CURRICULUM VITAE
Scott Curland Chase

Glasgow
United Kingdom

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NATIONALITY   American & British

EDUCATION

Ph.D.   Architecture (1996)
          (Major field: Design Theory & Methods; Minor field: Computer Science)
          University of California, Los Angeles, CA

M.A.   Architecture & Urban Planning (1987)
          (Major field: Design Theory & Methods)
          University of California, Los Angeles, CA

S.B.   Art and Design (1978)
          (Major field: Architectural Design; Minor field: German)
          Massachusetts Institute of Technology, Cambridge, MA

WORK EXPERIENCE

2015-17   *Teaching Fellow (Flexible Learning)*
          Faculty of Engineering Flexible Learning Centre
          University of Strathclyde
          Glasgow G1 1XJ, United Kingdom

2012-13   *Professor (fractional appointment)*
          Department of Architecture, Design and Media Technology
          Aalborg University
          DK-9000 Aalborg, Denmark

2009–12   *Professor with special responsibilities*
          Department of Architecture, Design and Media Technology
          Aalborg University
          DK-9000 Aalborg, Denmark

2008–10   *Senior Lecturer*
          Department of Design, Manufacture & Engineering Management
          University of Strathclyde
          Glasgow G1 1XJ, United Kingdom

2001–08   *Senior Lecturer*
Department of Architecture
University of Strathclyde
Glasgow G4 0NG, United Kingdom

2001   *Senior Lecturer*
Department of Architectural and Design Science
University of Sydney
NSW 2006, Australia

1998-2000 *Lecturer*
Department of Architectural and Design Science
University of Sydney
NSW 2006, Australia

1996–98   *NRC Postdoctoral Research Associate*
Manufacturing Systems Integration Division
National Institute of Standards and Technology
Gaithersburg, MD USA

1990–94   *Research Assistant*
Graduate School of Architecture and Urban Planning
University of California, Los Angeles, CA USA

1989–90   *Computer Graphics Programmer*
IBM Los Angeles Scientific Center
Santa Monica, CA USA

1988   *Lecturer in Computer Graphics*
Department of Computer Science
University of Southern California, Los Angeles, CA USA

1988   *Teaching Assistant*
Graduate School of Architecture and Urban Planning
University of California, Los Angeles, CA USA

1987   *CADD Applications Developer - Associate*
Vision Quest
Woodland Hills, CA USA

1986   *CADD Applications Programmer*
Skidmore, Owings and Merrill
Los Angeles, CA USA

1980–85   *Architect - CADD applications specialist*
Bechtel Civil & Minerals
San Francisco, CA USA

1978–80   *Architectural Draftsman*
Hooper/Olmsted/Emmons/Hrovat
San Francisco, CA USA

1976–77   *Architectural Draftsman*
IBM - Real Estate & Construction Division
Harrison, NY USA

1976–77   *Research Assistant*
         IBM Cambridge Scientific Center
         Cambridge, MA USA

PROFESSIONAL ACTIVITIES

Administration:

Department
- Steering Group Convenor, Faculty of Engineering Flexible Learning Centre, University of Strathclyde (2015-17)
- Digital Design group convenor, Architecture & Design, Aalborg University (2009-11)
- IT Committee convenor, Architecture & Design, Aalborg University (2010)
- Disability Coordinator, Design, Manufacture & Engineering Management, University of Strathclyde (2008-09)
- MSc/PgDip admissions, Design, Manufacture & Engineering Management, University of Strathclyde (2008-09)
- Steering group member, MSc/PgDip in Digital Creativity, Depts of Architecture and Design, Manufacture & Engineering Management, University of Strathclyde (2007-09)
- Convenor, Media & Communication subject area, Department of Architecture, University of Strathclyde (2004-08)
- Information Technology Group, Department of Architecture, University of Strathclyde (2001-08); Chair (2004-08)
- Director, Architectural Computing Studies postgraduate programme, University of Strathclyde (2003-2005)
- Convenor, eLearning working group, Department of Architecture, University of Strathclyde (2004-05)
- Building Group, Department of Architecture, University of Strathclyde (2004-08)
- Library Group, Department of Architecture, University of Strathclyde (2002-2004)
- formZ Joint Study programme, Principal Investigator, University of Strathclyde (2003-08)
- Coordinator, Digital Media postgraduate programme, University of Sydney (1999)

Faculty
- Convenor, Faculty of Engineering Online Teaching & Learning Group, University of Strathclyde (2016-17)
- Information Technology Committee, Faculty of Engineering, University of Strathclyde (2004-08)
- Board of Study, Faculty of Engineering, University of Strathclyde (2003-08)
- Research Committee, Faculty of Engineering, University of Strathclyde (2002)
- Academic Appeals Committee, Faculty of Engineering, University of Strathclyde (2001-08)
- Computer Policy Committee, Faculty of Architecture, University of Sydney (1999-2001)

University
- Academic Senate, University of Strathclyde (2003-09, 2016-17s)
- Ordinance 16 academic appointments panel, University of Strathclyde (2005-08)
- VLE Implementation Group, University of Strathclyde (2004-06)
- David Livingstone Centre for Sustainability, member (2007-09)
- *Second Life* implementation steering group, University of Strathclyde (2007-09)
- Education Subcommitee/Information Technology Committee, University of Sydney (1999-2001)

External
- *De Digitale Dage* BIM workshop steering group (N. Jutland, Denmark, 2010-11)
- Standards Australia IT-006-01 Committee (Industrial Automation Systems and Integration) (2000-01)
- ACADIA outreach liaison to government institutions (1996-97)

Invitations (host funded):
- "Shape grammar implementations: the last 35 years", keynote presentation at workshop *Shape grammar implementation: from theory to useable software, Fourth International Conference on Design Computing and Cognition*, Stuttgart, 11 July 2010
- "Grammar based design tools: Issues of representation and interaction", keynote presentation at *Designing With Vision Workshop*, The Open University, 8 June 2010
- "Virtual worlds as collaborative environments for design and manufacturing", presentation at *Virtual Worlds 2008*, University of Stirling, 29 October 2008
- "Sketching in Design: Formalising a transformational process", presentation at *Geometric Modelling Society* meeting, University of Strathclyde, 31 July 2008
- "Economies of Scale: Generative Design Tools and Adaptability", keynote presentation at *Design Research in the Netherlands 2005*, TU Eindhoven, 19-20 May 2005
- Participant, *MIT/National Science Foundation Workshop on Shape Computation*, Massachusetts Institute of Technology, 25–26 April 1999

Conference and workshop organisation:
- *De Digitale Dage* BIM workshop steering group member (N. Jutland, Denmark, 2010-11)
- Workshop site chair, *ASCA 2003* (Architectural Schools Computing Association, UK)
- Conference co-convenor, *CAADRIA 2001* (Computer Aided Architectural Design Research in Asia), University of Sydney
- Workshop convenor*, Emergence in Design, 5th International Conference on Artificial Intelligence in Design*, 19 July 1998, Lisbon, Portugal

Conference paper review/advisory committee:
> *Design Decision Support Systems 2006*, *G-CAD'04, EuropIA* (2003, 2011); *eCAADe* (2002, 2003, 2005, 2007-2012); *ACADIA* (1996-98, 2000); *CAAD Futures* (2001, 2003, 2005); *Creativity and Cognition 2002; CAADRIA* (2001 proceedings editor, 2003, 2005, 2008-2010); *Design Computing & Cognition* (2004, 2006, 2008, 2010, 2012, Conference Advisory Board)*; AI in Design '02* (Conference Advisory Board); *AI in Design '00* (Conference Advisory Board, Generative Design workshop, HCI workshop, Conceptual Modelling workshop); *AI in Design '98* (Conference Advisory Board); *Visual and Spatial Reasoning in Design* (1999); *ASME Design Theory and Methodology Conference* (1997); *DCNet* (2000); *ARCOM* (2002); *10th International Workshop on Research and Education in Mechatronics* (REM2009)

Journal paper reviews:
> *Journal of Problem Based Learning in Higher Education* (2016), *Environment and Planning B* (2000, 2002, 2011); *International Journal of Design Computing* (2000, 2001); *Artificial Intelligence in Engineering* (2000); *ASME Journal of Computing & Information Science in Engineering* (2001, 2009); *Research in Engineering Design* (2001, 2006); *Computer-Aided Design* (1989); *AI for Engineering Design, Analysis and Manufacturing* (1998, 2004, 2005, 2007, 2009, 2016, 2017); *International Journal of Architectural Computing* (2007*); Computational Design Methods and Technologies: Applications in CAD, CAM and CAE Education* (edited book chapters, 2010)

PhD external examiner:
    U. Adelaide (1998); U. Leeds (2007); Open University (2017)

ACADEMIC & PROFESSIONAL AFFILIATIONS

- Education in Computer Aided Architectural Design in Europe (eCAADe)
- Association for Computing Machinery (ACM)
- Higher Education Academy, UK (Fellow)
- Sigma Xi scientific honor society (Member by nomination)

TEACHING: AALBORG UNIVERSITY

Group project supervision
- Architecture & Design, 1st & 3rd year
- Mediology, 3rd & 4th year
- 'Digital Days' cross institutional BIM workshop (development & supervision)
- WOFIE entrepreneurship workshop

Lecturing
- Grammar based design (2nd & 3rd year Architecture & Design)
- Architectural building and lighting design in Second Life (EU ARCHI21 project)
  online instruction to students & teachers in Denmark, UK, France, Slovenia
- Style, language, and grammar in design (EU ARCHI21 project)
  online instruction to architectural students in France

TEACHING: U. STRATHCLYDE

Design, Manufacture & Engineering Management

Introduction to CAD
2nd year product design engineering (ProEngineer)

Product Development
3rd year product design engineering, group projects from brief to business plan

Systems Integration
PG, hardware/software integration in product design, development & manufacturing

Project supervision
4th & 5th years, yearlong individual projects

Architecture

Media and Communication 1a/1b
1st year, first media/computing, modelling and presentation (formZ, Photoshop, PowerPoint); drawing and physical modelling

Media and Communication 2
2nd year, digital and non-digital media (incl. Photoshop, ArchiCAD, AutoCAD)

Generative Design Systems
4th year & postgraduate, design computing theory

Building Information Modelling
4th year & postgraduate, building information modelling (ArchiCAD)

Designing (in) Virtual Worlds
4th year & postgraduate, online virtual worlds (Second Life, blogs, wikis)
University pilot project 2007-08

Design studios
1st year (2001-02)
Postgraduate Architectural Computing Studies programme

Supervision
UG & PG dissertations and projects
Research: supervised 2 PhD, 1 MSc, 1 BSc, 2 MEng

TEACHING: U. SYDNEY

Undergraduate

Design Communications B
1st year, first CAD course, modelling and presentation, ArchiCAD

Design Communications C
2nd year, second CAD course, advanced modelling, documentation, AutoCAD

Generating Designs Using Computers
theory of computer generated design methods and systems

Design Studio 1A /Design Studies 1A
1st year undergraduate design studios (BDesignComputing & BDesign(Arch))

Postgraduate

Introduction to AutoCAD
online-distance learning

Designing With CAD
advanced CAD class, with design project

Design Data Management
database management systems in design

Supervision
5th year dissertations (UG)
Research: supervised one PhD student

RESEARCH INTERESTS

- generative design systems
- shape grammars
- building information & product modelling
- virtual design environments
- virtual learning environments (VLE)
- elearning

FUNDED RESEARCH

2010-13   "ARCHI21: Architectural and Design based Education and Practice through Content & Language Integrated Learning using Immersive Virtual Environments for 21st Century Skills"
EU *Lifelong Learning programme* (KA 2: Languages)
€52,000/€400,000
Co-investigator, Denmark coordinator
project partners: ENSAPM (France), U. Ljubljana, U. Southampton, The Open University

2007-08   "Strathclyde island in Second Life"
grant from University's Information Resources Directorate & Centre for Academic Practice and Learning Enhancement
£3,000

2007-08   "Design Synthesis and Shape Generation"
AHRC/EPSRC *Designing for the 21st Century initiative*
£94,204 / £390,636
Co-investigator
project partners: U. Leeds, Open University

2005   "Embracing Complexity in Design"
EPSRC/AHRC *Designing for the 21st Century initiative*
Core member of research cluster

2000   "Evaluating CAD Complexity"
Australian Research Council Small Grant Scheme
AUD16,000
Chief Investigator

2000   "Supporting Graphical Emergence in Design Modeling"
AUD24,000
Australian Research Council Small Grant Scheme
Chief Investigator

1999   "Models of User Interaction in Grammar Based Design Systems"
University Research Grant, University of Sydney
AUD12,000
Chief investigator

1996–97   "Modeling Features With Shape Algebras and Formal Logic"
          National Research Council Postdoctoral Research Fellowship
          National Institute of Standards and Technology, Manufacturing Engineering
          Laboratory

1993   "EDM as an Information Model for Buildings"
          Visiting Fellow, Delft University of Technology, The Netherlands
          Faculty of Civil Engineering, Structural and Building Engineering Group

1990–94   "Semantic Based Models and Translation for Engineering Design"
          National Science Foundation grant no. DDM-8915665
          School of Architecture and Urban Planning, University of California, Los Angeles
          Principal investigator: Charles Eastman

1988–89   "Semantic Modeling of Buildings"
          Barry A. Berkus Systems Building and Housing Fellowship
          School of Architecture and Urban Planning, University of California, Los Angeles

AWARDS

1996-97   National Research Council Postdoctoral Research Associateship
1988   Barry A. Berkus Systems Building Research Fellowship, UCLA
1987   McGraw-Hill Scholarship, UCLA
1987   Dean's Award for Overall Excellence, UCLA
1987   Bobrow-Thomas Fellowship, UCLA
1986   Barclay Scholarship, UCLA
1974   New York State Regents Scholarship
1973   National Science Foundation Summer Scholarship in Mathematics

FOREIGN LANGUAGES

Danish (Prøve i Dansk 3, B2 level)
German (fair)
French, Dutch (small amount)

ADDITIONAL ACTIVITIES

Volunteer, Client Adviser, Advice Direct Scotland (2019-)
Member, Hutchesontown Community Council, Glasgow (2004-09, 2015-)
Vice Chair, Caledonia Gardens Residents Association (2007-09)
Member, funding panel, Spirit of the Gorbals (2015-17), Gorbals Ideas Fund (2018-)
Member & app developer, Gorbals History Group (2015-)
Tutor, Aalborg homework café, Danish Refugee Council (Dansk Flygtningehjælp) (2012-15)
Volunteer, Amnesty International, Aalborg, Denmark (2013-15)
Council member, UK Movement for Reform Judaism (2004-09, 2016-)
Steering committee, Limmud Scotland (2002-05, 2018-), Øresunds Limmud (2012-15)
Volunteer, Scottish Jewish Archives Centre, (2016-)
Co-founder, Glasgow LGBT+ Interfaith Network (2018-)

Amateur genealogist

PUBLICATIONS & REPORTS

Theses

1. Chase S C, 1996, *Modeling Designs With Shape Algebras and Formal Logic*
    Ph.D thesis, University of California, Los Angeles

2. Chase S C, 1987, *Computer Implementation of Shape Grammars*
    M.A. thesis, University of California, Los Angeles

Journal papers

3. Ibrahim M S, Chase S C, 2017, "Digital Tools Devising Pedagogical Approaches: Exploring the potential of rule-based design in students' competences development" *International Journal of Parallel, Emergent and Distributed Systems* **32:sup1** S89-S100

4. Khan S, Chase S C, 2016, "Strategic style change using grammar transformations" *AI EDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing* **30**:4 488-506

5. Ibrahim M S, Bridges A, Chase S C, Bayoumi S H, Taha D S, 2012, "Design grammars as evaluation tools in the first year studio" *Journal of Information Technology in Construction* **17** 319-332

6. Ahmad S, Chase S C, 2012, "Style representation in design grammars" *Environment and Planning B: Planning and Design* **39**:3 486-500

7. McKay A, Chase S, Shea K, Chau H H, 2012, "Spatial grammar implementation: from theory to useable software" *AI EDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing* **26** 143-159

8. Prats M, Lim S, Jowers I, Garner S W, Chase S, 2009, "Transforming shape in design: Observations from studies of sketching" *Design Studies* **30**:5 503-520

9. Lim S, Prats M, Jowers I, Chase S, Garner S, McKay A, 2008, "Shape Exploration in Design: Formalising and Supporting a Transformational Process" *International Journal of Architectural Computing* **6**:4 415-433

10. Chase S C, 2005, "Generative design tools for novice: Issues for selection", *Automation in Construction*, **14**:6 689-698

11. Chase S C, 2002, "A model for user interaction in grammar-based design systems", *Automation in Construction*, **11**:2 161-172

12. Schmidt L C, Shetty H, Chase S C, 2000, **"**A Graph Grammar Approach for Structure Synthesis of Mechanisms", *Journal of Mechanical Design*, **122**:4 371–376

13. Chase S C, 1999, "Supporting emergence in geographic information systems", *Environment and Planning B: Planning and Design*, **26**:1 33–44

14. Chase S C, 1997, "Logic Based Design Modeling With Shape Algebras", *Automation in Construction*, **6**:4 311–322

15. Chase S C, 1997, "Modeling spatial reasoning systems with shape algebras and formal logic", *AI EDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, **11**:4 273–285

16. Eastman C M, Chase S C, Assal H H, 1993, "System Architecture for Computer Integration of Design and Construction Knowledge", *Automation in Construction* **2**:2 95–107

17. Eastman C M, Bond A H, Chase S C,1991, "A Formal Approach For Product Model Information", *Research in Engineering Design* **2** 65–80

18. Eastman C M, Bond A H, Chase S C, 1991, "Application and Evaluation of an Engineering Data Model", *Research in Engineering Design* **2** 185–207

19. Chase S C, 1989, "Shapes and shape grammars: from mathematical model to computer implementation", *Environment and Planning B: Planning and Design* **16**:2 215–242

20. Chase S C, 1987, "A/E/C in 1999: How will the information technologies be utilized?", *Plan and Print* **61** 19–21 (Honorable Mention)

Book chapters

21. McKay A, Chase S, Garner S, Jowers I, Prats M, Hogg D, Chau H H, Pennington A d, Earl C, Lim S, 2009, "Design Synthesis and Shape Generation", in *Designing for the 21st Century: Interdisciplinary Methods and Findings* Ed T Inns (Gower Publishing, Aldershot, UK) pp 304-321

22. Johnson J, Alexiou K, Creigh-Tyte A, Chase S, Duffy P A, Eckert C, Gascoigne D, Kumar B, Mitleton-Kelly E, Petry M, Qin S F, Robertson P A, Rzevski G, Teymur N, Thompson A, Young R, Willis M, Zamenopoulos T, 2007, "Embracing Complexity in Design" in *Designing for the 21st Century: Interdisciplinary Questions and Insights* Ed T Inns (Gower Publishing, Aldershot, UK) 129-149

Conference papers (full review)

23. Ibrahim M S, Chase S C, "Digital Tools Devising Pedagogical Approaches: Exploring the potential of rule-based design in students' competences development" in proceedings of *Parallelism in Architecture, Environment and Computing Techniques (PACT 2016)*, London, 12-14 September 2016

24. Ibrahim M S, Bridges A, Chase S C, Bayoumi S H, Taha D S, 2012, "Grammatically Thinking: Summing up the teaching of the first year with a comprehensive grammatical project", in *6th ASCAAD Conference 2012: CAAD | Innovation | Practice* Eds B Sidawi, R M Reffat, A Bennadji, H E Marsafawy, S El-Wageeh (The Kingdom University, Manama, Bahrain) pp 129-140

25. Chase S, 2008, "Virtual worlds as collaborative environments for design and manufacturing: from idea to product", in *2nd International Workshop on Virtual Manufacturing*, published in *5th INTUITION International Conference proceedings*, Turin, Italy, 6-8 October 2008

26. Lim S, Prats M, Chase S, Garner S, 2008, "Categorisation of Designs According to Preference Values for Shape Rules" in *Design Computing and Cognition '08: Proceedings of the Third International Conference on Design Computing and Cognition* Ed J S Gero, A K Goel (Springer) 41-60

27. Jowers I, Prats M, Lim S, McKay A, Garner S, Chase S, 2008, "Supporting Reinterpretation in Computer-Aided Conceptual Design" in *EUROGRAPHICS Workshop on Sketch-Based Interfaces and Modeling* 11-13 June 2008, Annecy, France, Ed C Alvarado, M-P Cani 151-158

28. Lim S, Prats M, Chase S, Garner S, 2008, "Sketching in Design: Formalising a Transformational Process" in *CAADRIA 2008: Beyond Computer-Aided Design* Ed W Nakapan, E Mahaek, K Teeraparbwong, P Nilkaew (Pimniyom Press, Chiang Mai, Thailand) 472-478

29. Chase S, Ahmad S, 2005, "Grammar Transformations: Using Composite Grammars to Understand Hybridity in Design, With an Example from Medieval Islamic Courtyard Buildings" in *Learning from the Past: a Foundation for the Future* Ed B Martens, A Brown (Österreichischer Kunst- und Kulturverlag, Vienna) 89-98

30. Ahmad S, Chase S C, 2004, "Design Generation of the Central Asian Caravanserai: Use of a parametric shape grammar for the analysis of historic Islamic architecture" in *e-Design in Architecture: Proceedings of the 1st ASCAAD International Conference* (King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia) 43-58

31. Chase S C, 2004, "Generative design tools for novice: Issues for selection", preproceedings of *Generative CAD Systems Symposium*, Carnegie Mellon University, 12-14 July 2004 (published in *Automation in Construction*)

32. Chase S C, 2003, "A Prototype Generative System for Construction Details: Combining FBS Descriptions with Design Grammars" in *Digital Design: Research and Practice* Ed M-L Chiu, J-Y Tsou, T Kvan, M Morozumi, T-S Jeng (Kluwer Academic Publishers, Dordrecht) 413-422

33. Chase S, Murty P, 2002, "Evaluating the Complexity of CAD Models as a Measure for Student Assessment" in *Eternity, Infinity and Virtuality in Architecture: Proceedings of ACADIA 2000* Ed M J Clayton, G P V d Velasco (Association for Computer Aided Design in Architecture) 173-182

34. Chase S C, Liew P, 2001, "A framework for redesign using FBS models and grammar adaptation" in *Computer Aided Architectural Design Futures 2001* Ed B de Vries, J van Leeuwen, H Achten (Kluwer Academic Publishers, Dordrecht) 467-477

35. Chase S C, Liew P S, 2001, "Describing Designs With Function-Behaviour-Structure Graphs" in *The Proceedings of Mathematics & Design 2001* Ed M Burry, S Datta, A Dawson, J Rollo (Deakin University, Geelong, Australia) 74-81

36. Chase S C, Liew P, 2001, "Redesigning With Feature Grammars and FBS Models" *in Design Research - Theories, Methodologies, and Product Modelling, 13th International Conference on Engineering Design* Ed S Culley, A Duffy, C McMahon, K Wallace (Professional Engineering Publishing, Bury St Edmunds, UK) 621-628

37. Chase S C, 1999, "Grammar Based Design: Issues for User Interaction Models" *in Media and Design Process*, proceedings of *ACADIA '99*, Salt Lake City, Utah, 28–31 October, 1999 Ed O Ataman, J Bermúdez (Association for Computer-Aided Design in Architecture) 198–210

38. Chase S, Murty P, 1999, "Evaluating CAD Complexity", published in *International Journal of Design Computing* **2**
http://schase.heliohost.org/prof/pubs/DCNet-1999-Chase/index.html

39. Chase S C, 1998, "User Interaction Models for Grammar Based Design Systems", published in *International Journal of Design Computing* **1** http://schase.heliohost.org/prof/pubs/DCNet-1998-Chase/index.html

40. Schmidt L C, Shetty H, Chase S C, 1998, "A Graph Grammar Approach for Structure Synthesis of Mechanisms", in *proceedings of ASME 1998 Design Engineering Technical Conference,* Atlanta, GA, September 13–16, 1998

41. Chase S C, 1997, "Supporting Emergence in Spatial Reasoning With Shape Algebras and Formal Logic" in *Spatial Information Theory: A Theoretical Basis for GIS* Ed S C Hirtle, A U Frank (Springer, Berlin) 409–427

42. Chase S C, 1996, "Design Modeling With Shape Algebras and Formal Logic" in *Design Computation: Collaboration, Reasoning, Pedagogy*, proceedings of *ACADIA '96*, Tucson, Arizona, October 31–November 3, 1996 Ed F Ozel, P McIntosh (Association for Computer-Aided Design in Architecture) 99–113

43. Chase S C, 1996, "Representing designs with logic formulations of spatial relations" in *Workshop Notes, Visual Representation, Reasoning and Interaction in Design, Fourth International Conference on Artificial Intelligence in Design*, Stanford University, June 23, 1996 Ed J Damski, H Narayanan

44. Chase S C, 1996, "Using logic to specify shapes and spatial relations in design grammars" in *Workshop Notes, Grammatical Design, Fourth International Conference on Artificial Intelligence in Design*, Stanford University, June 22, 1996 Ed K Brown, J Heisserman

45. Eastman C M, Chase S C, Assal H H, 1994, "System architecture for computer integration of design and construction knowledge" *in Automation Based Creative Design - Research & Perspectives* Ed A Tzonis, I White (Elsevier, Amsterdam) 185–203

46. Augenbroe G L R, Chase S C, Rombouts W, Schipper H R, 1993, "Information Models of Building Design" in *Advanced Technologies: architecture, planning, civil engineering* Ed M R Beheshti, K Zreik (Elsevier, Amsterdam) 355–364

47. Chase S C, 1993, "The Use of Multiple Representations to Facilitate Design Interpretation", in *Proceedings of ARECDAO '93*, Barcelona, Spain, 30 March–1 April 1993 205–217

48. Eastman C M, Bond A H, Chase S C, 1991, "A data model for design databases" in *Artificial Intelligence in Design '91* Ed J S Gero (Butterworth-Heinemann Ltd, Oxford) 339–365

49. Eastman C M, Bond A H, Chase S C, 1991, "A Data Model for Designed Products" in *Computing in Civil Engineering and Symposium on Data Bases* Ed L F Cohn, W Rasdorf (American Society of Civil Engineers, New York) 679–688

50. Eastman C M, Bond A H, Chase S C, 1991, "A Data Model for Engineering Design Databases" in *Proceedings for the 1991 NSF Design and Manufacturing Systems Conference* (Society of Manufacturing Engineers, Dearborn, MI)

Edited books and proceedings

51. Gero J S, Chase S, Rosenman M, eds, *CAADRIA2001: Preprints of the 6th International Conference of the Association for Computer-Aided Architectural Design Research in Asia* (Key Centre of Design Computing and Cognition, Faculty of Architecture, University of Sydney)

Conference publications (extended abstract review)

52. Chase S, Scopes L, 2012, "Cybergogy as a framework for teaching design students in virtual worlds", in *Digital Physicality - Vol. 1, Proceedings of the 30th eCAADe Conference* Eds H Achten, J Pavlíček, J Hulín, D Matějovská (eCAADe & Czech Technical University in Prague, Faculty of Architecture, Czech Republic, Prague) pp 125-133

53. Hunter M, Chase S, Kligerman B, Zupancic T, 2011, "ARCHI21: Architectural and Design based Education and Practice through Content & Language Integrated Learning using Immersive Virtual Environments for 21st Century Skills", in *Respecting Fragile Places, Proceedings of the 29th Conference on Education in Computer Aided Architectural Design in Europe* Eds T Zupancic, M Juvancic, S Verovsek, A Jutraz (University of Ljubljana, Faculty of Architecture, Ljubljana, Slovenia) pp 725-733

54. Ibrahim M S, Bridges A, Chase S C, Bayoumi S, Taha D S, 2011, "Experiencing design with grammatical explorations in the beginning design studio: The after-recognition experiment: designing with constraints", in *Respecting Fragile Places, Proceedings of the 29th Conference on Education in Computer Aided Architectural Design in Europe* Eds T Zupancic, M Juvancic, S Verovsek, A Jutraz (University of Ljubljana, Faculty of Architecture, Ljubljana, Slovenia) pp 689-698

55. Al-kazzaz D, Bridges A, Chase S, 2010, "Shape Grammars for Innovative Hybrid Typological Design", in *Future Cities, Proceedings of the 28th Conference on Education in Computer Aided Architectural Design in Europe* Eds G Schmitt, L Hovestadt, L V Gool, F Bosché, R Burkhard, S Colemann, J Halatsch, M Hansmeyer, S Konsorski-Lang, A Kunze, M Sehmi-Luck (vdf Hochschulverlag AG an der ETH Zürich, Zürich) pp 187-195

56. Ibrahim M S, Bridges A, Chase S, Bayoumi S, Taha D S, 2010, "Use of Grammar for Shape Exploration with Novice Students: Experiment 1: against the first impressions", in Future Cities, *Proceedings of the 28th Conference on Education in Computer Aided Architectural Design in Europe* Eds G Schmitt, L Hovestadt, L V Gool, F Bosché, R Burkhard, S Colemann, J Halatsch, M Hansmeyer, S Konsorski-Lang, A Kunze, M Sehmi-Luck (vdf Hochschulverlag AG an der ETH Zürich, Zürich) pp 115-124

57. Ehsani, E, Chase S, 2009, "Using Virtual Worlds as Collaborative Environments for Innovation and Design: Lessons Learned and Observations from Case Studies in Architectural Projects", in *Computation: The New Realm of Architectural Design, Proceedings of the 27th Conference on Education in Computer Aided Architectural Design in Europe* Ed G Çağdaş, B Çolakoğlu (eCAADe, Istanbul) 523-532

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