1995-97  Two open symposia organised at the AA by Bill Dunster and Simos Yannas on the theme of Sustainability in Architecture in 1996 and 1997 attracted large participation from students and invited architects and engineers.


2003-07  Collaboration with AA Intermediate Unit 4 led to the construction of a structure for a village school in Ghana in January 2003. In the following year the AA E+E Masters group designed and fabricated a movable structure that was erected for testing in Oia, on the Aegean island of Santorini. In 2005 another structure, the Heliotropic Bench, was fabricated at Hooke Park and tested on Santorini. In February 2007 a third structure was fabricated for testing on the campus of the American University of Sharjah, UAE.

2004 & 2009  *Em Busca de uma Arquitetura Sustentavel para os Tropicos* (Towards a Sustainable Architecture for the Tropics) by Oscar Corbella and Simos Yannas was published in Rio de Janeiro by Editora Revan; a second edition with Spanish and English introductions was published in 2009.

2005 On the occasion of a visit by Simos Yannas for lectures at the Technical University of Lisbon the architectural journal Arquitectura e Vida published a lengthy interview in its June 2005 issue illustrated with recent AA E+E projects. Collaboration with the international union of architects’ UIA Architecture & Renewable Energy Sources Group led to a joint Symposium at the AA followed by presentations of the programme’s student work at the UIA Congress in Istanbul in July 2005.

2005- From October 2005, the 12-month Master of Science (MSc) and 16-month Master of Architecture (MArch) in Sustainable Environmental Design (SED) replace the Master of Art (MA) in Environment & Energy Studies.

2006 Roof Cooling Techniques—a design handbook co-authored by Simos Yannas with Evyatar Erell and Jose-Luis Molina and published by Earthscan was shortlisted for the RIBA Book Award for Architecture. The publication of the book and its accompanying simulation software was the culmination of a European research project with participants from several countries.

2007 The first MArch candidates in Sustainable Environmental Design gave their final presentations on 24 January 2007. A major retrospective exhibition of AA E+E projects of the last five years opened the same evening in the Arts Pavilion at Mile End Park in East London.

2007 Projects from the year’s study trip to the Gulf Region were published in a Special Issue of the 2A Architecture & Art Magazine and the work was presented at Harvard University’s Centre for Middle Eastern Studies. A structure designed by SED students at Hooke Park was erected and tested on the site of the American University of Sharjah.

2008-09 SED students and alumni presented papers at the PLEA 2008 Conference in Dublin and at PLEA 2009 in Quebec City where SED had a large exhibition of its projects. A number of items were also exhibited at the Ecobuild in London in March 2009.
SED Students preparing to present their projects at PLEA 2009 (left) and (right) MArch presentations.

(above) SED team reconstructed the Heliotropic Bench for display at Ecobuild in London, March 2009. (below) SED students posing in Madrid, April 2010.

2009-12 SED was one of the partners on "Environmental Design in University Curricula and Architectural Training in Europe" (EDUCATE), a collaborative project sponsored by European Commission and undertaken with colleagues from the University of Nottingham, Catholic University of Louvain, Technical University of Budapest, Technical University of Munich and others.

2010-11 Study trips in Barcelona and Madrid followed by exhibition of SED work at PLEA 2011 in Louvain-la-Neuve, Belgium, and at the UIA Congress in Tokyo in September 2011.
2011-12  A Symposium on *Ecological Design Research* at the AA School brought together many of the authors of a special issue of *AD Architectural Design* on the same title.


2014-15  Many SED alumni gathered in Ahmedabad, India for the PLEA 2014 Conference that was hosted by CEPT University in December 2014. Besides papers presented individually SED presented an exhibition of MSc and MArch dissertation projects by twelve of the programme’s recent Indian graduates. Helped by good weather *Projects in India* was exhibited in one of CEPT’s open courtyards.
Projects in India was curated by Simos Yannas with Mileni Pamfili (SED MArch 2014) in London and Kanika Agarwal Mahadevvala (SED MArch 2008) in Ahmedabad.

2015-16 Andrea Rossi and Pierluigi Turco were awarded the PLEA 2015 Best Project Award in Bologna for their MArch Dissertation Project for a Migrants Centre in Lampedusa. Over a dozen other papers were presented by SED staff and students at the same conference. In May 2016 an SED team won the Labgrade Design Competition for the second time in Milan with their project for the refurbishment and extension of a hotel in North Italy. Juan Montoliu and Jorge Rodriguez won the Best Paper Award at the PLEA 2016 Conference held 9-11 July 2016 in Los Angeles.
Collaboration with London architectural and engineering practices continued, initially in the Term 1 Building Studies and later through project reviews and presentations of SED projects to the practices.

In Term 3, presentations by London-based SED alumni were followed by roundtable discussions on the relationship between research and practice and the prospects of sustainable environmental design. SED alumni who took part in these roundtable discussions included Meital Ben Dayan (MSc 2012), Kimmy El’ Dash (MArch 2015), Ronak Gawarwala (MArch 2013), Natasa Gravani (MSc 2013), Mina Hasman (MArch 2012), Annie Laurie (MArch 2015), Maria Lumbreras (MSc 2014), Jeewon Paek (MArch 2011), Vera Sarioglu (MSc 2013), Malgorzata Tomczuk (MSc 2016), Olga Tsagkalidou (MSc 2015).

In May 2017 the SED programme was revalidated as part of the 5-year review of postgraduate Masters programmes. The Revalidation Panel commended AA SED for its coherence, cultivation of research methods and comprehensiveness of its documented archive of programme resources and outputs.

In July 2017 some 14 papers were presented by SED graduates at the PLEA 2017 conference in Edinburgh in (see Appendix for list of papers).
2017-18 Following a joint Symposium on Simulation with colleagues from EmTech and Landscape Urbanism in January 2018, SED teamed up with Design & Make and Landscape Urbanism for a weekend in Hooke Park.

In June the SED study trip was to Bologna, Italy for a two-day workshop with students from the School of Sustainability hosted by MCA Architects. This was followed by a visit to the Biennale in Venice guided by Irene Giglio (SED MArch 2015) a member of the curating team.
SED student group with colleagues from the School of Sustainability at the office of Mario Cucinella Architects in Bologna, Italy following joint workshops on this year’s study trip, June 2018.

View of the SED display area at the AA end of year exhibition in June 2018 showing work in progress on MSc and MArch dissertation projects. The table (front right) has a geographic and thematic mapping of all SED MSc and MArch projects.
Mapping of air temperature at heights of 50-300m above ground at Hooke Park, taken from a drone.
Thermal images of three of the buildings at Hooke Park taken during this year’s SED visit there in May 2018.

2018-19 Michael Smith Masis (AA SED MSc 2008) founder of Entre Nos Atelier in San Jose, Costa Rica and currently Loeb Fellow at Harvard Graduate School of Design returned to the AA as reviewer and keynote speaker for the final reviews of the SED MArch in January 2019. Study trips to Boston and return to Bologna for a second workshop at the School of Sustainability.


Jorge Rodriguez Alvarez entrusted by the Directors of PLEA with the organisation of the next PLEA Conference. PLEA 2020 *Planning Post-Carbon Cities* will be held in A Coruna, Spain, 1-3 September 2020.
(above) SED display at end year AA Exhibition June 2019. (below) from this year’s Future Practice seminars with SED alumni; (below right) Rafael Alonso (SED MArch 2017), Florencia Collo (SED MSc 2016) and Olivier Dambron (SED MSc 2016), founder directors of Atmos Lab, at the SED Studio. 28 May 2019.
SUSTAINABLE ENVIRONMENTAL DESIGN RESEARCH AGENDA 2019-20

In 2019-20 AA SED will embark on its 15th cycle of the MSc and MArch in Sustainable Environmental Design. The taught programme will continue to develop its research agenda on Refurbishing the City. Student projects will further develop the vocabulary of sustainable environmental design for a wide range of climates, building types and urban environments. AA SED cohorts have achieved outstanding academic results in the programme’s recent MSc and MArch cycles. Since the first cycle of the MSc / MArch in 2005-06, well over 500 research projects have been completed by the programme’s students for sites in some 60 countries and 150 cities in climatic regions and urban contexts spread between latitude 0° and 60° North and South and in longitudes from 125° West to 140° East.

Refurbishing the City 2019-20

In 2019-20, Refurbishing the City, a continuing SED research agenda, will start a new chapter of design research in collaboration with London-based architectural and engineering practices. In Term 1 this will involve environmental studies of selected London buildings, followed in Term 2 by design research based on the findings of these building studies. In Terms 3 and 4, MSc and MArch students will embark on individual dissertation projects that will extend into many other cities and climatic regions. Recent SED dissertation projects have addressed warm climates, mostly in tropical regions, with outdoor living and occupant-centred adaptive strategies encompassing home, work, learning and mixed-use environments.

Building Case Studies, Term 1

With London as laboratory and project teams that combine MSc and MArch students, on-site observations and environmental measurements in selected buildings will be followed by use of advanced computational tools to investigate the relationship between climate, building design and occupants highlighting the role of fieldwork and computational simulation in informing design research and occupant wellbeing.

Design Research, Term 2

The insights gained from the Term 1 building studies will provide the starting points for design research applying the methodology and computational tools of adaptive architecturing to address key issues relating to urban morphology, climate change, building and lifestyle trends and technological developments that shape the future of the city.

MSc & MArch Dissertation Research, Terms 3 & 4

The Dissertation Project is a vehicle for undertaking a significant piece of design research that reflects the programme’s research agenda and students’ personal interests, background, special skills and plans for the future. It is undertaken individually providing the opportunity to explore design applicability (MSc) and design application (MArch) of research findings across climatic regions, urban contexts and building types.
1. OVERVIEW

2. LONDON WEATHER DATA

3. THERMAL STUDY
   3.1 INDOOR STUDY - SPOT MEASUREMENT
   3.2 SURFACE TEMPERATURE

ARCHITYPE OFFICE
Unity Wharf, 13 Mill Street, SE1 2EF

Architectural Association School of Architecture
Excerpts from a Term 1 Building Case Study (the London office of Architype Architects) by Kim Tan-Afuan and Yingying Wen.
Marian Place Gasholders
Bethnal Green, London E2 9AX

Term 2 Project 2018-18
Relocatable Vacity by Part 9
20 March 2018

Yingying Wen | Kimberly Anne Tsim-Afuan | Yong Yu
Architectural Association School of Architecture
AA Sustainable Environmental Design

5. OUTDOOR DESIGN AND ANALYTIC WORK
5.4 MICROCLIMATE STUDY WITH RECOMMENDED ACTIVITIES - SUMMER

In the area, two main urban areas are included, the central garden area and the southern service area. In the central garden area, the main activities are socializing and leisure, with tables and chairs arranged for people to sit and enjoy the greenery. The southern service area is more focused on utility, with areas for waste disposal and maintenance activities.

5. OUTDOOR DESIGN AND ANALYTIC WORK
5.5 MICROCLIMATE STUDY WITH RECOMMENDED ACTIVITIES - WINTER

In winter, the area's main activities are centered around the central garden area, which is transformed into a warm and inviting space. Heaters and warm lighting are installed to create a cozy atmosphere. The southern service area also remains functional, with areas for maintenance and waste disposal.

5. OUTDOOR DESIGN AND ANALYTIC WORK
5.7 WIND ANALYSIS

Wind analysis is crucial in ensuring the comfort of the users in the gasholder area. The project uses a 3D model to simulate wind flow and identify potential areas of concern. The results indicate that the wind flow is generally favorable, with minimal turbulence expected. However, some areas near the boundaries may experience slight wind disturbances.
Extracts from Term 2 Design Project for affordable housing and community facilities incorporating abandoned gas holders at Marian Place, Bethnal Green, London, March 2019. Project team Kim Tan-Afuan, Yingying Wen, Yong Yu.
Melissa Romo Serrano Live-Work Community at Presa Madin, Mexico City MArch Dissertation Project 2019.
Maria Osoy Escobar Design of Educational Buildings for a Tropical Climate
TEACHING STAFF

SIMOS YANNAS DiplArchEng AADiplGrad(Hons) PhD SFHEA
Simos Yannas is the founding director of the SED programme, a former director of the AA School’s PhD Programme and a Senior Fellow of the Higher Education Academy. He was a Sir Isaac Newton Design Fellow at Cambridge University and has lectured and taught in academic institutions in some thirty countries. He has taken part in many UK and international research projects and his writings have been published in over a dozen languages. His essays on the pedagogy of the SED programme have appeared in the books “Green Design from Theory to Practice” and “Architecture and Energy: performance and style”, and in the special issue of AD on Redefining Ecological Design Research among others. His earlier books include Solar Energy and Housing Design and the multilingual Sustainable Architecture for the Tropics. More recent books include Roof Cooling Techniques, which was shortlisted for the RIBA International Book Award for Architecture, and Lessons from Vernacular Architecture. He is currently co-authoring The Environmental Evolution of London Housing, a book of SED building case studies with Jorge Rodriguez for publication in 2020. He is a founding member of the PLEA expert network for sustainable architecture and urban design and the recipient of the PLEA achievement award in 2001.

PAULA CADIMA DiplArch PhD
Paula Cadima is co-director of the SED Programme, Member of the AA Teaching Committee and PhD Supervisor. She lived in Lisbon, Zurich, Brussels and London working in architecture firms and her own practice and has been engaged in sustainable design and environmental research for more than twenty five years. She has taught at the Faculty of Architecture, University of Lisbon, where she was Founding Director of the Bioclimatic Architecture MPhil Programme. Her PhD was obtained at the AA and focused on Transitional Spaces, but her current research interests extend to themes related to refurbishing the city, urban microclimates, affordable housing, sustainable working+creative environments, energy efficiency and passive cooling design. She published over 40 papers in conferences and journals in these topics and has given invited lectures and keynote speeches, worldwide. She has worked for the European Commission in Brussels for five years, where she managed projects promoting energy efficiency, renewable energy sources and world-class research in emerging fields. She chaired the Environment & Sustainable Architecture working group of the Architect’s Council of Europe in 2009, and was the president of the International PLEA Network from 2011-2017, where she continues as an advisor to the Board of Directors.

JORGE RODRIGUEZ ALVAREZ DipArch MA MSc (AA E+E) PhD
Jorge Rodríguez Álvarez studied architecture and urbanism at ETSAC, holds a Master in Building Conservation & Urban Regeneration from USC and was awarded the MSc in Sustainable Environmental Design with distinction at the Architectural Association. He won the doctoral extraordinary prize for his thesis on the energy performance of cities, which he developed at the UDC, with a research stay at UCL Bartlett. As an architect, he has worked extensively at almost every scale, from furniture design to the city level. In 2008 he co-founded SAAI, a laboratory of environmental design and specialized consultancy with ongoing projects in Europe, Asia and America. He has published over 30 articles in journals, conference proceedings and book chapters. He was granted an RIBA Research Trust Award to undertake a study on sustainable housing design. He is co-authoring The Environmental Evolution of London Housing with Simos Yannas for publication in 2020. He will be acting as PLEA 2020 Conference Chair.

GUSTAVO BRUNELLI DiplArch MA FRSA
Gustavo Brunelli graduated from the Faculty of Architecture and Urbanism of the University of São Paulo and won an Alban scholarship to the MA in Environment & Energy Studies at the AA, which he completed with Distinction in 2004. He has worked as an environmental consultant in numerous projects in the UK and abroad, ranging from large mixed-use masterplans to small specialist exhibitions. He currently heads the Advanced Building Optimisation group at engineering consultants Hurley Palmer Flatt.

MARIAM KAPSALI DiplArchEng MSc
Mariam Kapsali graduated with Distinction from the Faculty of Architecture and Urbanism at the National Technical University of Athens and won an IKY scholarship to the MSc in Sustainable Environmental Design at the AA which she completed with Distinction. She worked at the Oxford Institute for Sustainable Development and was a Research Fellow on Building Performance Evaluation with the Low Carbon
Building Group at Oxford Brookes University. Mariam currently works as an architect at Architype Architects’ London office. She has been a member of the SED teaching staff since 2012

BYRON MARDAS DiplArchEng MSc
Byron Mardas studied architecture in Athens and completed the SED MSc at the AA in 2013. He has since joined Foster and Partners in London where he is a senior Environmental Designer involved in the environmental assessment and improvement of projects worldwide. Together with other members of his team he is developing new tools aiming to enable better integration of environmental thinking in the design process with the use of parametric and dynamic techniques.

NICK BAKER BSc PhD
Nick Baker originally studied physics and after a brief period in medical physics, has spent most of his professional life working in architecture and building. His interests have included, energy modelling, daylight design, natural ventilation and thermal comfort, as well as the broader field of sustainable design. He has written and contributed to several books on these topics, including a book on Sustainable Refurbishment partly based on material from a recent EU funded demonstration project, where he served on the expert panel. More recently he has become interested in the way occupants interact with buildings and their surroundings, and in particular, the way their behaviour influences energy use. For much of his career he was a lecturer at Cambridge University Department of Architecture. He is now retired but is still involved as a visiting lecturer and external examiner at several universities.

HERMAN CALLEJA RIBA BE&A(Hons) MArch
Herman Calleja practiced as an architect before joining the SED MArch programme, graduating with distinction in 2012. He has worked as an Environmental Consultant, and more recently as Head of R&D at chapmanbdsp, on a variety of projects with different architects including Foster+Partners, RSH+P and Grafton Architects. His main area of interest is the combination of climate-based daylighting modelling with the assessment of thermal comfort through a parametric design platform. Pursuing this research, Herman has participated in various workshops and conferences including Smart Geometry, PLEA, NCEUB and EU COST. He was part of the CIBSE Simulation Group 2018 prize winning team.
3 PROGRAMME SPECIFICATION: AIMS AND LEARNING OUTCOMES

Common aims of the MSc and MArch in Sustainable Environmental Design are to provide objective criteria. Knowledge and tools for conceiving, defining, designing and assessing the environmental functions, attributes and performance of buildings and outdoor spaces. Taught courses, project work and research toward dissertations aim at equipping participants with cognitive, experiential, analytic and generative skills enabling them to engage in interdisciplinary design research and practice. The main areas of application of the knowledge and skills provided by the programme are urban environments and individual buildings, new or existing, in different climatic and geographic contexts. Project work explores the relationship between form and performance, the dynamic and adaptive potential of the building envelope in different climates and building types. Learning outcomes are listed below. These are listed under groupings relating respectively to the acquisition of knowledge and understanding, to specific skills and transferable skills. Most are common to both the MSc and MArch options. Those specific to MSc or MArch are identified in the listings below.

Knowledge and understanding

On successful completion, MArch / MSc in Sustainable Environmental Design participants will be able to:

- **A1** demonstrate knowledge and understanding of key concepts of sustainable environmental design
- **A2** demonstrate familiarity with building energy modelling and simulation tools and understanding of their applicability to inform design decisions
- **A3** identify and assess key parameters characterising different building types and significant architectural precedents
- **A4** demonstrate understanding of the environmental attributes of historic and contemporary buildings
- **A5** adopt an informed on wider issues and objectives of sustainability
- **A6** take a critical position in relation to parallel contemporary tendencies in architecture and urbanism.

Subject specific skills and attributes

On successful completion, MArch / MSc in Sustainable Environmental Design participants will be able to:

- **B1** undertake critical reviews and appraisals of key technical and theoretical aspects of environmental sustainability in architecture and urban design
- **B2** plan, implement, process and interpret fieldwork involving observations, surveys and measurements in and around buildings and outdoor spaces using specialist instruments and data acquisition techniques.
- **B3** use specialised computational tools and performance assessment techniques to inform design decisions and assess the environmental impact and performance of buildings and urban spaces
- **B4** identify, compare and assess environmental attributes of buildings using on-site observations and measurements, as well as comparative performance data and calculated results
- **B5** assess the potential offered by new materials and technologies
- **B6** (MSc) formulate guidelines and proposals for new or existing buildings taking account of context, climate, and occupancy
- **B7** (MArch) develop and test original design applications.

Transferable skills and attributes

On successful completion, MArch / MSc Sustainable Environmental Design participants will be able to:

- **C1** use appropriate analytical tools and other research techniques to formulate and test research hypotheses
- **C2** engage in environmental research as a member of interdisciplinary international team.
- **C3** use a variety of media to communicate effectively with clients and colleagues.
- **C4** continue expanding their knowledge using the skills acquired on the course.
Curriculum Map

The Curriculum Map below shows how outcomes are deployed across the study programme. It relates the delivery and assessment of the learning outcomes listed above to the different inputs and outputs of the programme. The tabulation indicates which study units assume responsibility for delivering (shaded) and assessing (X) particular learning outcomes. To simplify the tabulation, lecture series have been grouped under three broad categories relating respectively to principles and theories of sustainable environmental design; practice and built examples; and analytic tools. Each of these is identified in terms of the learning outcomes delivered. Project workshops and individual and group tutorials are shown as relating mainly to the assessment of learning outcomes though in practice they also contribute to the delivery of the outcomes. Assessed work in the form of projects, essays, technical studies and dissertations is listed as representing both delivery and assessment of learning outcomes.

| Curriculum Map          | A1 | A2 | A3 | A4 | A5 | A6 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
|-------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Knowledge and understanding |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| of key concepts of sustainable environmental design |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| of building energy modelling and simulation tools and applicability to design |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| of significant built precedents |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| of environmental sustainability |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| of wider issues of environmental sustainability |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Critical position in relation to tendencies in architecture and criticism |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Specific skills and attributes |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Reviews of technical and theoretical aspects of environmental sustainability |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Reviews of significant built precedents |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Use of analytic tools and performance assessment techniques in design |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Analysis of the potential offered by new materials and technologies |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Assessment of environmental attributes of historical and contemporary buildings |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Assessment of the potential offered by new materials and technologies |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Assessment of environmental attributes of historical and contemporary buildings |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Design workshops and tutorials |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Dissertation seminars and tutorials |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| All assessed work |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Project I |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Essays |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Technical studies |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Project II |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MArch dissertation |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MSc dissertation |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Terms 1-3 Lecture Series

PRINCIPLES & THEORIES
PRACTICE & EXAMPLES
TOOLS & TECHNIQUES
Terms 1-4 Workshops & Tutorials

TOOLS WORKSHOPS
DESIGN WORKSHOPS & TUTORIALS
DISSERTATION SEMINARS & TUTORIALS

All Assessed Work

PROJECT I
ESSAYS
TECHNICAL STUDIES
PROJECT II
MArch DISSERTATION
MSc DISSERTATION
4 PROGRAMME STRUCTURE & CORE COURSES

The taught programme for the MSc and MArch in Sustainable Environmental Design combines lecture series, seminars, cross-course team projects, fieldwork, software workshops, and other activities including building visits and study trips. These formal events and activities provide the conceptual, empirical and analytical tools and information needed to address environmental issues in design research and architectural design. Projects provide the main vehicle for student work. Project work is closely supervised by the programme’s teaching staff in regular individual and group tutorials. Dissertation projects represent the largest component of student work. Topics for dissertation projects are decided halfway through the programme’s duration and the project is developed under close individual supervision.

The taught programme is divided into four terms. Most of the lecture content is delivered in the first two terms (October to March inclusive) and is common to both MSc and MArch students. Over the same period, course work includes team projects, technical studies and individual research papers. Terms 1 and 2 project teams combine MSc and MArch students. In Term 3 students embark on the research for their individual Dissertation Projects. MSc students work on their Dissertation projects non-stop through the summer for submission before the start of the following academic year. MArch students take a summer break at the end of Term 3 returning to the School in Term 1 of the following academic year. Both MSc and MArch dissertation projects start with the formulation of research agendas derived from literature research and study of built precedents. Students then proceed with fieldwork and computational studies aimed at identifying potential for worthwhile improvements that serve the programme’s stated objectives. MSc dissertations present their research outcomes by mapping and documenting their applicability across a range of geographic, climatic or programmatic scenarios. The MArch dissertation research is expected to lead to a design application for a specific site and building programme.

Credits for course work and dissertation projects are given for each 10 hours of learning time. Learning time includes lectures, seminars, course reading, workshops and tutorials, as well as time spent on projects, essays and other assigned tasks. A total of 180 credits is required for the MSc / MArch in Sustainable Environmental Design representing 1800 learning hours over 45 weeks. Course work is assigned by academic term, but extends into the vacation periods. Credits are distributed between the four terms of the year as follows:

i. Term 1 Project I / Technical Study 1 / Research Paper 1 45 credits 25% of total credits
ii. Term 2 Project II / Technical Study 2 / Research Paper 2 45 credits 25% of total credits
iii. Terms 3&4 Dissertation 90 credits 50% of total credits

For a detailed breakdown of credits and a listing of the respective aims, learning outcomes and assessment criteria for each item see section 7 of this Guide.

Summary outlines of the taught programme’s lecture series, research seminars and software workshops are given below. Weekly events and project work take place in the SED studio which is open seven days a week. Regular courses and Term 1 projects start on the second week of the academic year following two weeks of induction which include special events and introductory activities. The first week of induction is the AA School’s Introduction Week for all new students. This includes introductions to the School’s facilities and site visits around London. Information on Introduction Week events and activities is distributed to new students at registration. The AA postgraduate programmes will be introduced on Week 1 of the academic year. The SED programme’s new MSc and MArch students will introduce themselves with short presentations on that week. Listings of weekly events for Term 1 will be issued at the beginning of the year and updated regularly. AA Weekly which is emailed to students and staff each week has the latest information on daily events around the School.

SED Lecture Courses & Workshops 2019-20

Sustainable City, Term 1
Jorge Rodriguez Alvarez
The course reviews theories of urban sustainability introducing instruments and tools that can be applied to its assessment. The role of urban morphology in fostering the diverse microclimates encountered in cities and its impact on energy consumption and climate change will be illustrated with case studies from different urban contexts at scales ranging from the regional to that of the urban block.
Adaptive Architecturing, Term 1  
Simos Yannas, Paula Cadima  
Providing local architectural solutions to global issues requires an understanding of what makes a good environment for occupants and how this may vary across climates, building types and occupant preferences and activities. This course introduces a generative framework for an environmentally adaptive, culturally sensitive, occupant-centred architecture aiming at a symbiotic relationship with the city.

Environmental Design Primer: Designing for Health, Well-being and Comfort Term 1  
Nick Baker  
Topics include climate change and the principles of adaptive comfort in the urban environment; building materials and environmental impact; thermal performance; the physics and architecture of daylighting; airflow and indoor air quality; designing for the future.

Environmental Design Research Tools, Terms 1 & 2  
Gustavo Brunelli, Byron Mardas, Herman Calleja, Jorge Rodriguez, Paula Cadima, Simos Yannas  
This hands-on course runs in day-long sessions that provide physical and digital tools for engaging in environmental design research. The tools encompass on-site measurements and the modelling and simulation of sunlight, wind, temperature and their effects on occupant comfort and wellbeing indoors and outdoors. These are first applied on the Term 1 building case studies and their use then continues on the Term 2 design project and on dissertation research.

Lessons from Practice, Term 2  
We invite practising architects, engineers and researchers to present projects that illustrate their philosophy, practice and experience of sustainable environmental design. Presentations are followed by roundtable sessions exploring the relationship between research and practice and the evolving nature of research.

Research Seminar, Terms 1–4  
Simos Yannas, Paula Cadima, Mariam Kapsali  
In Terms 1 and 2 the seminar provides a regular forum for critical reading and literature review providing support to the research and writing of individual research papers that provide starting points for dissertation projects. The Easter break is a convenient period for undertaking a first round of fieldwork for MSc dissertation projects. For the MArch there is a further opportunity for this during the summer break.

AA SED Refurbishing the City Research Agenda 2019-20

Term 1 Building Case Studies  
Environmental performance studies of selected London buildings and outdoor spaces. The project is undertaken in teams that combine MSc and MArch students. On-site observations and environmental measurements, designer and occupant interviews will be followed by use of advanced computational tools to investigate the relationship between building, climate and occupant wellbeing highlighting the role of empirical and analytical research in informing design.

Term 2 Design Research  
The insights gained from the Term 1 building studies will provide the starting points for design research applying the methodology and computational tools of adaptive architecturing to address key issues relating to urban morphology, climate change, lifestyle trends and technological developments that shape the future of the city.

Terms 3 & 4 MSc & MArch Dissertation Research  
The Dissertation Project is a vehicle for undertaking a significant piece of design research that reflects the programme’s areas of interest and students’ personal interests, background, special skills and plans for the future. It is undertaken individually supported by the Research Seminar and by weekly individual tutorials throughout Terms 3 and 4. It is first introduced during Term 2 in conjunction with the Research Paper 2 from which the topic of the DP is normally derived in consultation with teaching staff. The MSc dissertation explores the design applicability of its research findings providing a mapping of potential applications across climatic regions and/or building types. MArch dissertations culminate in a specific design application for a given site and design brief.
5 TEACHING AND LEARNING STRATEGIES

Weekly lecture series, research seminars, software workshops, group and individual tutorials and studio work provide the theoretical and empirical knowledge, methodology, analytical tools and guidance needed for undertaking real-life projects. On the SED Masters programmes projects are cross-course learning vehicles focused on different aspects of the design, making, operation and performative assessment of built environments indoors and outdoors. In Terms 1 and 2, project work is undertaken in teams that combine MSc and MArch students. Dissertation research is carried out individually allowing students to contextualise their projects for the climatic and other specificities of their chosen geographic region and urban environments.

Lecture Courses  Attendance of lectures and other weekly events offered by the SED programme is compulsory. In Term 1 the weekly taught programme provides the shared knowledge, skills and tools needed for project work and practice. Lectures address current issues and professional concerns thus providing a critical overview of the research directions pursued by the programme as well as the profession as a whole. Term 1 lectures are given by the programme’s regular staff thus ensuring continuity and direct support to student project work. In Terms 2 and 3 invited researchers and designers provide diversity of opinion, variety of input, and links with research and practice outside the programme. Lecture topics feed directly into each term’s project agendas. All lectures are stored in electronic format and are available to students for further study.

Seminars & Workshops The Research Seminar is a weekly forum on information sources, research methods, report writing and visual presentation; it runs regularly throughout the year. The Tools Workshop provides weekly training in the use of a wide range of specialist tools and software. It is particularly intensive during Term 1 aiming to develop the empirical and analytical skills required for undertaking project work in practice.

Team Projects are the vehicles for integrating all the inputs of the taught programme. Term 1 and 2 projects are undertaken in teams of 3-4 students supported by frequent group tutorials and reviews. Each team project accounts for 25 credit units (some 250 study hours including attendance of related courses) per student (see below for Technical Studies undertaken individually as part of the team projects).

Technical Studies involve fieldwork and/or computational work shared between project team members. Support is in the form of weekly tutorials and presentations of research results. A Technical Studies submission accounts for 10 credit units per student.

Research Papers are expected to apply the knowledge and understanding acquired from the taught programme to a critical review of published literature in selected topics of interest. They are undertaken individually supported by regular tutorials. Each research paper of up to 4,000 words accounts for 10 credit units. Research Paper 2, submitted at the beginning of Term 3 is expected to conclude with a draft proposal for the Dissertation.

Dissertation This is a vehicle for undertaking a significant piece of research that reflects the programme’s areas of specialisation and students’ personal interests, backgrounds, special skills and plans for the future. The Dissertation Project accounts for 90 credit units, 50% of the total credit for the MSc or MArch. Dissertation topics are decided by the end of Term 2 and confirmed with the submission of written outlines providing evidence that the proposed topic is within the students’ grasp, capabilities and work plan. MArch dissertation research should lead to a design applicability of their research outcomes and as such have a broader geographic, climatic and typological scope than the MArch. A list of all completed MSc and MArch Dissertation Projects is included in Appendix 3.

Tutorials The overall direction and progress of student work, and the development of projects, technical studies, research papers and dissertations are monitored and supported by weekly tutorials.

Project Presentations & Reviews are regular events aimed at monitoring progress as well as developing students’ oral and visual presentation skills.

Study Trips & Special Events include visits to buildings of interest, meetings with designers and researchers, participation in international conferences and joint workshops with colleagues from other institutions. A study trip abroad will take place during Term 2 or 3.

Student Feedback collected throughout the year helps the planning of following terms.
6 RESOURCES

The AA Library (www.aaschool.ac.uk/library) stocks all of the books listed on the programme’s Reading Lists. A selection of material from these Lists is also held on a separate shelf at the Library for easy access. For scientific papers the AA Library provides access to the Science Direct site from where papers published in journals such as Energy and Buildings can be downloaded for study. The Open University provides library resources that can be accessed from: www.open.ac.uk/library/libpartnerships

General facilities available to all students will be introduced during Introduction Week before the beginning of the academic year. These include the Library, Computer Lab, Prototyping Labs, Robotics and Materials Workshop. The resources and facilities listed in this section are those specific to students on the MSc / MArch in Sustainable Environmental Design.

SED Studio The programme’s studio is open from 0900 hours to 2200 hours on weekdays and weekends all-year round. All of the programme’s specialist software can be run from the studio and the programme’s field instruments are kept there.

SED Archives Reference material needed by students at all times can be downloaded from the SED programme’s EE folder on the School’s Jupiter File Server (\jupiter\Unit-Space\EE). The EE folder contains a comprehensive collection of dissertations and team projects from previous years in PDF format. Lectures, software, project briefs and all other material required on a daily basis for the course are also stored in this folder for the programme’s students. Printed copies of all team projects and dissertations are kept in the Programme’s Office.

Computing Students are expected to own a laptop computer that can run Windows. Ownership of a large screen and fast inkjet printer are strongly recommended. Taking insurance cover for equipment is strongly recommended against theft and accidental damage. Software introduced by the taught programme for use on project work will be made available to students as needed and presented in detail.

Communications Students on the programme are required to register for their AA email addresses on arrival and to check their emails on a daily basis for updates on regular events, tutorials and reviews. Most spaces within the School provide wireless Internet access.

Scientific Instruments The programme owns a wide range of portable scientific instruments for taking measurements of environmental variables on field studies as well as in the SED Studio. Instructions on how to use the instruments and how to record, process and present the results are given by the Term 1 “Tools” course and accompanying workshops.

Modelmaking & Prototyping The AA School has in-house facilities for fabrication and model making. The large workshops at Hooke Park in Dorset are available for experimental structures such as those fabricated by the programme’s students in previous years. Students wishing to use the AA School’s Bedford Square workshops must attend introductory training sessions on the first week of the academic year.
7 COURSE CREDITS, LEARNING OUTCOMES & ASSESSMENT CRITERIA

The course credits, learning outcomes and assessment criteria listed below encompass team projects, technical studies, research papers and individual dissertation projects. In Term 1, the course work submitted for assessment consists of a team project (25 credits for each team member), technical studies (10 credits per individual technical study) and a research paper (individual submission worth 10 credits). The work of each student must be clearly identified in all team work. Term 1 accounts for a total of 450 study hours representing 45 credit units or 25% of the total credit for the MSc / MArch in Sustainable Environmental Design (see below for a breakdown of study hours and credit units). In Term 2 the assessed course work consists of a team project (25 credits), technical study (10 credits) and a research paper (10 credits) as in Term 1. Term 2 accounts for a total of 450 study hours representing 45 credit units or 25% of the total credit for the MSc / MArch in Sustainable Environmental Design. In Terms 3 & 4 the assessed work consists of the Dissertation Project which is undertaken individually. Dissertation Projects account for a total of 900 study hours representing 90 credit units or 50% of the total credit for the MSc / MArch degree.

TERM 1 PROJECT I: BUILDING CASE STUDIES

25 credit units (13.9% of total credits) 250 study hours including attendance of relevant lecture courses and other programme activities (see below for breakdown).

Brief
The study of environmental attributes, design features and performance of urban environments and building structures. The project makes use of all the inputs, tools and resources provided by the taught programme in Term 1. The Project Brief is distributed and introduced on Week 2 of Term 1 and project work starts on the same week. Work on Project I is done in teams of 2-4 students.

Aims
This project is a vehicle for developing observational, analytic and synthetic skills, and the ability to ask and answer questions using the knowledge, scientific instruments and computational tools provided by the taught programme. It also tests how individual students perform as part of a team. It is typical of work graduates from the programme may be doing in practice.

Content
- Critical review of published literature on selected buildings
- On-site observations and environmental measurements; interviews with designers and occupants*
- Processing and interpretation of fieldwork
- Planning of computational studies based on fieldwork findings
- Computational simulations to characterise current conditions and alternatives representing possible environmental improvements for occupant comfort and wellbeing under present and future climate scenarios and occupancy.

Learning Outcomes
On completion of this project students can be expected to be able to:
- undertake field studies involving building surveys, occupant interviews and environmental measurements
- undertake a critical appraisal of the environmental design attributes of buildings and outdoor spaces using on-site observations and measurements, as well as comparative performance data and calculated results
- make proposals for improvements to existing buildings and outdoor spaces taking into account specificities of site, climate, building type and form, construction and occupancy.

Assessment Criteria
Assessment of project reports is based on the following criteria:

* Consent forms should be obtained from any individuals asked to be interviewed; see Project Briefs for details.
• understanding of the principles, methods and tools introduced by the taught programme
• application of observational skills and critical faculties
• ability to test research hypotheses and find new data
• demonstration of innovative thinking and creativity
• clear structure, writing and presentation of project results
• referencing of sources of information using agreed conventions
• individual contributions within the team.

TERM 2 PROJECT II: DESIGN RESEARCH REFURBISHING THE CITY

25 credit units (13.9% of total credits) 250 study hours including attendance of relevant lecture courses and other programme activities (see below for breakdown).

Brief
The findings of the Term 1 building case studies provide the starting points for design research on selected London sites. The project offers a vehicle for a second round of team projects aiming at exploring performative and innovative designs following the methodology and tools introduced by the taught programme. The Project Brief is distributed and introduced at the beginning of Term 2. Work on Project II will be in teams of 2-4 students.

Aim
To apply the knowledge and tools provided by the taught programme to the development of design proposals for a specific building programme, climate and site.

Content
• Site visits and measurements
• Formulation of building programme and design brief
• Critical review of built precedents
• Simulation studies to identify performative potential
• Design proposals
• Comparative environmental assessment of proposals.

Learning Outcomes
On completion of this project students can be expected to be able to:
• develop designs for new buildings and urban environments taking into account the specificities of climate, site, and building type and exploring the possibilities offered by new materials and technologies
• use information from built precedents to complement and support analytic work and as means of explaining / justifying design decisions
• use selected environmental performance assessment and design research tools as and where needed to inform design decisions and assess the environmental impact and performance of proposed designs.

Assessment Criteria
• learning from built precedents and contextual studies applied to design research
• clear approach in the formulation and investigation of design concepts and hypotheses
• application of new knowledge and analytic tools introduced by the taught programme
• capacity for comparative analysis and interpretation
• demonstration of innovative thinking and creativity
• adherence to project brief and preset requirements
• clear structure, writing and presentation of project results
• individual contributions within the team.
TERMS 1 & 2  TECHNICAL STUDIES

10 credit units (13.9% of total credits) per Technical Study, 250 study hours including attendance of relevant lecture courses and other programme activities (see below for breakdown).

Brief

Technical Studies are undertaken individually as part of the work on Projects I and II using the tools introduced in the Environmental Simulation & Performance Assessment Tools course. They are submitted individually or as part of the project reports on Projects I and II. Each Technical Study accounts for 10 credit units representing 100 study hours.

Aims

Use of computational tools for testing research hypotheses and undertaking comparative building performance studies relating to Projects I and II.

Content

• use of specialist tools and software to study selected environmental processes
• planning and undertaking of analytical work, processing, interpreting and presenting results
• organising and writing-up research papers and technical reports.

Learning Outcomes

On completion of these assignments students can be expected to be able to:
• acquire familiarity with the use of appropriate analytical tools in conducting environmental design research.
• undertake critical appraisals of theoretical and technical concepts of environmental design in architecture and urbanism
• have a better understanding of building performance
• have a better understanding of how to plan, undertake, interpret and present research results.

Assessment Method

Formative assessments by project tutors on weekly basis and with invited reviewers in juries twice in Term 1. Summative assessment of project report by two internal assessors.

Assessment Criteria

• knowledge and understanding of the principles and tools introduced by the taught programme
• demonstration of observational skills and critical faculties
• capacity for comparative analysis and meaningful generalisation.
• clear approach to formulating and investigating research questions and arguments
• meaningful use of analytic tools in testing hypotheses and finding new data
• clear and concise writing and presentation of research results.

TERMS 1 & 2  RESEARCH PAPERS

25 credit units (13.9% of total credits) per Research Paper, 250 study hours including attendance of relevant lecture courses and other programme activities (see below for breakdown).

Brief

Research Papers 1 and 2 are critical reviews of published literature undertaken individually on selected topics related to the programme’s content and student project work. Each Research paper accounts for 10 credit units. Submission of 3,000-4,000 words based on a template introduced in the Research Seminar.

Aims

Learning to undertake literature research and critical review of technical publications on specific topics related to the programme’s content. Practice of technical writing and referencing. Research Paper 2 aimed at identifying topic of the MSc Dissertation.
Content
- Literature search for relevant information and data on issues of interest
- Critical reading of technical literature on topics of sustainable environmental design
- Technical writing and referencing.

Learning Outcomes
On completion of these assignments students can be expected to be able to:
- acquire familiarity with the published research literature on issues of interest
- undertake critical appraisals of theoretical and technical concepts of environmental design in architecture and urbanism
- have a better understanding of how to research, structure, write and reference a short research paper.

Assessment Method
Formative assessments by tutors on a regular basis in Terms 1 and 2. Summative assessment of project report by two internal assessors.

Assessment Criteria
- knowledge and understanding of the principles and tools introduced by the taught programme
- demonstration of observational skills and critical faculties
- capacity for comparative analysis and meaningful generalisation.
- clear approach to formulating and investigating research questions and arguments
- meaningful use of analytic tools in testing hypotheses and finding new data
- clear and concise writing and presentation of research results.

7.6 TERMS 3 & 4 DISSERTATION
90 credits (50% of total credits) representing a minimum of 900 student learning hours including attendance of seminars and review sessions.

Brief
The Dissertation Project is a vehicle for undertaking a significant piece of design research that reflects the programme’s areas of interest and students’ personal interests, background, special skills and plans for the future. It is undertaken individually and accounts for 90 credits. The Dissertation Project is supported by the Research Seminar and by weekly individual tutorials throughout Terms 3 and 4. It is first introduced during Term 2 in conjunction with the Research Paper 2 from which the topic of the DP is normally derived in consultation with teaching staff.

Aims
The MSc dissertation explores the design applicability of its research findings providing a mapping of potential applications across climatic regions and/or building types.

Content
- Literature review
- Climate and Context analysis
- Field Studies of Built Precedents
- Simulation studies and performance assessments
- Design guidelines for chosen climatic region and building type and/or mapping of potential applicability across climatic regions/building types.

Learning Outcomes
On completion of the MSc dissertation project students can be expected to be able to:
- undertake critical reviews of environmental design topics in climatic contexts of their choice
- study the environmental attributes of selected buildings and urban contexts
- engage in design research investigating aspects of environmental sustainability
- use analytic tools to inform design decisions and/or assess environmental impact and performance of buildings and cities.
• develop design proposals and design applicability studies for new and existing buildings taking account of the specificities of climate, site, building type and architectural form
• assess the possibilities and potential offered by new materials and technologies
• plan, document and illustrate research results encompassing fieldwork, analytic work and design proposals.

Assessment Criteria
• Knowledge and understanding of the principles, methods and tools introduced by the taught programme
• Application of critical faculties and observational skills
• Ability to use field studies and analytic tools to test research hypotheses and find new data
• Application of new knowledge and tools in design research and practice
• Demonstration of innovative thinking and creativity
• Responsible application of technical knowledge and analytic tools
• Clear and concise writing and visual presentation of project results
• Referencing of sources of information using agreed conventions.
# COURSE CREDITS

## TERM 1

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
<th>% total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROJECT I</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture course attendance</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Workshops, Tutorials &amp; Class Presentations</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Reading &amp; Research &amp; Design &amp; Presentation</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>250</td>
<td>25</td>
</tr>
<tr>
<td><strong>TECHNICAL STUDIES</strong> (Project I)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course attendance</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Workshops, tutorials</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Analytic work</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Writing &amp; Illustrating</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td><strong>RESEARCH PAPER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course attendance</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Seminars, tutorials</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Reading &amp; Research</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Writing &amp; Illustrating</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td><strong>TOTAL TERM 1</strong></td>
<td>450</td>
<td>45</td>
</tr>
</tbody>
</table>

## TERM 2

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
<th>% total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROJECT II</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture course attendance</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Workshops, Tutorials &amp; Class Presentations</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Reading &amp; Research &amp; Design &amp; Presentation</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>250</td>
<td>25</td>
</tr>
<tr>
<td><strong>TECHNICAL STUDIES</strong> (Project II)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course attendance</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Workshops, tutorials</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Analytic work</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Writing &amp; Illustrating</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td><strong>RESEARCH PAPER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course attendance</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Seminars, tutorials</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Reading &amp; Research</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Writing &amp; Illustrating</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td><strong>TOTAL TERM 2</strong></td>
<td>450</td>
<td>45</td>
</tr>
</tbody>
</table>

## TERMS 3 & 4

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
<th>% total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DISSERTATION PROJECT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seminars, reviews, &amp; tutorials</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Reading, Research &amp; Writing</td>
<td>850</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL TERMS 3 &amp; 4 DISSERTATION PROJECT</strong></td>
<td>900</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>1800</td>
<td>180</td>
</tr>
</tbody>
</table>
ASSESSMENT PROCEDURES

Submitted work is assessed and marked by two members of the programme's teaching staff. Marks and assessment reports are then reviewed and agreed. Submitted work is also reviewed by the External Examiners whose role is to ensure fair and objective marking and the maintenance of high academic standards. All marks and assessments are reviewed by an Examination Board composed of the programme's teaching staff and External Examiners. The Examination Board has the responsibility for the final marking and for making recommendations on the award of distinctions or the need for resubmission. Notification of results is given to students by the Registrar's Office through the Graduate School's Administrative Coordinator.

Submissions for the MSc / MArch in Sustainable Environmental Design are assessed on:

1. Knowledge and understanding of the principles introduced by the taught programme
2. Clarity of the approach followed in the investigation of research questions and hypotheses
3. Application of critical faculties and observational skills
4. Use of fieldwork and analytical tools to test hypotheses and find new data
5. Ability for comparative analysis and interpretation of results
6. Application of new knowledge and tools in design research and practice
7. Demonstration of team effort, innovative thinking and creativity
8. Clear and concise writing and presentation of project results
9. Referencing of sources of information using agreed conventions
10. Adherence to project briefs and other preset requirements

The marking of projects, essays and dissertations is on a scale of 0-100% with pass mark at 50% and grades as shown below. These are common to all Masters Programmes at the AA School.

<table>
<thead>
<tr>
<th>Mark</th>
<th>Grade</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>70 and above</td>
<td>A</td>
<td>Excellent Pass / Distinction</td>
</tr>
<tr>
<td>65-69</td>
<td>B+</td>
<td>High Pass</td>
</tr>
<tr>
<td>60-64</td>
<td>B</td>
<td>Good Pass</td>
</tr>
<tr>
<td>57-59</td>
<td>C+</td>
<td>Satisfactory Pass</td>
</tr>
<tr>
<td>54-56</td>
<td>C</td>
<td>Adequate Pass</td>
</tr>
<tr>
<td>50-53</td>
<td>D</td>
<td>Low Pass</td>
</tr>
<tr>
<td>49 and below</td>
<td>F</td>
<td>Fail</td>
</tr>
</tbody>
</table>

The marks awarded by the internal assessors are averaged to establish an agreed mark for each submitted piece of work. An average mark is then calculated for the course work as a whole using the credit rating of each team project and research paper. To qualify for the Masters award students must attain the 50% threshold mark on both the course work and their Dissertation Project. An overall mark is then calculated with the course work accounting for 50% of the total credit and the Dissertation accounting for the other 50 percent. The degree is awarded “with Distinction” when the combined weighted average of course work and dissertation marks equals or exceeds 70 percent.

Students who fail to attain a pass mark on a team project or research paper are required to resubmit the failed item and must pass to be eligible to continue on the course. Students who fail to attain an overall mark of 50% on their dissertation will be allowed to resubmit once for the Examination Board of the following academic year. Failure to resubmit or to achieve a pass mark on resubmission will lead to disqualification from the degree. Non-submission or late submission (7 or more days after the deadline) of team projects, research papers or dissertations without accepted mitigating circumstances is marked as Fail. In those cases, resubmission will be subjected to mark capping at 50%. Submissions late by up to seven days without accepted mitigating circumstances will have 10 marks deducted for each calendar day, down to the 50% mark. Deferment of a submission may be considered in case of illness or other exceptional circumstances. In such cases the deferred submission is classed as a first submission.

The AA School require all students to sign a declaration form confirming that the contents of each of their submissions is their own work and that work by others is duly acknowledged following agreed conventions discussed above. Failure to provide such acknowledgment, whether deliberate or unconscious, constitutes plagiarism. Plagiarism is a most serious academic offence that can lead to disqualification from the degree. See also AA Academic Regulations.
8 ORGANIZATION & SUBMISSION OF STUDENT WORK

PROJECT REPORTS, TECHNICAL STUDIES & RESEARCH PAPERS

In each of Terms 1 and 2 the course work submitted for assessment and credit consists of a team project, including individual technical studies, and an individual research paper. Project briefs are handed out at the beginning of each term. All course work submissions are to the Graduate School Administrative Coordinator’s Office. Each document submitted for assessment must include a signed Authorship Declaration Form to certify that the contents are the students’ own work and that use of material from the work of others is duly acknowledged. The form should be bound into the document in a prominent position after the cover page. Course work items are submitted in a single copy only. This must be bound with metallic spiral ring binding. Team project reports are normally submitted in A3 Landscape format. All other submissions are in A4 Portrait Format unless otherwise agreed. Each document must have a cover page with the following information:

- Architectural Association School of Architecture
- AA SED Graduate School
- MSc / MArch Sustainable Environmental Design
- Term 1 (or 2) Project (or Technical Study or Research Paper) 2019-20
- Full Title / Subtitle of Project / Paper
- Student first name(s) and surname(s)

There is freedom in formatting and placing these titles, but the exact wordings should be used as listed above. All submissions must be accompanied by a CD containing the full document (including illustrations) in PDF format. In addition, all illustrations must be included individually in a folder titled <Images> in JPG format at 300 dpi resolution in their original size. The students’ full names should be written on the surface of the CD accompanied by AA SED 2019-20 and the Project / Research Paper title. In addition to printed document and CD, a pdf file of each team project and research paper must be uploaded to the students’ folders on the File Server. These pdf files are used for assessment of course work and must therefore include the complete work.

Document Structure for Research Papers

All submissions must include the following sections:

- **Cover page**: this must include the information listed above.
- **Authorship Declaration Form**
- **Abstract**: a very brief summary of the paper (1 paragraph).
- **Table of contents**: a numbered list of the main headings and subheadings of the paper and the page number of the start of each section.
- **Acknowledgements**: individuals who have helped or provided resources, advice and information (including acknowledgment of sponsorships, bursaries or scholarships toward your studies at the AA School).
- **Introduction**: overview of issues and questions which led to the chosen topic with reference to the relevant literature; what did your paper set out to do and how; results obtained; how is your paper structured (1 page).
- **Main body of the document**: subdivided according to thematic, procedural or methodological criteria.
- **Conclusions**: summary of main findings and proposals.
- **References**: published and unpublished sources consulted including Internet sources (see below for academic conventions on how to cite bibliographical sources).
Dissertations

Choice of Dissertation Topics

The dissertation project is the final and most substantial piece of work for the MSc and MArch. Students are expected to confirm their choice of dissertation topic by the end of Term 2. This is formalised with the submission of a written outline followed by oral presentation to a review panel. The outline should identify the climatic region, urban context, building type and precedents (vernacular as well as contemporary), and particular environmental design research problems to be tackled. The development of dissertation research is supported by weekly individual tutorials. A list of MArch, MSc and MA Dissertations completed since the programme’s initial validation for a Masters degree in 1995 is included in the Appendix.

Preparation of Dissertation Research Outline & Plan of Work

A written outline of the proposed Dissertation Project must be submitted by the end of Term 2. This should provide the following:

i. **Descriptive title** of the Dissertation Project

ii. **Overview of proposed research area**: what is the topic, why is it of interest, what are the problems identified from the literature or through work accomplished so far this year, how to approach them.

iii. **Research questions and hypotheses**: specific topics to investigate.

iv. **Methodology**: how research hypotheses are to be tested. This may include:
   - literature review: published sources consulted and to be consulted.
   - review of relevant built precedents.
   - fieldwork (if any): where, when, for how long and with what expected outcome.
   - analytic work (if any): what parameters will be considered, how are results to be assessed.

v. **Expected outcome(s)**: what kinds of outcomes are expected from the research and how you expect to communicate them and / or use them in practice.

vi. **Sources & Key references**: List of sources already consulted as well as those to be consulted.

vii. **Timetable**.

Dissertation Document Structure & Contents

The Dissertation for the MSc / MArch Sustainable Environmental Design is an illustrated book of some 15,000 words (+/-1,000 words) for the MSc and 12,000 words (+/-1,000 words) for the MArch excluding references and appendices presenting the work as described below.

i. **Cover Page**: this must include the title of the degree: MSc or MArch Sustainable Environmental Design 2019-20 or 2019-21; the name of the School: Architectural Association School of Architecture; the title and subtitle of the Dissertation Project; student name(s) and surname(s); type of submission (Dissertation), month and year of submission (September 2020 for the MSc, January 2021 for the MArch).

ii. **Abstract**: summary of dissertation project and its key findings (1-2 paragraphs).

iii. **Authorship Declaration Form** (see below)

iv. **Table of contents**: a numbered list of Chapter headings and subheadings and the page number of the start of each section.

v. **Acknowledgments**: individuals and/or institutions acknowledged for having helped with information, support, sponsorship (including bursaries and scholarships, e.g. Commonwealth Scholarship, AA School Bursary).
vi. **Introduction**: summary of issues, problems and questions which led to the choice of the DP topic; what the dissertation is aiming to do; research questions and hypotheses tested; how the work was carried out (including reference to methods and tools used); summary of results obtained; how the contents are organised and presented (2-3 pages).

vii. **State-of-the-Art / Literature Review** (or any other appropriate title): Critical review of published literature identifying and characterising the problems being addressed by the dissertation; formulation of research hypotheses. This chapter must demonstrate knowledge and understanding of the relevant literature, not just your ability to quote or paraphrase from it. (10 pages or longer including illustrations).

viii. **Context & Precedents** (or any other appropriate title): This may be a single chapter or a multichapter section. Context information should include weather data and climate analysis in a concise and meaningful manner. Introduce urban context and issues; this could be more or less extensive depending on your topic. Precedents should be a critical review of historical, vernacular and contemporary built examples. It is better to have few well selected case studies that were visited and looked at in some detail than many examples that are shown superficially (Context and Precedents could add up to a total of 15-20 pages or more).

ix. **Fieldwork** (if any): Brief overview explaining why the fieldwork was undertaken, what it involved, how it was done, with what results and how the results are used in the dissertation.

x. **Analytic Work**: This could comprise separate chapters for different types of analytic work; each section must include explanations about what the analytic work was performed for, how spaces were modelled, what parameters were considered, what values were given to these parameters, what results were obtained, how these informed the DP’s research questions, etc. Further information on assumptions, input data, and outputs from individual runs should be included in an appendix.

xi. **MSc Research Outcomes & Design Applicability** (or any fitting title relating to your project): Synthesis of the various research threads and results from literature, field studies and analytic work. Translation into design applicability proposals. **MArch Research Outcomes & Design Application** (or any fitting title relating to your project): Synthesis of research threads and results from literature, field studies and analytic work. Translation into design brief and design application.

xii. **Conclusion**: summary of main findings and proposals (1-2 pages).

xiii. **References**: listing of all published and unpublished sources consulted including Internet sources (see further information in this Programme Guide on how to cite bibliographical sources).

xiv. **Appendices** (if any) with complementary information or data.

**Submission Requirements for Dissertations**

All submissions are to the Graduate School Administrative Coordinator’s Office. Dissertation documents should be hardbound with black covers and must be submitted in two copies. Covers should be inscribed along the spine to include the following from left to right: <student first name and surname> <MSc 2020> or <MArch 2021>. There should be no inscription on the front or back covers of the document. Each copy must have an inside cover page which must contain the following information:

- Architectural Association School of Architecture
- AA SED Graduate School
- MSc (or MArch as appropriate) Sustainable Environmental Design
- Full Title and Subtitle of the Dissertation Project
- Student first name(s) and surname(s)
- September 2020 (MSc); January 2021 (MArch)

There is freedom in formatting and placing these titles, but the exact wordings should be as listed above.
Dissertation Documents should be in **A4 Portrait Format** unless agreed otherwise. The size of the text of the MSc Dissertation must not fall below or rise above 15,000 words by more than 1,000 words (excluding appendices and bibliographical references). MArch Dissertations are expected to contain less text, with a target of 12,000 words, but substantially more visual material to illustrate the design application. All pages must be numbered including appendices. Sheets should be printed on both sides using paper of sufficient thickness. Text should be formatted single space using Arial or similar font, typesize 10 points for the main body of text, 8 points for captions. A convenient layout for Dissertation documents is to have the text formatted in a single column on the left or right hand page with figures and illustrations placed on the opposite page. Margin sizes are left to candidates’ choice. All Figures and Tables must be numbered, titled and referenced following the guidelines given below. Dissertation documents must be accompanied by a **CD containing the full document in PDF format**. In addition, all illustrations must be included individually in a folder titled <Images> in JPG format at 300 dpi resolution in their original size. Finally, the CD should also include a folder titled <Models> containing the computer models and outputs produced using the environmental software introduced by the taught programme. The student’s full name should be written on the surface of the CD accompanied by the words MSc Dissertation 2020 (or MArch Dissertation 2021). Dissertation documents must include a signed **Authorship Declaration Form** certifying that the contents of the document is the work of the signatory and that use of material from the work of others is duly acknowledged. The form should be bound into the document in a prominent position after the cover page. In addition to printed document and CD, a pdf file of the dissertation must be uploaded to the students’ folders on the File Server. These pdf files are used for assessment and must therefore include the complete work. The deadline for the submission of 2019-20 MSc Dissertations is the 18th September 2020. The deadline for the submission of 2019-21 MArch Dissertations is the 8th January 2021.

**REFERENCING**

**Citation of sources of information**

All sources of information and data must be cited in project documents, research papers and dissertations. This must follow the conventions as indicated below. Sources to be cited include books and other publications (journal and conference papers), material presented in lectures or given in a private communication (a tutorial, interview, telephone conversation, email message etc.) by SED staff, invited speakers, architects whose buildings were studied, occupants, etc. Information generated by taking measurements, processing data, performing simulations and/or by producing drawings and designs should also be attributed to sources consulted and the tools that were used in the process.

**a) Citation within main body of text:** References to bibliographical sources should be incorporated into your sentence syntax in one of the following ways:

Smith (2014a, 2014b, 2015) found that . . .
Recent work (Smith, 2017) suggests that . . .
Early studies (Smith, 1975; Smith and Jones 1980; Jackson 1990) . . .

Online sources and software tools can be cited in the same manner by reference to author, date, etc. Where no author is mentioned, give the website/page title/software title and the date. For example: whata greatwebsite, 2019). For list of references see (e) References below.

**b) Tables and Figures:** the source must be cited below the table or figure. Example: (Source: Smith 2000). Online sources must be cited by the name of the source. The same applies to software (e.g. Source: Meteonorm). Tables or figures prepared especially for the document being submitted do not need to have a source cited unless some of the data contained were originated by others than the student submitting the work. Software used to produce the results should be cited in the text as part of a methodology section.

**c) Quotations:** A quotation is an exact reproduction of a statement or passage of text written by someone else. A quotation is always enclosed in quotation marks and the text is formatted so as to be clearly differentiated from the main body of your text. For example:

"Cities that are beautiful, safe and equitable are within our grasp."
(Rogers, Cities for a Small Planet, 1997)

Quotations should be followed (or preceded) by citation of their source using one of the citation conventions listed above. Reproduction of work by others verbatim without reference to the source is **plagiarism**, a
most serious offence that can lead to disqualification from the degree (see AA Student Handbook and Academic Regulations for details).

d) Footnotes: footnotes at the bottom of the page can be used to comment on a source of information, statement or fact, or provide a definition or clarification, without interrupting the flow of the main text.

e) References: All sources cited in the text should be listed at the end of research papers and reports. Both published and unpublished items should be listed. There are several different ways of doing this. The following system should be followed on SED submissions:

- start with the first author’s (or editor's) surname(s) followed by the initial(s) of his/her first name(s); where there is more than one author or editor, the names of the second and subsequent authors/editors should be preceded by a coma and entered initial first followed by surname (see examples below).
- next enter, placed in parenthesis, the year of publication or completion; where the person named is not the author but the editor of the document, precede the date with "Ed." (see examples below)
- next type the title of the book or paper followed by the subtitle (if any), and/or title and other details of publication where the referenced item appears (e.g. in the case of a paper which is published in a journal or a volume of conference proceedings); highlight the title of the publication in bold or italics. (see examples below)
- next list (for papers or sections of books which are referenced) the page numbers relating to the start and end pages being referenced.
- next give the publisher’s name.

Examples:


For websites, list the website/page title, the date accessed and the URL. For example:
AA School Homepage, viewed 1 August 2019, <https://www.aaschool.ac.uk/>

Figures and Tables
The word "Figure" applies to all illustrations (drawings, photographs, maps, graphs, diagrams, sketches, computer screen shots, etc.). No other word should be used instead. All figures must be numbered and titled. The number and title of a figure should be placed below the figure. All figures must be referenced and discussed in the main body of the text. In the text refer to a figure as Fig. nn in the middle or end of a sentence or as Figure nn at the beginning of a sentence. The word "Table" describes any list or matrix of textual or numerical data. Tables included in a document must be numbered and discussed in the text by referring to this number. The number and title of a table (TABLE nn. TITLE) should be placed above the table. The sources of all tables and illustrations of which you are not the original author must be given in parenthesis after their title (Source: <name of source=surname of author and date of publication if source is published paper /book). The full reference should be listed in the References section at the end of your document using the referencing conventions given above.
Appendix 1 READING LISTS & INFORMATION SOURCES

The published literature on the topics covered by the SED programme is vast and continues to grow rapidly. The bibliographies listed here have been carefully selected to match the specific objectives and learning outcomes of the SED taught programme. They include recent publications as well as books and papers that have stood the test of time. Items preceded by an † are Required Reading. These must be sought and scrutinised carefully early in the year as they deal with material that is essential to the taught programme and SED project work. Items marked with an ‡ are Recommended Reading. These contain important information and technical data that will be needed in the course of project work. Other items can be consulted in due course. For clarity and ease of use, the books and papers listed here have been grouped under the following thematic categories listed alphabetically:

- Building Precedents & Case Studies
- City climates, Design of Outdoor Spaces
- Comfort, Health and Wellbeing
- Daylighting
- Environmental Design Principles
- Engineering
- Environmental Assessment & Certification
- Materials & Construction
- Passive Heating & Cooling
- PLEA Conference Proceedings
- Sustainability Theories
- Ventilation

Books and papers that relate to more than one topic may appear more than once. The symbol < or see also: > is used to cross-reference the thematic categories; it also highlights additional bibliographical sources. The books listed here can be consulted at the AA Library in printed and/or electronic forms. Some of the Required and Recommended items can be downloaded in PDF format from the programme’s EE folder which is on the AA School’s Jupiter File Server. These items are identified below with [FS]. Access to the AA File Server requires registration with the AA Computer Lab at the beginning of the academic year. Items available on CD or memory stick are identified below with [CD].

The AA Library provides online access to numerous resources including scientific and architectural journals and technical guides with relevant information for the SED course. It also includes many other relevant publications that may not be listed here. New students joining the programme must follow the induction events organised by the Library. Open University library resources are also available to AA postgraduate students and can be accessed at: www.open.ac.uk/library/. Advice on reading and discussion of selected readings will be a regular feature of the weekly Research Seminar in Term 1. Further reading material will be introduced as the year progresses.

Building Precedents & Case Studies

† AA SED (2018) Living. Published Papers 2017-18 [FS]
† AA SED (2017) Published Papers 2016-17. Published Papers 2017-18 [FS]
† BIg (2015). Hot to Cold - an odyssey of architectural adaptation. Taschen.


see also: AA E+E SED Building Studies Projects from previous years (in SED Studio, Office and on File Server).

see also: Architects Journal Building Library ajbuildingslibrary.co.uk

see also: Architectural Review, The Plan, Detail and other architectural periodicals

see also: PROBE (Post-occupancy Review of Buildings and their Engineering) case studies at: www.usablebuildings.co.uk/

City Microclimates, Design of Outdoor Spaces


Ng, E. (Ed. 2009). Designing High Density Cities. Earthscan.


Comfort, Post-Occupancy Evaluation, Behaviour Studies


see also Design Principles section
see also: PROBE (Post-occupancy Review of Buildings and their Engineering) case studies at: www.usablebuildings.co.uk/

Daylighting


see also The European Database of Daylight and Solar Radiation www.satellite-light.com/core.htm

Environmental Design Principles

† Baker, N.V. and K. Steemers (2019). *Healthy Homes*: Designing with Light and Air for Sustainability and
Wellbeing. RIBA Publications.


Gething, B. and K. Puckett (2012). Design for Climate Change. RIBA.


see also sections on: Passive Heating and Cooling; Ventilation; Daylighting; Solar Control.

see also multilingual glossary of terms: www.eesc.europa.eu/resources/docs/eesc-2011-01-en-fr-de-es.pdf

Environmental Assessment & Certification


† CIBSE (2017). Design Methodology for the Assessment of Overheating Risk in Homes. TM59 Chartered Institution of Building Services Engineers, London. [FS]


**Materials & Construction Techniques**


**Passive Heating & Cooling**


**PLEA Conference Proceedings**

PLEA 2018 Hong Kong; see online at: plea-arch.org

PLEA 2017 Edinburgh; see online at: https://plea2017.net/

PLEA 2016, Los Angeles, USA; see AA Library for proceedings.

PLEA 2015, Bologna, Italy see Book of Abstracts and online at plea2015

PLEA 2014, Ahmedabad, India see online at: plea2014.in/proceedings/

PLEA 2013, Munich, Germany see online at: plea-arch.org

PLEA 2012, Lima, Peru see online at: plea-arch.org

Conference, Louvain-la-Neuve. see also online at: plea-arch.org


see plea-arch.org for free access to PLEA Proceedings online
see AA Library for printed copies of PLEA Proceedings from 1982 to 2011.

Sustainability Theories & Issues

Ventilation

SED STUDENT PROJECT PUBLICATIONS 2012-20

SED and SOS groups at MCA Architects in Bologna, Italy June 2018

2020

2018


Singh, G. and J. Rodríguez-Álvarez (2018). Breaking the Glass Box for 24/7 IT Offices in Delhi NCR. Proc. PLEA 2018 Conference, Hong Kong.


2017

AA SED (2017) Published Papers 2016-17. See below for individual papers. [FS]


2016


Over a dozen papers were presented by AA SED at PLEA 2015 held September 2015 in Bologna, Italy (left: PLEA 2015 Parallel Sessions; right: Pavitra Sanath Kumar (AA SED MSc 2014) presenting her dissertation project on Jaalis in one of the sessions).

2015


2014


Projects in India. An exhibition of 12 AA SED Dissertation Projects curated by Simos Yannas and display at CEPT University Ahmedabad on the occasion of the PLEA 2014 Conference.


2013


2012


See also:


**Note** AA SED publications earlier than 2012 have not been catalogued.
INTERNET SOURCES

AJ Sustainability
http://www.architectsjournal.co.uk/designingbuildings/sustainability/index.html

Andrew Marsh Software
andrewmarsh.com

Biomimicry Database
http://database.portal.modwest.com/start.php

BUILD UP : European portal for energy efficiency in Buildings
http://www.buildup.eu/

BREEAM
www.BREEAM.com

British Library
http://www.bl.uk/

Building Green
www.buildinggreen.com

Building Research Establishment (BRE)
www.bre.co.uk

CIBSE
www.cibse.org

Construction Resources
Ecological building materials
www.constructionresources.com/

EDUCATE
www.educate-sustainability.eu/

EnergyPlus.net
Documentation

European Commission Research
http://ec.europa.eu/research/research-eu/

Eurostat European Statistics
http://europa.eu.int/comm/eurostat/

Florida Solar Energy Center
Building Case Studies and other information
www.fsec.ucf.edu/bldg/baihp/casestud/index.htm

Global Eco-Village Network
www.gaia.org/index.htm

Grasshopper for Rhino
http://www.grasshopper3d.com/

Green Building Council
www.ukgbc.org

Housing Energy Efficiency, UK
www.housingenergy.org.uk

IEA Energy in Buildings & Communities
www.iea-ebc.org

International Energy Agency Renewable Energy Projects
http://www. caddet-re.org/

International Institute for Sustainable Development
www.iisd1.iisd.ca

International Union of Architects
www.uia-architecture.org

Ladybug Tools
www.ladybug.tools

Lawrence Berkeley Laboratory
www.lbl.gov/

London Ecological Footprint
www.citylimitslondon.com

Macquarie University’s Adaptive Comfort Project
http://atmos.es.mq.edu.au/~rdedear/ashrae_rp884_home.html
MIT Design Advisor
http://designadvisor.mit.edu/design/

National Refurbishment Centre:
http://www.rethinkingrefurbishment.com

NCEUB Network for Comfort and Energy Use in Buildings
www.nceub.org.uk

Open University
www.open.ac.uk

Open Studio / Energy Plus
www.openstudio.net/

Passive and Hybrid Downdraught Cooling
www.phdc.eu

PLEA (Passive and Low Energy Architecture) Sustainable architecture and urban design
www.plea-arch.org

POWER HOUSE Part of EU-funded Intelligient Energy Europe Programme
www.powerhouseeurope.eu

Radiance
http://radsite.lbl.gov/radiance/

RETScreen Renewable Energy Project Analysis Software
http://retscreen.gc.ca

RIBA Royal Institute of British Architects (Student membership)
http://members.riba.org/student

Satel-light Database
http://www.satel-light.com/core.htm

Sciencedirect.com
to locate scientific journal papers

Solstice Online source for sustainable energy information
http://solstice.crest.org

Sustainable Development Gateway
http://sdgateway.net

UK Weather Information Site
http://www.weather.org.uk/index.htm

United Nations Environment & Climate Change Programme UNEP
http://www.unep.ch/iucc/

Usable Buildings (PROBE Studies)
http://www.usablebuildings.co.uk/

US Department of Energy National Renewable Energy Laboratory (NREL)
http://www.nrel.gov

World Architecture Community
http://www.worldarchitecture.org/main/

World Meteorological Organisation
http://www.wmo.ch

Weather Data (Met Office Integrated Data Archive System)
http://catalogue.ceda.ac.uk/uuid/220a65615218d5c9cc9e4785a3234bd0

Weather Underground
www.wunderground.com
Appendix 2  EXTERNAL LINKS

LOCAL & INTERNATIONAL CONTACTS

The programme has established contacts with fellow teachers, researchers and practising architects and engineers in many countries and has been involved in a variety of collaborative projects. The taught programme draws from this network of contacts. Colleagues who have recently contributed to the taught programme or collaborated in recent research or consultancy projects include:

Denise & Rab Bennetts  Bennetts Associates Architects, London, UK
Prof. Michael Bruse  Johannes Gutenberg-University, Mainz, Germany
Peter Chlapowski  PCKO Architects, London, UK
Prof. Oscar Corbella  Federal University of Rio de Janeiro, Brazil
Jason Cornish  Feilden Clegg Bradley Studio, London, UK
Mario Cucinella  MCA Architects, Bologna, Italy
Prof. Claude Demers & Prof. Andre Potvin  Universite Laval, Quebec, Canada
Prof. Andre De Herde, Matriciel, Belgium
Dr Arnaud Evrard, VERNAtec, Germany
Prof. Sergio Altomonte  Architecture et Climat, Catholic University of Louvain, Belgium
Bill Dunster  Bill Dunster Architects, London, UK
Prof. Brian Ford  Natural Cooling Ltd, UK
Prof. Bill Gething  University of West England, UK
Prof. Dean Hawkes  Welsh School of Architecture, UK
Richard Hawkes  Hawkes Architects, London, UK
Dr Alan Harries  Integration Consultancy
Catherine Harrington  Architype Architects, London, UK
Mina Hasman  SOM, London
Massimo Imparato  School of Sustainability, Bologna, Italy
Prof. Andreas Matzarakis  German Weather Service, Freiburg, Germany
Prof. Fergus Nicol  London Metropolitan University, UK
Ben Humphreys  Architype Architects, London, UK
Prof. Gary Hunt  University of Cambridge, UK
Prof. Kazuo Iwamura  Murashi Institute of Technology, Japan
Prof. Yuichiro Kodama  University of Kobe, Japan
Prof. Isaac Meir, Prof. Evyatar Erell, Prof. David Perlmutter  Centre for Desert Architecture and Urban Planning, Ben Gurion University of the Desert, Israel
Prof. Edward Ng  Chinese University Hong Kong
Manit & Sonali Rastogi  Morphogenesis, New Delhi, India
Prof. Emmanuel Rey  EPFL & Bauart, Switzerland
Prof. Harald Rostvik  Bergen School of Architecture, Norway
Prof. Alan Short  University of Cambridge, UK
Dr Derek Taylor  Altechnica & Open University, UK
RECENT SED ALUMNI WORKING IN LONDON

Rafael Alonso Candau  Founder & Director Atmos Lab
Alexandra Andone  PRP Architects
Joyce Chan  HOK Architects
Meital Ben Dayan  Architype Architects
Swati Bhargava  Proxemics Design Studio, London
Marina Breves Costa  Millier Interior Design, London
Herman Calleja  chapmanbdsp and AA SED, London
Eftychia Chatzistefanou  WSP Environmental
Bruno Chialastri  Heatherwick Studio
Florence Collo  Founder & Director, Atmos Lab
Joanna Conceicao  Chapman BDSP, London
Olivier Danbron  Founder & Director, Atmos Lab
Melpo Danou  Boon Brown Architects
Larissa De Rosso  Architects Council of Europe
Ana Dias  Mott MacDonald
Danah Dib  Foster & Partners
Kimmy El Dash  Max Fordham and Partners
Stathis Eleftheriadis  Price & Myer
Joy Anne Fleming Mowbray  Sedley Place Architects
Irene Gallou  Partner, Foster + Partners
Ronak Gawarwala  HOK Architects
Nader Gebran  Nader Gebran Studio
Anastasia Gravani  Wilkinson Eyre Architects
Pablo Gugel  Atelier Ten, London
Vidhi Gupta  PRP Architects, London
Javier Guzman Dominguez  MV-BIM Consultants
Rana Hammad  Pattern Design
Mina Hasman  SOM Architects London
Amy Holtz Mathys  Director, PLP Architecture, London
Kristin Hoogenboom  Foster + Partners, London
Shashank Jain  Chapman BDSP and Studio 4215, London
Annisa Julison  Anstey Horne Consultancy
Natalia Kafassis  Senior Associate Partner, PLP Architecture, London
Eleni Kaltsogianni  CFW Architects London
Mariam Kapsali  Architype Architects and AA SED
Georgia Katsaouni  SPPARC Architects, London
Ayelet Lanel  Austerlitz Architecture
Rhianon Lawrie  Gensler Architecture & Planning
Victor Lopez Rioboo-Gil  eb7 Consultancy, London
Maria Lumbreras  Atkins, Colchester
Byron Mardas  Foster + Partners and AA SED
Patricia Martin del Guayo  Shepheard Epstein Hunter
Ricardo Messano  Associate Partner, Foster + Partners, London
Jose Millan  Broadway Malyan
Mileni Pamfilii  Building Design Partnership BDP London
Pushkin Passey  Associate Chapman BDSP, London
Monika Passey  (nee Choudhary)  Senior Designer, Oktra, London
Pilar Perez del Real  Herriott Watt University
Kartikeya Rajput  Chapman BDSP
Rodrigo Rodrigues  Aedas Architects
Rudrajit Sabhaney  Associate Partner, Foster + Partners
Vera Sarioglu  Arup London
Amedeo Scofone  Hilson Moran, London
Sameena Singh  WATG, London
Milena Stojkovic  Associate Partner, Foster + Partners
Anjana Suresh  Urbanedge Architecture, Lincoln
Harsh Thapar  Associate, Foster + Partners
Olga Tsagkalidou  Pilbrow & Partners, London
Leonidas Tsichritzis  University of Kent
Laura Vasquez Bueso  AHMM Architects
Yiping Zhu  Make Architects, London.

Ana Dias (SED MSc 2016 and currently Sustainability Consultant at Mott MacDonald) presenting at the Future Practice seminar, 30 April 2019, reflecting on her experience after graduation.

SED ALUMNI ABROAD
Hiroki Abe  ABE Design Group, Portland, Oregon, USA
Kanika Agarwal Mahadevwala  Andblack Design Studio, Ahemedabad, India
May Al-Hinai  Atkins, Oman
Isha Anand  Senior Associate Morphogenesis, New Delhi, India
Elias Anka  KPF Architects, New York, USA
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angeliki Antoniou</td>
<td>ANCA Architecture, Thessaloniki, Greece</td>
</tr>
<tr>
<td>Laura Apezteguia</td>
<td>A+P Pamplona, Spain</td>
</tr>
<tr>
<td>Carole Aspeslagh</td>
<td>Aspeslagh &amp; Steyaert Architects, Brussels, Belgium</td>
</tr>
<tr>
<td>George Athanasopoulos</td>
<td>Own practice &amp; construction company, Athens, Greece</td>
</tr>
<tr>
<td>Rodolfo Pedro Augspach</td>
<td>SDLA Sustainable Design Lab Architecture Brussels, Belgium</td>
</tr>
<tr>
<td>Priji Balakrishnan</td>
<td>Singapore University of Technology &amp; Design</td>
</tr>
<tr>
<td>Nitin Bansal</td>
<td>Senior Associate, Morphogenesis, New Delhi, India</td>
</tr>
<tr>
<td>Zina Berrada</td>
<td>HCMA Architecture + Design, Vancouver, Canada</td>
</tr>
<tr>
<td>Shuraksha Bhatia</td>
<td>Midori Architects, Chennai, India</td>
</tr>
<tr>
<td>Tiffany Broyles</td>
<td>Arup, New York, USA</td>
</tr>
<tr>
<td>Aaron Budd</td>
<td>Studio BUDD, Toronto &amp; Paris</td>
</tr>
<tr>
<td>Georgina Campbell</td>
<td>MAAK, South Africa</td>
</tr>
<tr>
<td>Francisco Casablanca</td>
<td>Orsman Design, New York, USA</td>
</tr>
<tr>
<td>Irech Castrejon</td>
<td>Deimel Oelschager Architekten, Berlin, Germany</td>
</tr>
<tr>
<td>Yunho Chung</td>
<td>Archinomics, Seoul, South Korea</td>
</tr>
<tr>
<td>Joao Cotta</td>
<td>Oliveira Cotta Architects Campinas, Brazil</td>
</tr>
<tr>
<td>Juanito (Jet) de la Rosa</td>
<td>Makati Development Corporation, Philippines</td>
</tr>
<tr>
<td>Ece Durmaz</td>
<td>A Tasarim Mimarlik, Ankara</td>
</tr>
<tr>
<td>Pakinam Eid</td>
<td>Shair &amp; Partners, Dubai, UAE</td>
</tr>
<tr>
<td>Rania El-Zouki</td>
<td>American University, Beirut, Lebanon</td>
</tr>
<tr>
<td>Juan Manuel Fernandez</td>
<td>Architect, Bogota, Colombia</td>
</tr>
<tr>
<td>Robert Fryer</td>
<td>Philadelphia University, USA</td>
</tr>
<tr>
<td>Rohit Garg</td>
<td>Populous, New Delhi, India</td>
</tr>
<tr>
<td>Hina Gazi</td>
<td>Imar Urban Consultants, S. Arabia</td>
</tr>
<tr>
<td>Irene Giglio</td>
<td>MCA Architects, Bologna, Italy</td>
</tr>
<tr>
<td>Oindrila Gosh</td>
<td>Singapore University of Technology</td>
</tr>
<tr>
<td>Sara Cansin Gungör</td>
<td>Behnisch Architekten, Munich, Germany</td>
</tr>
<tr>
<td>Piya Gupta</td>
<td>Morphogenesis, Delhi, India</td>
</tr>
<tr>
<td>Shanuli Gupta</td>
<td>Cannon Design, Mumbai, India</td>
</tr>
<tr>
<td>Benito Gutierrez Blanco</td>
<td>ITESM Campus, Aguascalientes, Mexico</td>
</tr>
<tr>
<td>Alexandre Hepner</td>
<td>Studio ARKIZ, Sao Paulo, Brasil</td>
</tr>
<tr>
<td>Alfonso Hernandez</td>
<td>MEDIAM Architects, Houston, Texas</td>
</tr>
<tr>
<td>Blake Jackson</td>
<td>Stantec, Boston, USA</td>
</tr>
<tr>
<td>Atishay Jain</td>
<td>AJ Studios, Jaipur, India</td>
</tr>
<tr>
<td>Aarushi Juneja</td>
<td>Morphogenesis, New Delhi, India</td>
</tr>
<tr>
<td>Sooseok Kim</td>
<td>SKA Architects &amp; Sungkyunkwn University, South Korea</td>
</tr>
<tr>
<td>Dong Ku Kim</td>
<td>Hyundai, Seoul, South Korea</td>
</tr>
<tr>
<td>Mili Kyropoulou</td>
<td>HKS, Houston, Texas, USA</td>
</tr>
<tr>
<td>Bilge Kobas</td>
<td>Super Eight Collective, Istanbul, Turkey</td>
</tr>
<tr>
<td>Anneloes de Koff</td>
<td>Paul De Ruiter Architects, The Netherlands</td>
</tr>
<tr>
<td>Varun Kohli</td>
<td>HOK &amp; Merge Studio, New York</td>
</tr>
<tr>
<td>Aimilios Kourafas</td>
<td>Archutopia, Dubai, UAE</td>
</tr>
<tr>
<td>Ashwini Kovithila Thazhe Veedu</td>
<td>Space Matrix Design Consultancy, Bangalore, India</td>
</tr>
<tr>
<td>Pavitra Lakshmi</td>
<td>Morphogenesis, Mumbai, India</td>
</tr>
<tr>
<td>Amy Leedham</td>
<td>Atelier Ten, San Francisco, USA</td>
</tr>
<tr>
<td>Kalliope Limpou</td>
<td>Intrakat Construction Company, Thessaloniki, Greece</td>
</tr>
<tr>
<td>Zahraa Makke</td>
<td>Zstudio11 &amp; American University of Beirut</td>
</tr>
<tr>
<td>Eleni Malaktou</td>
<td>University of Cyprus, Cyprus</td>
</tr>
<tr>
<td>Anne Cherian Matthew</td>
<td>Consulting Engineering Office, Abu Dhabi, UAE</td>
</tr>
</tbody>
</table>
Jenna Mikus  Eudae Group, Washington DC, USA
Humberto Mora  Escalar, Bogota, Colombia
Pulane Mpotokwane  Arup, Johannesburg, S Africa
Swastika Mukherjee  Purple Leaf Co., Beijing, China
Maria Chiara Multari  Renzo Piano Workshop, Genoa, Italy
Gwenned Murray  re:4m design build, Barbursville, Virginia, USA
Megha Nanaiah  Vinyas Architects & EnviArch Studio, Bangalore, India
Farah Naz  Buro Happold, UAE
Tuan Anh Nguyen  RM Studio Beijing, China
Barak Pelman  Bezalel Academy of Arts & Design Jerusalem, Israel
Shravan Pradeep  Vinyas Architects & EnviArch Studio, Bangalore, India
Rawan Qobrosi  American University of Madaba, Amman, Jordan
Omar Rabie  Auroville Earth Institute, Auroville, India
Krista Raines  Stok, San Francisco, USA
Isha Rathee  Populous, Delhi, India
Matthew Richardson  BKSK Architects, NYC, USA
Gilda Riveros  Santamaría Arquitectura-Urbanismo, Bogotá, Colombia.
Jorge Rodriguez  University of Coruna and AA SED
J.-F. Roger France  Greenarch Architects, Brussels, Belgium
Ricardo Rosa  KRIPTON Architects, Lisbon, Portugal
Andrea Rossi  MCA Architects, Bologna, Italy
Tommaso Rosso  Asti Architetti, Milano, Italy
Izzati Mohamed Salim  Malaysian Resources Corporation Berhad Kuala Lumpur
Pavitra Sanathkumar  Pavitra Sanath Architects India & Mauritius
Danielle Severino  Welsh + Major Architects, Sydney, Australia
Shruti Shiva  Terra Viridis Consultancy, Hyderabad, India
Michael Smith Masis  Entre Nos Atelier, San Jose, Costa Rica
Tomas Swett  Browne & Swett, Santiago, Chile
Afsaneh Tafazzoli  MJM Architects, Toronto, Canada
Paria Tomprou  University of Thessaloniki, Greece
Trishta Vardhan  Environmental Design Solution, Mumbai, India
Elena Vilches Alvarez  ENMEDIO Studio, Seville, Spain
Marco Vitali  RM Architects, Beijing-Shanghai, China
Wan Fong Wu  ZGF Architects, Seattle, USA
Boyoon Zang  Korea Institute of Construction Technology, Seoul, Korea
SED MSc and MArch graduates and relatives on Graduation Day, 22 June 2018
Appendix 3  LIST OF SED DISSERTATION PROJECTS

This Appendix lists the topics of all MA, MSc and MArch Dissertation Projects completed successfully since the Environment & Energy Studies Programme was validated for Masters Degrees in 1994-95. MA Dissertations in Environment & Energy Studies (AA EE) are from the ten year period 1995-2005. The MSc and MArch Dissertations in Sustainable Environmental Design (AA SED) start from 2006. These are listed separately for MSc and MArch following a reverse chronological order, starting from the more recent output. The listing includes the 14th cycle of AA SED that started in October 2018 and is due to be completed in September 2019 for the MSc and January 2020 for the MArch. Printed copies of all AA EE and AA SED Dissertations are kept in the SED Office. The AA Library stores a small selection. A larger selection is available in pdf format on the School’s Jupiter File Server. MPhil and PhD Dissertations related to the programme’s areas of research are listed at the end of this Appendix.

SED 14th Cycle 2018-20

MArch Dissertations due January 2020

Ananya Bhattachrya
Work Environments in Composite Climates, New Delhi

Drishti Chatrath
Pedestrian Comfort in Tropical Marketplace, Chandigarh

Rakshith Chhatrala
Hindu Monastery, Jodhpur

Shibani Choudhury
A New Vernacular for the Traditional Alis in Pune

Allen Lai
Passive Cooling for High Density Housing in Hong Kong

Varsha Kakuturu
Urban Housing in Chennai

Vishesh Khurana
Outdoor to Indoor: an athletic village

Sakshay Malik
Library in the Shade, Ahmedabad

Radhika Raj
Convention Centre in New Delhi

Pablo Ruiz Buenrostro
Social Housing for Mexico City

Yong Yu
High-rise Residential Buildings in Wuhan

MSc Dissertations due September 2019

Valeria Chairopoulou
Small Leisure Structures
Manasi Chaudhari
Low Cost Chawl Housing in Mumbai

Lance Monfort
Designing for the Tropics: Shading and ventilation optimised

Rana Munir
Affordable Housing in Karachi

Kimberly Tan-Afuan
Contemporary Shophouses in Manila

Yingying Wen
Refurbishment of Owner-Occupier Housing in Shenzhen

SED 13th Cycle 2017-19

MArch Dissertations completed January 2019

Tony Lahoud
Shelter-Student Housing in Hooke Park

Khayati Mitra
Energy Efficient Educational Buildings in Arid Desert Climate

Maria Osoy Escobar (Commendation for Dissertation)
Design of Educational Buildings in a Tropical Climate

Begüm Peker
Passive Design for a Vineyard House in Atlas Village, Turkey

Melissa Romo Serrano (Distinction)
Live-Work Community at Presa Madin, Mexico City

Xiaonan Zhang (to Resubmit 2020)
Skygardens for High-Rise Residential Buildings in Shenzhen

MSc Dissertations completed September 2018

Bálint Bakos (Distinction)
Low-Income Housing for Lagos, Nigeria

Eftychia Chatzistefanou
Atria in Office Buildings in London-optimising daylight performance

Mana Fana
The Role of Transitional Spaces in Residential Buildings in London

Sawant Goswami
Design Guidelines for Residential Buildings in Bhopal

Rupashi Govindarajulu
Design Guidelines for Residential Buildings in Chennai, India

Nur Kayali
Refurbishment of Residential Buildings in Istanbul, Turkey
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deepak Maurya</td>
<td>Climate Responsive Office Buildings for Composite Climate</td>
</tr>
<tr>
<td>Ioannis Politis</td>
<td>(Distinction) Adaptive Facades for Multi-Residential Buildings in Athens, Greece</td>
</tr>
<tr>
<td>Ka Po Yung</td>
<td>Urban Streetscapes of London</td>
</tr>
<tr>
<td>Maria Luisa Arze</td>
<td>Diversification of the Chilean Mediagua Emergency House</td>
</tr>
<tr>
<td>Mohannad Abu Suhaiban</td>
<td>Microclimate Devices for Outdoor Spaces in London</td>
</tr>
<tr>
<td>Swati Bhargava</td>
<td>(Distinction) Courtyards and Jaalis as Environmental Strategies in Workspaces</td>
</tr>
<tr>
<td>Kanishk Bhatt</td>
<td>Office Design in Ahmedabad, India</td>
</tr>
<tr>
<td>Georgina Di Gironimo</td>
<td>Adaptive Living Environments in Buenos Aires</td>
</tr>
<tr>
<td>Tingting Gao</td>
<td>Microclimate Sensitive Design along the Thames</td>
</tr>
<tr>
<td>Daniel Ibarra Flores</td>
<td>(Distinction) Design for Multiple-Use Buildings in Mexico</td>
</tr>
<tr>
<td>Karthica Kalyanasundaram</td>
<td>Passive Design strategies for housing clusters in the Tropic</td>
</tr>
<tr>
<td>Anupa Ria Kurian</td>
<td>Artifice with Ambience- Eco Resort for Kerala</td>
</tr>
<tr>
<td>Pavithra Lakshmi</td>
<td>The House that Follows its Occupants from Chennai to Delhi</td>
</tr>
<tr>
<td>Naitikkumar Patel</td>
<td>Passive Design for High-Rise Residential Buildings in Dubai</td>
</tr>
<tr>
<td>Anjana Suresh</td>
<td>Redesign of Gandhi Street Market, Trichy</td>
</tr>
<tr>
<td>Poonam Sachdev Kaur</td>
<td>Redesigning the Bazaar in Mumbai</td>
</tr>
<tr>
<td>Gunveer Singh</td>
<td>24/7 IT Office in Delhi NCR</td>
</tr>
<tr>
<td>Deep Kiran Gala</td>
<td>Designing Vertical Financial Village in Mumbai.</td>
</tr>
</tbody>
</table>
MSc Dissertations completed September 2017

Nader Gebran
Improving Walkability in Beirut, Lebanon’s hot climate

Athanasia Georgiadou
Recreational Hallways in Secondary Schools in Athens

Sara Cansin Gungör (Distinction)
Design Guidelines for New High Rise Residential Buildings

Rana Hammad
Overheating in London Housing

Borja Juncos Redondo
Solar Control & Daylighting Problems in Office Buildings

Anneloes de Koff (Distinction)
Converting Vacant Churches into Housing in the Netherlands

Maria Chiara Multari (Distinction)
Office Building Design in London

Artem Oslamovskyi (Distinction)
Settlement Proposal for the Displaced in East Ukraine Conflict

Matthew Richardson
Building Up Housing: Vertical Interventions with CLT

Doaa Salem
Daylighting in Markets

Anna Zachariadou
Conversion of Industrial Buildings to Office Buildings

SED 11th Cycle 2015-17

MArch Dissertations completed January 2017

Rafael Alonso (Distinction)
Whole-Life Carbon in Office Building Design in London

Ma Kristina Alvarez
Back to Basics: The Design of an Eco-Resort in the Philippines

Elias Anka
Preserving Cultural Heritage: Environmental Retrofit of the Beiruti Rose House

Timothy De Los Santos
Design of Sports Centre in Metro Manila

Angela Dub
Redefining Urban Living. Strategic Design for the urban block of Buenos Aires

Paolo Flores
Design of an Educational Complex in Metro Manila
Romaissa Hadji  (Distinction)
Intermediate Spaces and its Environmental Impact on Office Towers in Dubai

Varunya Jarunyaroj  (Distinction)
Rethinking HDB Flat. Applicable Design of Public Housing in Singapore

Zahraa Makke  (Distinction)
Design of Village for Children of War in South of Lebanon: an orphanage and a school

John Salama
Occupying Residual Spaces Under Bridges. Adaptive Multi-Use Art Hub

Shruti Shiva
Learning from the Chawl: design of low-cost social housing in Mumbai

Wan Fong Wu
Urban Synergy: Adaptive Infill Living London – Central London Prototype

MSc Dissertations completed September 2016

Angeliki Antoniou  (Distinction)
Redefining the Balcony on Residential Buildings in Thessaloniki, Greece

Zina Berrada
Design Guidelines for Villages in the Warm and Semi-Arid Regions of Morocco

Drin Chulakasyena  (Distinction)
Design Guidelines for High Rise Housing in Bangkok

Florence Collo
Solar Urbanism and Building Design in Buenos Aires, Argentina

Ipsita Dash
Low-Cost Housing in Coastal Odisha, India

Olivier Dambron
Potential of Bamboo Construction, Bali, Indonesia

Ana Dias
Design Guidelines for High-Rise Office Buildings in Rio de Janeiro, Brasil

Ece Durmaz  (Distinction)
Daylight and Thermal Performance of Office Buildings in Ankara, Turkey

Pakinam Eid
Passive Design for Office Buildings in the Middle East

Aksor Gurunlian
Passive Building Envelopes for Buildings in Lebanon

Müge Inan
Adaptation of Historical Buildings into Working Environments in Istanbul

Anusha Nanavati
Design Guidelines for Schools in Tropical Climates, Mumbai

Xiaxi Qiu
Case Studies of Residential Buildings in Warm-Humid Climate, Singapore
Thajnu Rashid
Retrofitting of Office Buildings in London

Eashita Saxena
Passive Strategies for Office Buildings in London

Maya Sharif
Reconstructing Camps in Beirut, Lebanon

Malgorzata Anna Tomczuk
Exhibition Pavilions in London

Trishta B Vardhan
Window Design Strategies for Work Environments in Mumbai, India

Elena Vilches
Learning from the Traditional Architectural Features of Cadiz, Spain

Chunni Zhou
Moisture Control for Housing in Lingnan Region, Guangzhou, China

SED 10th Cycle 2014-16

MArch Dissertations completed February 2016

Antonio Almeida
Integration of Industrial Remains at Sea Side Village of Trafaria, Portugal

Sandheep Ellangovan
Performative Stand for Outdoor Urban Markets

Oindrila Ghosh (Commended for Dissertation)
Revitalising the Informal City in Kolkata, India

Irene Giglio
Retrofitting Project for the Corviale, Rome, Italy

Nimya Mariam
High-Density Urban Living in Warm-Humid Climates, Cochin, India

Wasinee Prasongsumrit (Commended for Dissertation)
Shop-house Prototypes, Bangkok, Thailand

Cindrella Semaan
Integrating Vernacular Strategies into Contemporary Designs in Lebanon

Monica Toledo
Shopping Outdoor Spaces, Santiago, Chile

Julia Torrubia Aznárez
Perceived Environments in Offices, Madrid, Spain

Ameer Mustafa Varzgani
Ephemeral Art Pavilion, London, UK

Jiaji Yang (Commended for Dissertation)
Urban Village Design for Communal Living, Guangzhou, China

Daniel Zepeda
Free-Running Office Building, Guadalajara, Mexico
MSc Dissertations completed September 2015

Irech Castrejon
Design Strategies for Sustainable New Housing Projects In The Toluca Valley

Jet De La Rosa (Commended for Dissertation)
Comfort In The City: The Potential of Cooling Outdoor Urban Spaces in Metro Manila

Mª Francisca Echeverri
Environmental Potential of Flat Roofs in The Urban Context of Bogotá. Refurbishing The Informal City.

Sheila Esteve Ganau
New Urban Strategies for the City of Valencia: A Bioclimatic Rethink for the Historical City

Lu Jing
The Design of Glazed Balcony for Residential Buildings in Zhengzhou, China

Aarushi Juneja
Potential of Courtyards in Educational Buildings of New Delhi: Exploring Outdoor Learning Spaces for Primary School Students

Michelle Kuei
Shading the Outdoor Markets for Taipei City

Jennifer Liao
Balconies as Outdoor Living Spaces in High-Rise Buildings in Sao Paulo.

Aly Mahmoud
Strategies for Affordable Housing in Cairo

Chad Mckee (Commended for Dissertation)
Adaptive Bay Window Design Strategies for High-Rise Residential Buildings in Hong Kong

Mariana Moniz
Guidelines Towards Retrofitting an 18th Century “Solar” into a Rural Hotel in the North of Portugal

Mattis Mussault
The potential use of natural ventilation in office buildings in Tokyo

Arturo Reyes
Narrow stepped canyons in Mexico City. Improving outdoor comfort and water cycles.

Maria Teresa Sanchez
Lessons from Domestic Vernacular Buildings

Victoria Soto Magan
Daylighting Design for Non-Visual Effects in Research Environments

Augusta Stanitsa (Distinction)
Environmental Retrofit of the Unexploited Roofscape of Athens

Olga Tsagkalidou (Distinction)
Environmental Retrofit of the Unexploited Roofscape of Thessaloniki

Tolga Uzunhasanoglu
Environmentally Responsive and Inhabitant Centered State Secondary Schools in Istanbul, Turkey
April Wang
A Porosity Paradigm: Reconfiguration of Shophouse Morphology in Kaohsiung City.

SED 9th Cycle 2013-15

MArch Dissertations completed February 2015

Han Chen (Distinction)
Design for High Density Residential Community

Adriana Comi
Social Housing in Mexico City

Kimmy El-Dash
Designing Out Fuel Poverty

Mahmoud Ezzeldin
The Future of Library Design

Francisco Godoy (Commended for Dissertation)
Eco Tourism in Chile

Anahi González
Primary Educational Spaces

Madhulika Kumar
School for Dance and Music

Ayelet Lanel
Educational Spaces - Learning from Nature

Rhiannon Laurie (Commended for Dissertation)
Future Library and Co-working Design

Gabriela Nuñez-Melgar
Temporary Shelter for the Homeless

Artem Polomannyy
Resilient Commercial Environments

Hyosik Pyo
Design of Tall Residential Building in Daegu, S Korea

Jorge Ramirez
Local Identity for Rural Social Housing

Andrea Rossi
School & Community Centre in Lampedusa Island

Praew Sirichanchuen (Commended for Dissertation)
“Co-Production” of Low-Income Community in Bangkok

Ganesh Sivakumar
Affordable Housing Design

Pierluigi Turco
Migrant Centre in Lampedusa Island
Mariyam Zakiah
Self-Build Houses in the Mountains

**MSc Dissertations completed September 2014**

**Georgina Campbell** (Commended for Dissertation)
Reconstructing Township Primary Schools

**Larissa C De Rosso**
Outdoor Comfort in Small Open Spaces in São Paulo

**Neusa Fernandes**
Refurbishment of Porto’s Historic Centre

**Maria Lumbreras** (Commended for Dissertation)
Re-activating the Building Skin

**Jose Millan**
Retrofitting the Village of Orcera in Andalucia

**Patricia Nogueira**
A Different Scenario for Residential Buildings in Brazil

**Pavitra Sanath Kumar**
Traditional Perforated Screens of India

**Leonidas Tsichritzis** (Distinction)
Residential Refurbishment

**SED 8**

**MArch Completed February 2014**

**Adriana Briseno Campos** (Commendation for Dissertation)
Design of Primary Schools in San Luis Potosi, Mexico, A School for the Community

**Camila Della Bitta**
Rethinking the MarketDriven Urban Block, Capital Federal, Argentina

**Alessandra Ghione**
Architecture to take away- design of a minimal, flexible, movable tourist accommodation

**Shanuli Gupta**
Design of office buildings in warm and humid climates of Mumbai

**Javier Guzman**
Slow Urbanism - Developing the abandoned urban infrastructure in Seville, Spain

**Sooseok Kim**
Sustainable Built Form High Density Urban Areas of Seoul, Korea

**Juan Montoliu** (Distinction)
Crisis Architecture, Colonizing Existing Concrete Structures

**Mileni Pamfili** (Commendation for Dissertation)
Re-defining Urban Living in Central Athens

**Sanyukta Pande**
Corporate Work Environments, New Delhi, India
Shravan Pradeep  
Design Strategies for 24 hour Work Environments in Bangalore

Kartikeya Rajput  
Rethinking Tradition, Passive housing in the Desert

Chandhana Ramesh  
Environmental Principles of Vastu Shastra for the Design of a residential community

Harshini Sampath Kumar  
Respite Architecture, an alternative to sustain fishermen's livelihood

Amedeo Scofone  
Reshaping Cities After Natural Disasters

Danielle Severino  
Layering Microclimates, Atacama Desert, Chile

Polina Vorobyeva  
Adaptive Building Skin for a High-rise Office Building in Temperate Climate of Moscow

Yiping Zhu (Commendation for Dissertation)  
Extending Spaces and Fading Borders, Primary School Design in Xiamen, China

MSc September 2013

May Al-Hinai  
Contemporary Passive Buildings, Lessons from the Traditional Typologies in Muscat

Sarah Arboleda  
Use of local materials for low cost Housing in Bogota

Marina Breves Costa  
Design guidelines for Informal Urban Communities in Rio de Janeiro

Anne Cherian Matthew  
In Transition, Third working spaces as means to improve comfort in office buildings in UAE

Rupalim Choudhury  
Enclosure Design for animals in captivity

Juan Fernandez  
Rethinking the Work Environment in Bogotá

Dominga Garufi  
Refurbishment of low-income housing in Palermo, Italy

Wei Gong  
The Low Energy Use Office Building in Beijing

Anastasia Gravani (Commendation for Dissertation)  
Refurbishing the City Centre : a.Urban Canyons

Piya Gupta  
Climate Responsive Architecture for Urban Residence in New Delhi

Eleni Kaltsoianni (Commendation for Dissertation)  
Refurbishing the City Centre : c. Arcades
Eleana Malaktou  
Environmental refurbishment of the vernacular residential buildings in Cyprus

Byron Mardas (Commendation for Dissertation)  
Refurbishing the City Centre: b.Urban Block

Swastika Mukherjee  
The Veranda Office Mumbai, India

Megha Nanaiah (Distinction)  
Lessons from the Masters, A Study for Tertiary Educational Buildings in India

Jonathan Natanian (Distinction)  
Climatic adaptation of the office building typology in the Mediterranean

Rawan Qubrosi (Commendation for Dissertation)  
Keeping the Nomad, Adaptive Bedouin House in Wadi Rum

Isha Rathee  
Renaissance: Rural Housing Development in the Desert state of Rajasthan, India

Swarnima Ray  
Outdoor Thermal Comfort in Warm and Humid Climate, Study of Urban Parks in Kolkata

Tommaso Rosso  
Balcony Renovation: A chance to Rethink a Space

Rashmei Sangtani  
Transitional spaces in Residences in the Composite Climate of Nagpur

Vera Sarioglu  
Improving the Environmental performance of traditional Ottoman houses in Istanbul, Turkey

Juan Vallejo  
Environmental responsive conversion of heritage buildings in southern Spain

Zhenzhou Weng  
Development of a Framework of Rapid and Compact Design-Oriented Thermal Analysis

Boyoon Zang  
A Study for the Reduction of Heating and Cooling Load in Seoul, Korea

SED 7 2011-13

MArch February 2013

Alexandra Andone
Density & Urban Form. Integrated environmental refurbishment of the peripheral superblocks in Bucharest

Pedro Augspach
Environmentally Responsive Architecture in the Urban Tissue of Buenos Aires

Jose Luis Barros
Self-Build Social Housing in Esmeraldas, Northern Equador

Valli Chidambaran
Passive cooling strategies for high rise office buildings in the warm and humid climate of Chennai
Danah Dib (Distinction)
Residential Development in Kuwait City

Ronak Gawarwala
Reinterpreting Courtyard Architecture as an Environmental Strategy for Tall Building Design in UAE

Benito Gutierrez
Environmental Strategies for Low-cost Communities in Hot-dry Regions of Mexico

Ignacio Medina
Beyond Energy Efficiency: Passive Strategies for Environmental Refurbishment in Madrid

TA Nguyen
Adaptive Housing in Climate Change: A Paradigm for Ho Chi Minh, Vietnam

Saachi Padubidri
Bazaars of Mumbai - outdoor thermal comfort in a hot-humid climate

Pilar Perez Del Real
Environmental strategies and comfort studies for a Research Center in Seville

Izzati Mohamad Salim
Designing Working Environments with Natural Ventilation in Warm and Humid climates: with reference to the case study of Kuala Lumpur

Tomas Swett (Distinction)
Office Building in Santiago, Chile. Rethinking the Office Building Typology for future scenarios.

Ajaree Tedkajorn
Cooling Strategies for Self-sufficient Social Housing in Bangkok

Filippo Weber
Contemporary passive shelters: A multi-functional development in Tuscany

MSc September 2012

Chandini Agarwal
Study of Urban Voids: Thermal Comfort in Outdoor Spaces in Composite Climate of Delhi

Laura Apezteguia
Refurbishing Navarra's Abandoned Stone Farmhouses

Meital Ben Dayan (Distinction)
Environmentally responsive primary school buildings in the UK

Mariana Lebrao Cassins
Passive Cooling for seaside hotel Buildings

Payal Chaudhary (Commendation for Dissertation)
Solar Control Strategies for Schools in Tropical warm and humid climates.

Jayce Chen
Moving towards User-Oriented Intelligent Systems: a study to balance user comfort and system efficiency in work environments

Joao Cotta (Distinction)
Impact of Window Design on Environmental Performance of work environments in S Paulo
Nikhil Deotarase
Cooling strategies and environmental quality for office buildings in Pune, India

Rania El Zouki
Environmental performance of the central hall house-Lebanon-guidelines for reducing energy consumption in contemporary housing

Patricia Gallardo
Back to basics: upgrading environmental quality of the existing residential stock in San Juan de Los Lagos, Mexico

Katia Iliopoulou
Environmental Design Strategies for Primary School Building Typologies in Athens

Atishay Jain
Improving living conditions for rural/low income communities: Self build with earth in NW India

Ashwini KTV
Visual Comfort in Work Environments- Daylight Design, Visual Transitions and Adaptive Opportunities for IT Offices in Bangalore

Mariam Kapsali  (Distinction)
Refurbishing the Urban Blocks in Central Athens

Aimilios Kourafas
Environmental Design Strategies for Urban Seaside Hotels in Southern Greece

Bilge Kobas
Smart With/out a Brain: A user-based sustainable take on intelligent skin components

Shaker Majali
Solar Gain and Thermal Mass: Passive strategies to achieve comfortable indoor environments in apartment buildings in Amman, Jordan.

Luciana Mathew
Enhancing the Thermal Performance of School Environments in Kuwait

Marcelo Mello
Refurbishing the Urban Fabric of Sao Paulo City centre

Humberto Mora
Guidelines for the Contemporary Use of Traditional Techniques in Colombia

Sandra Morikawa
Refurbishment of Underused Buildings in Central Sao Paulo

Pulane Mpotokwane
Pedestrianizing Gaborone, Botswana

Christina Poulmenti
Solar Control Design for Multi-storey Residential Buildings in Athens

Omar Rabie
Cool Screen: Experimental Perforated Masonry for Hot Climates

Isabel Silvestre
Environmental Refurbishment of Industrial Buildings/Warehouses in Lisbon
Laura Vasquez
Facade Design for Environmental Quality in Office Buildings: with reference to the warm climate of Tegucigalpa, Honduras

SED 6
MArch February 2012

Priji Balakrishnan (Distinction)
Cool Spots in Hot Climates: A means to achieve pedestrian comfort in Sharjah, UAE

Dana Bryan
Passive Aggression Low energy cooling in Los Angeles, USA

Ece Cakir
Adaptive School Environments: Elementary school design through investigation of vernacular architecture in Mardin, Turkey

Herman Calleja (Distinction)
Cool Workspaces: Passive Cooling Strategies for a Digital Creative Industry Hub in Malta

Ana Terra Capobianco
Recycling Superstructures in Sao Paulo

Alda Coelho
Reshaping the suburbs of Maputo, Mozambique

Xavier Cordero.
The New American Model: Sustainably Densifying the Sprawling Suburban.

Noah Czech.
Sustainable City Blocks: Urban Microclimate, Building Envelope and Program

Rohit Garg.
Passive Cooling Strategies for Residences in the Composite Climate of New Delhi: Applications in a Multiple Generation Family Residence.

Lourdes Gaspart.
Alpine Rooftop Additions: Retrofit of multi-storey dwellings in the Swiss Alps.

Branden Harrell.
Community Housing, Soweto: Creating a Sustainable Township; 17 years Post Apartheid

Mina Hasman (Commendation)
Vernacular Ecology: Passive Strategies for Housing in Southeastern Turkey.

Preeti Mogali (Commendation)
Optimising Building Form and Wind Towers in Dubai: Reducing energy consumption in contemporary university architecture.

Guilherme Rampazzo.
Achieving Environmental Comfort in Detached Housing in the Sao Paulo region, Brazil

Therezia Sloet Tot Everlo. EU Cultural Center in Rio de Janeiro: Employing the use of transitional spaces to achieve thermal comfort.
**MSc September 2011**

**Santiago Cala**
Biomimicry: Research and application of biological strategies in the heating of buildings.

**Marianna Charitonidou**
Sustainable Housing Design in Mykonos: Vernacular vs Contemporary.

**Ruggero Bruno Chialastri**
Passive Cooling and Heating Strategies for Affordable Housing in Rome

**Francesco Emanuele Contaldo**
Smart Refurbishment in the Mediterranean Context.

**Efstathios Eleftheriadis**
Biology and Architecture: A new contract for sustainable solutions in the tropics

**Danaí Frantzí-Gounari.**
Environmental Refurbishment: Upgrading the residential stock of Athens.

**Alexandre Hepner** (Commendation for Dissertation)
The Amazon Research Network: Sustainable Architecture for the Tropical Rainforest.

**Rita John.**
The Future of the Mall Culture in India.

**Georgia Katsaouni.**
Updating Vernacular: Design guidelines for vernacular settlements and buildings in Cyclades, Greece

**Keunjoo Lee** (Distinction)
Transitional Spaces for residential tall buildings in Seoul, Korea

**Patricia Linares** (Commendation for Dissertation)
Creative Refurbishment of Historic Housing in Santiago de Compostela.

**Jennifer Mikus**
Empowering occupants to redefine comfort in the American home – Raising awareness through education and technology to influence occupant behaviour and demand less energy.

**Shreya Nath**
The Passive 24 Hour Office Building in Bangalore, India

**Andrea Ortiz**
The use of brick in Housing - Design guidelines for three different climates in Colombia.

**Joram Orvieto**
Changeable and Adaptive Portable Architecture

**Prachi Parekh**
Responsive facade for the warm and humid climate of Mumbai.

**Miryam Rizkallah**
Environmental Performance of the Traditional Lebanese Windows.

**Bjorn T. Rosaeg**
London at High Level: Environmentally Sustainable Urban Renewal and Expansion Possibilities.

**Philippe Saleh**
Cool Balconies: Investigating the thermal properties of balconies in Lebanon
Peggy Shih
Modern Sacred Environments

Yukari Takagi
Passive Ventilation and Humidity Control for Existing High Rise Apartment Buildings in Tokyo, Japan.

Anna Tziastoudi
Working Environments: Environmental design and organisational principles for office buildings in London.

Alkaterini Vagianou.
Passive Building Envelope in Multi-storey residential buildings in Athens.

Joao Vieira.
Concrete in Architecture: Thermal inertia as a passive cooling strategy in working environments in Rio de Janeiro.

Helene-Sophie Vlachos (Commendation for Dissertation)
Leftovers – Exploring the environmental potential of roofs and urban voids in Athens.

Juliane Wolf (Commendation for Dissertation)
Phase-Change-Materials: An Exploration of the environmental and architectural potential.

Grega Zrim.
Double Skin Facades for Ljubljana climate: Applicability Studies.

SED 5 2009-11

MArch February 2011

Suraksha Bhatla.
Tall Communities: Passive Urban Housing for the Tropics

Ruth Dominguez

Miguel Cardona Firpi.
Re-Thinking the Creda Agenda in Barcelona: Designing adaptive urban living environments in a courtyard block.

Celina Escobar.
Reinterpretation of Residential Courtyard Typology in Seville: Density studies and Environmental Strategies.

Pablo Gugel.
Pushing the Climate Boundaries for Urban Earth-Sheltered Housing in Spain

Constanza Jorquera.
Achieving thermal comfort with passive means in a detached house central-southern Chile.

Pamela Kravetsky.

Amy Leedham (Distinction)
Re-humanizing the Hospital: Sustainable Innovations for Healthcare Architecture.
Didar Ozcelik
Underground Indoor Rock Climbing Center, Alacati, Turkey

Jeewon Paek (Commendation for Dissertation)
Environmental Performance of Adaptive Building Envelope Design: Urban housing in Seoul, Korea

Francisco Ramirez (Commendation for Dissertation)
Modular Low Carbon “Strawcrete”: Self-Built Application for a Rural Community in South Central Chile.

Rodrigo Rodrigues
Dynamic Roof Structures for Retail Use: A prototype for low energy design in a temperate climate.

Fanor Serrano
Massive Timber Construction: An energy efficient urban infill in London.

Orapim Tantipat
Multi-storey housing in the tropical city, Bangkok

MSc September 2010

Hiro Abe.
Learning from the Traditional Japanese House: Applying traditional techniques to contemporary houses in Tokyo.

Carole Aspeslagh (Distinction)

Evgenia Budanova
Refurbishment of industrial building into low energy residences in Moscow.

Aaron Budd (Commendation for Dissertation)
Environmental Diversity in Facade Design in the urban context of Toronto.

Francisco Casablanca
Environmental Assessment of housing in Puerto Rico: The Evolution of a transplanted housing typology in an island of warm and humid climate.

Joanna Conceicao.
Environmental Retrofits for Residential Buildings in Sao Paulo

Cristina Crespo.
Urban Microclimates of the old San Juan.

Melpo Danou.
Transformations at the Street Level of Athens.

Gabriela Tristao Ferreira.
Retrofitting of the traditional architecture of Terceira island in the Azores

Anna Gkouma.
The Balcony in the Greek Urban Context.

Alfonso E. Hernandez.

Kristin Hoogenboom (Distinction)
Adaptively Reusing London’s Existing Industrial Fabric – Derelict to Domestic
Shao-Fan (Eric) Hsu
Sustainable Design Guidelines for Multi-Storey Apartments in Taipei.

Shashank Jain (Commendation for Dissertation)
Passive cooling through Ground Coupling: Application of Earth Air Heat Exchangers in Delhi.

Mili Kyropoulou.

Masoudeh Nooraei.
Design Guidelines for Low Energy Multi-Storey Housing in Tehran, Iran.

Joram Orvieto
Mobile and foldable house in Italy

Niken Palupi

Silvia Piccione
Energy Retrofitting of Social Housing Stock in Northern Italy.

Sameena Rajendra
Cooling Without Air Conditioning, Hot Dry Climate, Kuwait.

Gemala Rinaldi.
New Guidelines for Town house in Jakarta, Indonesia

Liliana Rodriguez.
Modifying the Urban Microclimate in Outdoor spaces to provide thermal comfort in Monterrey, Mexico

Roshanek Sajadian.
Guidelines for Low Energy Housing in Northern Tehran

Rohin Sher.
Sustenance Through shared Comfort – Learning From Quantifying Passive Cooling Strategies In Hot Dry Ahmedabad.

Roi Tzimika (Commendation for Dissertation)
Exploring the thermal balance of single family detached houses in Northern Greece.

Marco Vitali (Commendation for Dissertation)
Potential and Applicability of Mixing Concrete with Straw

Ruofan Yao.
Passive design of detached house in the Yangtze Delta Region.

SED 4 2008-10

MArch 2010

Isha Anand.
Contemporizing Religious Architecture.

Chanasit Cholasuek (Commendation for Dissertation)
Sustainable Low Income Community in Bangkok.

Jose Antonio Espinoza de Tudela.
Post Disaster Housing for Chile
Olga Maria Conto Sterling.  
Learning Environments in Informal Settlements, Colombia.

Anuja Pandit.  
Contemporary Indian Housing, Pune, India – Making use of transition spaces as social and climatic mediator.

Katerina Pantazi (Commendation for Dissertation)  
Urban Metaphors: Exploring the Urban Roofscape of Athens.

Gilda Riveros.  
Urban Social Housing in Colombia.

Konstantina Saranti  
Architectural Microclimatic Interventions in a Square, Patras Greece.

Milena Stojkovic  
Dynamic Office Building Façade in Temperate Climate.

Alexandra Theodorou.  
Accommodating Change: Housing in London

MSc 2009

Georgios Athanasopoulos.  
The Environment of Wineries.

Nitin Bansal  (Commendation for Dissertation)  
“Corbu” in the Tropics.

Floriana Calise.  
The Boulder Houses on the Island of Ischia: An environmental evaluation.

Ellen Cameron.  
Direct Coupling: The potential of openness for energy savings.

Monika Choudhary.  
The Potential of Earth Architecture as Low Energy Design.

Yun Ho Chung.  
Thermal Performance of Typical Classrooms in South Korea.

Maria Dry.  
Evaluating the retrofitting of an old barrack into a library: the case study of the public library in Corfu.

Hina Gazi.  
Emerging Learning Environments, UK

Polytimi Ilia.  

Snigdha Jain  (Commendation for Dissertation)  
Impact of the built form and vegetation on the micro climate in residential sector in Delhi.

Annisa Julison:  
Let the (Indirect) Sun Shine In: Daylight Retrofitting in the Courtauld’s Gallery Central Room.

Natalia Kafassis  (Commendation for Dissertation)  
Exploiting Adaptation and Transitions: Learning from environments beyond the boundaries of comfort.
Sharat Kaicker.
Low Energy, High Intelligence Shopping Experience in North India.

Kalliopi Limpou.
Designing Outdoors: Ephemeral & Adaptive Book Shelters in Thessaloniki, Greece.

Victor Lopez-Rioboo Gil.
Reuse of Traditional Rural Housing in Abandoned Villages in Galicia, Spain.

Viktoria Lytra.
Environmental Design and Morphogenesis.

Ricardo Messano.
Environmental Retrofitting of Office Buildings in Sao Paulo.

Alberto Moletto.
Courtyard Housing Typology in a Dense Urban Area.

Elli Papacosta.
Adaptation and Reuse of the Existing Fabric: Converting Warehouses in London.

Pushkin Passey.
Daylighting in Adjacent Spaces of Atrium Buildings.

Barak Pelman.
PER-FORM-AION: Building Form and Thermal Performance on the Israeli Coastal Plain.

Rudrajit Sabhaney (Distinction)
Bioemulation: Investigation and Application of a Biomimetic Approach to Environmental Design.

Aruna Sarkar.
Exploring The Concept Of “Passive Zone” In Warmer Climates: Case for IT offices in India.

Nicola Salis.

Parag Savla.
Transitional Spaces for Commercial Buildings in Warm and Humid Climates.

Anna Vogiatzi-Tampa (Commendation for Dissertation)
Transforming The Urban Void To An Urban Scene: The Potential For Sustainable Regeneration.

SED 3 2007-09

Jorge Eduardo De Souza Hue.
Design of a Cultural Centre in Madureira, Rio De Janeiro.

Eric Blake Jackson.
Rethinking The AA Graduate School-Scheme for a Bioclimatic Live/Work Facility.

Gwenedd Murray.
Ecological Learning Centre for the Marin Academy, San Rafael, California.

Lucy Ely Querales.
Ekachai Sophonudomporn.

Anya Thomas.
Gone Fishing. Self help development for low income fishing communities in Sri Lanka

MSc 2008

Mania Ampatzi.
Bioclimatic Strategies for Seaside Resorts on Greek Islands.

Leonidas Beis.
Case Study of an Electronics Megastore in Markopoulo, Greece.

Avanti Karnani.
The potential of thermal mass in school buildings in Hot Arid Climate of Aswan, Egypt.

Gangrong Lei. (Commendation for Dissertation)
Naturally Ventilated Urban Housing in Southern China.

Maria Mena D.
Dynamic Canopies: a Microclimatic Intervention for Outdoor Comfort.

Shailee Nalawade.
Passive Strategies For Multi-Storeyed Residential Housing In Pune, India.

Dipti Naphade.
Thermal Comfort in Outdoor Activity Spaces in the climate of Nagpur.

Kohei Omori.
Seeking Below Ground: Potential Of Underground Office Building In Tokyo.

Lisa Ann Pasquale (Commendation for Dissertation)
Operational Logic: Control, Behaviour and Performance Sustainment at the Eden Project.

Jorge Rodriguez Alvarez (Distinction)
Environmental Retrofit: Energy Upgrades of Urban Dwellings in a Mild Atlantic Climate.

Michael Smith-Masis (Commendation for Dissertation)
Social Housing in Costa Rica’s Warm Humid Climate: Strategies and considerations for passive design.

Afsaneh Tafazzoli.
Urban Environmental Shopping Centres: Lessons from the Environmental Function of Isfahan Bazaar.

Paria Tomprou.
Flexibility and Comfort in Dancing Environments: Building and Human Envelope Responses.

Priya Vakil.
The Intelligent Skin for Office Buildings in Mumbai.

SED 2 2006-08

MArch 2008

Kanika Agarwal.
Residential Cluster Development of a Housing Community Based on the traditional pol housing.
Yasamin Arbabi.  

Tiffany Broyles.  
Ground UP: Defining an Architectural Typology for the Urban Farm.

Vidhi Gupta.  
Rethinking “Openings and Voids” in the design of a “Quality Workspace”

Krista Murray Raines.  
Rethinking the Underground Passenger Environment.

Annie Diana Babu.  
A Low Energy Passenger Terminal Building for Ahmedabad Airport, India.

Lai Min-Hui.  
Low Energy Row House Community in Kaohsiung (South Taiwan).

Farah Naz.  
Energy Efficient Garment Factories in Bangladesh.

Mathew Frankel.  
Microclimate Furniture: Defining a New Urban Typology.

Surane Gunasekara.  
A Study of Wellbeing: Designing an energy efficient detached micro work space.

Yuan-Chun Lan.  
Dynamic Façade: A responsive skin for multi-storey apartment buildings in Taiwan.

Sachin Rastogi.  

Harsh Thapar.  
Microclimate and Urban Form in Dubai.

Lydia Yiannouloupolou.  
Autonomising Community or Communising Autonomy: Seeking for an Autonomous Community.

SED 1 2005-07

Giles Bruce (Commendation for Dissertation)  

Haven Burkee  
Comfort in the Keys: Low energy residential design in the Florida Keys.

Natalia Kokosalaki  
Lightweight Stadium for Hot Climates.

Sayed Z. Majidi (Commendation for Dissertation)  
Next Stop Kabul – rapid structures and climate context.
MSc 2006

Ahmed Abouzeid.
Sustainable and Informal.

Olutobi Adamolekun (Commendation for Dissertation)
Low-Income Housing in Lagos – Sustainable Techniques for Modular Construction

Joyce Chan.
Public “Living-Room” in Hong Kong

Anastasia Dretta.

Clarice Fong.
Out of the Box – Reinventing the Industrial Warehouse

Manuel Alejandro Gallardo Gonzalez.
A Prototype House for a Sustainable Small scale Development in Baja Sur, Mexico.

Varun Kohli (Commendation for Dissertation)
The New St Anthony’s School : Creating Learning Environments in the Nilgiri Hills of Southern India.

Federico Montella
Environmental Functions of a Buffer Space for a Shopping Mall.

Debra L. Raymont.
Low Income Housing – an Approach through Sustainable Design.

Vasiliki Sagia.
Double Enclosure Application for a Commercial Building in Athens, Greece.

Aadil Salim.
Outdoors-Indoors Courtyards in Kerala, India.

Sandro C. Tubertini.
Low Energy High Rise Office Buildings for Sao Paulo, Brazil

Olga Tzioti.
Redifining Libraries.

Steven Vujeva (Commendation for Dissertation)
Suburban Extensions to Single Family Detached Long Island Dwellings for Energy Efficiency.
MA Environment & Energy Studies 1995-2005

Listing is in alphabetical order by student family names. MA Dissertations marked with an asterisk (*) were awarded a Distinction or a Commendation.


AA E+E, London.


NIHAL AL SABBAGH
*Urban Design and Outdoor Thermal Comfort*
Supervisors: Simos Yannas, Paula Cadima

GABRIEL FELMER PLOMINSKY
*Low-Energy Dwelling Prototypes for Different Regions of Chile*
Supervisors: Simos Yannas, Paula Cadima

PATRICIA MARTIN DEL GUAYO
*Environmental Perception: climate in urban public spaces*
Supervisors: Simos Yannas, Paula Cadima

LUCIANO DUTRA
*Design Process and Environmental Information: applicability of design support tools*
Supervisors: Simos Yannas, Peter Sharratt

DONG KU KIM
*Climate-Interactive Building Design in a Korean Climate*
Supervisors: Simos Yannas, Rosa Schiano-Phan

CHOU L WOONG KWON
*Transitional Spaces: the role of sheltered semi-outdoor spaces as microclimatic modifiers on school buildings in the UK climate*
Supervisors: Simos Yannas, Rosa Schiano-Phan

FEIFEI SUN
*Achieving Suitable Thermal Performance for Residential Buildings in Different Regions of China*
Supervisors: Simos Yannas, Rosa Schiano-Phan

DULCE MORENO MARQUES DE ALMEIDA
*The Effect of Microclimate on the Design of Pedestrian Areas in Cities*
Supervisors: Simos Yannas & Peter Sharratt

SOLANGE GOULART
*Thermal Inertia & Night Ventilation*
Supervisors: Simos Yannas & Peter Sharratt

ROSA SCHIANO-PHAN
*The Development of Passive Downdraught Evaporative Cooling Systems Using Porous Ceramic Evaporators and their Application in Residential Building*
Supervisors: Simos Yannas & Brian Ford
2003

HELENA MASSA,
Urban Aerodynamics: The Potential of Convective Mechanisms in the Cooling and Ventilation of Urban Microclimates
Supervisors: Simos Yannas & Peter Sharratt

2002

GUILHERME QUINTINO
Vernacular Architecture in South Western Portugal
Supervisors: Simos Yannas & Peter Sharratt

BENITO JIMENEZ ALCALA
Environmental Aspects of Hispanic-Moslem Architecture: An Approach to the Daylight and Summer Performance of Islamic Buildings in Spain
Supervisors: Simos Yannas & Brian Ford

2001

GUSTAVO CANTUARIA
Trees and Microclimatic Comfort
Supervisors: Simos Yannas & Brian Ford

2000

PAULA SAN PAYO CADIMA
Transitional Spaces: The Potential of Semi-Outdoor Spaces as a Means for Environmental Control with Special Reference to Portugal
Supervisors: Simos Yannas & Brian Ford

ZAINAB FARUQUI ALI
Environmental Performance of the Buildings Designed by the Modern Masters in the Tropics: Architecture of Le Corbusier and Louis I. Khan in India and Bangladesh
Supervisors: Simos Yannas & Brian Ford

1999

CHRISTINE ANN PHILLIPS
Sustainable Place
Supervisors: Simos Yannas & Brian Ford

FERNANDO RIHL
Daylight and Visual Perception: An Investigation of Retrofitted Building Elements for the Enhancement of Daylight and the Modelling of Objects with Reference to the Brazilian Context
Supervisors: Simos Yannas & Brian Ford

1997

HEITOR DA COSTA SILVA,
Window Design for thermal Comfort in Domestic Buildings in Southern Brazil
Supervisors: Simos Yannas & Paul Ruyssevelt

1996

KHANDAKER SHABBIR AHMED
Approaches to Bioclimatic Urban Design for the Tropics with Special Reference to Dhaka Bangladesh
Supervisors: Simos Yannas & Brian Ford
1995

CAMILO DIAZ
Optimisation of Thermal Mass for Indoor Cooling
Supervisors: Simos Yannas & Paul Ruyssevelt

ABDULLAH ZEID AYSSA,
The thermal performance of vernacular and contemporary houses in Sana’a, Yemen
Supervisors: Simos Yannas & Brian Ford

1994

JAIME GONCALVES DE ALMEIDA,
Public space, utilisation and environment: a study of large buildings in an educational establishment
Supervisors: Simos Yannas & Nick Bullock

FUAD HASSAN MALLICK,
Thermal comfort for urban housing in Bangladesh
Supervisors: Simos Yannas & Brian Ford

ELIAS SALLEH
Microclimatic Control of Outdoor Environment in Public Spaces in the Tropics
Supervisors: Simos Yannas & Phil Haves

DESPINA SERGHIDES
Zero Energy House for Cyprus
Supervisors: Simos Yannas & Paul Ruyssevelt

1993

LEONARDO BITTENCOURT,
Natural Ventilation for Cooling
Supervisors: Simos Yannas & Paul Ruyssevelt
Awarded 1993

1990

JOSE ROBERTO GARCIA CHAVEZ
The Potential of Beam Core Daylighting in Hot-Arid Regions of Mexico
Supervisors: Simos Yannas & Nick Baker

PHILLIP TABB
Energy and Village Form
Supervisors: Simos Yannas & Dean Hawkes

1985

ANDREAS MOSCHATOS,
Thermal Storage for Solar Space and Water Heating Systems
Supervisors: Simos Yannas & Cleland McVeigh

PYRHOS POULIS,
Radiant Wall and Floor Heating and Cooling
Supervisors: Cleland McVeigh & Simos Yannas