



## Martin Fischer

Kumagai Professor in the School of Engineering and Senior Fellow at the Precourt Institute for Energy

Civil and Environmental Engineering

### CONTACT INFORMATION

- **Administrator**

Geoffrey Tuttle - Program Administrator

**Email** gwtuttle@stanford.edu

**Tel** 650-725-7488

### Bio

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#### BIO

Professor Fischer's research goals are to improve the productivity of project teams involved in designing, building, and operating facilities and to enhance the sustainability of the built environment. His work develops the theoretical foundations and applications for virtual design and construction (VDC). VDC methods support the design of a facility and its delivery process and help reduce the costs and maximize the value over its lifecycle. His research has been used by many small and large industrial government organizations around the world.

#### ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Senior Fellow, Precourt Institute for Energy

#### ADMINISTRATIVE APPOINTMENTS

- Director, Center for Integrated Facility Engineering - CIFE, (2001- present)
- Faculty Co-Director, Frontier Technology Lab - FTL, (2023- present)

#### HONORS AND AWARDS

- Walter Gropius Prize, Bauhaus 4.0 Conference (2019)
- Member, National Academy of Construction (2018)
- Technical Achievement Award, Project Production Institute (2018)
- Peurifoy Construction Research Award, ASCE (2017)
- Best Paper, Journal of Architectural Engineering, American Society of Civil Engineers (2014)
- Fellow in Circular Economy, Schmidt-MacArthur Foundation (2014)
- Foreign Member, Royal Academy of Engineering Sciences, Sweden (2012)
- Honorary Senior Fellow, Design Futures Council (2006)
- Best Paper, Journal of Computing in Civil Engineering, American Society of Civil Engineers (2002)
- Best Paper, Artificial Intelligence in Design (2000)

- Eugene L. Grant Award for Excellence in Teaching, Eugene L. Grant (1999)
- Hoefler Prize for Excellence in Undergraduate Writing, Stanford University (1997,1998, 2005)
- Top 25 Newsmaker, Engineering News Record (1996)

## PROFESSIONAL EDUCATION

- Diplôme d'Ingénieur, EPFL - Swiss Federal Institute of Technology, Lausanne , Civil Engineering (1984)
- MS, Stanford University , Industrial Engineering - Engineering Management (1987)
- PhD, Stanford University , Civil Engineering - Construction Engineering and Management (1991)

## LINKS

- <https://web.stanford.edu/~fischer>: <https://web.stanford.edu/~fischer>

## Teaching

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### COURSES

#### 2023-24

- Artificial Intelligence Applications in the AEC Industry: CEE 329 (Win)
- Entrepreneurship through the Lens of Venture Capital: CEE 216 (Win)
- Frontier Technology: Understanding and Preparing for Technology in the Next Economy: CEE 114, CEE 214, PSYC 114 (Spr)
- Managing Fabrication and Construction: CEE 241 (Aut)
- Managing Sustainable Building Projects: CEE 100 (Aut)
- Virtual Design and Construction: CEE 341 (Win)

#### 2022-23

- Artificial Intelligence Applications in the AEC Industry: CEE 329 (Win)
- Managing Fabrication and Construction: CEE 241 (Aut)
- Managing Sustainable Building Projects: CEE 100 (Aut)
- Virtual Design and Construction: CEE 341 (Win)

#### 2021-22

- Artificial Intelligence Applications in the AEC Industry: CEE 329 (Spr)
- Industrialized Construction: CEE 324 (Spr)
- Managing Fabrication and Construction: CEE 241 (Aut)
- Managing Sustainable Building Projects: CEE 100 (Aut)
- Virtual Design and Construction: CEE 341 (Win)

#### 2020-21

- Artificial Intelligence Applications in the AEC Industry: CEE 329 (Spr)
- Construction Robotics: CEE 327 (Win)
- Frontier Technology: Understanding and Preparing for Technology in the Next Economy: CEE 114, CEE 214, MED 114, MED 214, PSYC 114 (Win, Spr)
- Managing Fabrication and Construction: CEE 241 (Aut)
- Managing Sustainable Building Projects: CEE 100 (Aut)
- Virtual Design and Construction: CEE 341 (Win)

## STANFORD ADVISEES

Aakanksha Chaudhary

### Doctoral Dissertation Reader (AC)

Eva Bianchi, Isabella Douglas, Tess Hegarty

### Doctoral Dissertation Advisor (AC)

Simge Girgin, Tulika Majumdar, Wilfrido Martinez-Alonso, Kevin Mayer, Giulia Scagliotti, Melody Spradlin, Alberto Tono, Junwen Zheng

### Master's Program Advisor

Sodbilig Batjargal, Panagiotis Boltsis, Zhiyuan Cheng, Sahil Dhakla, Jatzia Felix, Marcus Floyd, Hiroaki Fujii, Anthony Gogola, Jeung Lee, Matt Ma, Naoya Masuda, Tai Anthony McMillan, Kosuke Nibe, Abhishek Palit, Jose Perez, Cesar Portocarrero Rodriguez, María Teresa Ruiz Salinas, Yuuki Tanaka, Alonso Vargas Perez, Takuhiro Wakita, Toru Watanabe

### Doctoral (Program)

Eleni Alexandraki, JINPU CAO, Allie Cemalovic, Nino Giorgadze, Simge Girgin, Wilfrido Martinez-Alonso, Kevin Mayer, Lavinia Pedrollo, Steinar Rasmussen, Lou Sacchettini, Giulia Scagliotti, Melody Spradlin, Alberto Tono, Bochen Zhang

## Publications

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### PUBLICATIONS

- **Points for energy renovation (PointER): A point cloud dataset of a million buildings linked to energy features.** *Scientific data*  
Krapf, S., Mayer, K., Fischer, M.  
2023; 10 (1): 639
- **Digital Twin: Where do humans fit in?** *AUTOMATION IN CONSTRUCTION*  
Agrawal, A., Thiel, R., Jain, P., Singh, V., Fischer, M.  
2023; 148
- **Estimating building energy efficiency from street view imagery, aerial imagery, and land surface temperature data** *APPLIED ENERGY*  
Mayer, K., Haas, L., Huang, T., Bernabe-Moreno, J., Rajagopal, R., Fischer, M.  
2023; 333
- **PAPER Applying Project-Based Learning (PBL) for Teaching Virtual Design Construction (VDC)** *INTERNATIONAL JOURNAL OF ENGINEERING PEDAGOGY*  
Del Savio, A., Carrasco, L., Nakamatsu, E., Velarde, K., Martinez-Alonso, W., Fischer, M.  
2023; 13 (2): 64-85
- **A CASE STUDY TOWARDS ASSESSING THE IMPACT OF MIXED REALITY-BASED INSPECTION AND RESOLUTION OF MEP ISSUES DURING CONSTRUCTION** *JOURNAL OF INFORMATION TECHNOLOGY IN CONSTRUCTION*  
Girgin, S., Fruchter, R., Fischer, M.  
2023; 28: 555-570
- **Virtual Design and Construction (VDC) Framework: A Current Review, Update and Discussion** *APPLIED SCIENCES-BASEL*  
Del Savio, A., Quincot, J., Montalto, A., Delgado, L., Fischer, M.  
2022; 12 (23)
- **Methodology to estimate logistics costs for vertically transported prefabricated wall panels** *JOURNAL OF COMPUTATIONAL DESIGN AND ENGINEERING*  
Lee, Y., Kim, J., Flager, F., Fischer, M.  
2022; 9 (4): 1348-1368
- **Digital Twin: From Concept to Practice** *JOURNAL OF MANAGEMENT IN ENGINEERING*  
Agrawal, A., Fischer, M., Singh, V.  
2022; 38 (3)

- **Assessment Framework for Additive Manufacturing in the AEC Industry** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Mrazovic, N., Fischer, M.  
2022; 148 (5)
- **Safety, quality, schedule, and cost impacts of ten construction robots.** *Construction robotics*  
Brosque, C., Fischer, M.  
2022; 6 (2): 163-186
- **A New Perspective on Digital Twins: Imparting Intelligence and Agency to Entities** *IEEE JOURNAL OF RADIO FREQUENCY IDENTIFICATION*  
Agrawal, A., Singh, V., Fischer, M.  
2022; 6: 871-875
- **Impacts of Stacking Plans on Carbon Emissions during Transportation of Prefabricated Exterior Wall Panels**  
Lee, Y., Chin, S., Fischer, M., Issa, R. R.  
AMER SOC CIVIL ENGINEERS.2022: 1136-1143
- **A Comparative Analysis of Production Metrics across VDC Implementations**  
Majumdar, T., Rasmussen, S. G., Del Savio, A., Johannesdottir, K., Hjelseth, E., Fischer, M., Jazizadeh, F., Shealy, T., Garvin, M. J.  
AMER SOC CIVIL ENGINEERS.2022: 1024-1033
- **Digital Twin in Practice: Emergent Insights from an Ethnographic-Action Research Study**  
Agrawal, A., Singh, V., Thiel, R., Pillsbury, M., Knoll, H., Puckett, J., Fischer, M., Jazizadeh, F., Shealy, T., Garvin, M. J.  
AMER SOC CIVIL ENGINEERS.2022: 1253-1260
- **Measuring the impact of blockchain and smart contracts on construction supply chain visibility** *ADVANCED ENGINEERING INFORMATICS*  
Hamledari, H., Fischer, M.  
2021; 50
- **Cost-based optimization of steel frame member sizing and connection type using dimension increasing search** *OPTIMIZATION AND ENGINEERING*  
Peng, B., Flager, F., Barg, S., Fischer, M.  
2021
- **Empirical Study of Identifying Logistical Problems in Prefabricated Interior Wall Panel Construction** *JOURNAL OF MANAGEMENT IN ENGINEERING*  
Lee, Y., Kim, J., Khanzode, A., Fischer, M.  
2021; 37 (3)
- **Measuring Progress and Productivity in Model-Driven Engineering for Capital Project Delivery** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Garcia, G., Golparvar-Fard, M., de la Garza, J. M., Fischer, M.  
2021; 147 (4)
- **Comparative Analysis of Manual and Robotic Concrete Drilling for Installation Hangers** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Brosque, C., Skeie, G., Fischer, M.  
2021; 147 (3)
- **Generation of stacking plans for prefabricated exterior wall panels shipped vertically with A-frames** *AUTOMATION IN CONSTRUCTION*  
Lee, Y., Kim, J., Flager, F., Fischer, M.  
2021; 122
- **Automation of Inspection Mission Planning Using 4D BIMs and in Support of Unmanned Aerial Vehicle-Based Data Collection** *Journal of Construction Engineering and Management*  
Hamledari, H., Sajedi, S., McCabe, B., Fischer, M.  
2021; 147 (3)
- **Construction payment automation using blockchain-enabled smart contracts and robotic reality capture technologies** *Automation in Construction*  
Hamledari, H., Fischer, M.  
2021; 132
- **The application of blockchain-based crypto assets for integrating the physical and financial supply chains in the construction & engineering industry** *Automation in Construction*

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- Hamledari, H., Fischer, M.  
2021; 127
- **A design-focused, cost-ranked, structural-frame sizing optimization** *JOURNAL OF BUILDING ENGINEERING*  
Barg, S., Flager, F., Fischer, M.  
2020; 30
  - **Empirical Determination of the Smallest Batch Sizes for Daily Planning" by Min Ho Song and Martin Fischer (vol 13, pg 871, 2020)** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Song, M., Fischer, M.  
2020; 146 (7)
  - **Generating a Daily Bill of Materials at Level of Development 400 Using the Smallest Workface Boundary** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Song, M., Fischer, M.  
2020; 146 (5)
  - **Daily plan-do-check-act (PDCA) cycles with level of development (LOD) 400 objects for foremen** *ADVANCED ENGINEERING INFORMATICS*  
Song, M., Fischer, M.  
2020; 44
  - **Empirical Determination of the Smallest Batch Sizes for Daily Planning** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Song, M., Fischer, M.  
2020; 146 (3)
  - **Virtual design and construction** *CONSTRUCTION MANAGEMENT AND ECONOMICS*  
Kunz, J., Fischer, M.  
2020
  - **Role of Blockchain-Enabled Smart Contracts in Automating Construction Progress Payments** *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*  
Hamledari, H., Fischer, M.  
2020; 13 (1)
  - **Human-Robot Collaboration in Construction: Opportunities and Challenges**  
Brosque, C., Galbally, E., Khatib, O., Fischer, M., IEEE  
IEEE.2020: 338-345
  - **Comparison of Construction Robots and Traditional Methods for Drilling, Drywall, and Layout Tasks**  
Brosque, C., Skeie, G., Orn, J., Jacobson, J., Lau, T., Fischer, M., IEEE  
IEEE.2020: 346-359
  - **Assessing the Effects of Failure Alerts on Transitions of Control from Autonomous Driving Systems**  
Fu, E., Hyde, D., Sibi, S., Johns, M., Fischer, M., Sirkin, D., IEEE  
IEEE.2020: 1956-1963
  - **Is Too Much System Caution Counterproductive? Effects of Varying Sensitivity and Automation Levels in Vehicle Collision Avoidance Systems**  
Fu, E., Johns, M., Hyde, D. B., Sibi, S., Fischer, M., Sirkin, D., ACM  
ASSOC COMPUTING MACHINERY.2020
  - **The Car That Cried Wolf: Driver Responses to Missing, Perfectly Performing, and Oversensitive Collision Avoidance Systems**  
Fu, E., Sibi, S., Miller, D., Johns, M., Mok, B., Fischer, M., Sirkin, D., IEEE  
IEEE.2019: 1830–36
  - **3D Scene Graph: A structure for unified semantics, 3D space, and camera**  
Armeni, I., He, Z., Gwak, J., Zamir, A. R., Fischer, M., Malik, J., Savarese, S., IEEE  
IEEE.2019: 5663–72
  - **Evaluation of Reshuffling Efforts to Comply with Installation Sequences of Prefabricated Interior Wall Panels from Bunks Delivered On Site**  
Lee, Y., Fischer, M., Kim, J., Cho, Y. K., Leite, F., Behzadan, A., Wang, C.  
AMER SOC CIVIL ENGINEERS.2019: 635–42

- **A Method to Provide Integrated Design through Systems-Level Automation**  
Barg, S., Flager, F., Fischer, M., Cho, Y. K., Leite, F., Behzadan, A., Wang, C.  
AMER SOC CIVIL ENGINEERS.2019: 385–92
- **Generation and evaluation of excavation schedules for hard rock tunnels in preconstruction and construction** *AUTOMATION IN CONSTRUCTION*  
Kim, J., Fischer, M., Kam, C.  
2018; 96: 378–97
- **Formal representation of cost and duration estimates for hard rock tunnel excavation** *AUTOMATION IN CONSTRUCTION*  
Kim, J., Fischer, M., Suh, M.  
2018; 96: 337–49
- **Parametric analysis of design stage building energy performance simulation models** *ENERGY AND BUILDINGS*  
Shiel, P., Tarantino, S., Fischer, M.  
2018; 172: 78–93
- **Construction Parts in Building Projects: Definition and Case Study** *JOURNAL OF MANAGEMENT IN ENGINEERING*  
Zhao, N., Kam, C., Lo, J. Y., Kim, J., Fischer, M.  
2018; 34 (4)
- **Guiding building professionals in selecting additive manufacturing technologies to produce building components** *MATERIALS TODAY COMMUNICATIONS*  
Mrazovic, N., Baumers, M., Hague, R., Fischer, M.  
2018; 15: 199–202
- **An analytical method to estimate the total installed cost of structural steel building frames during early design** *JOURNAL OF BUILDING ENGINEERING*  
Barg, S., Flager, F., Fischer, M.  
2018; 15: 41–50
- **Making Each Workhour Count: Improving the Prediction of Construction Durations and Resource Allocations**  
Fischer, M., Garcia-Lopez, N. P., Morkos, R., Smith, I. F., Domer, B.  
SPRINGER INTERNATIONAL PUBLISHING AG.2018: 273–95
- **4D BEYOND CONSTRUCTION: SPATIO-TEMPORAL AND LIFE-CYCLIC MODELING AND VISUALIZATION OF INFRASTRUCTURE DATA** *JOURNAL OF INFORMATION TECHNOLOGY IN CONSTRUCTION*  
Zhang, Z., Hamledari, H., Billington, S., Fischer, M.  
2018; 23: 285–304
- **Field Study on the Connection between BIM and Daily Work Orders** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Song, M. H., Fischer, M., Theis, P.  
2017; 143 (5)
- **Learning movement patterns of the occupant in smart home environments: an unsupervised learning approach** *JOURNAL OF AMBIENT INTELLIGENCE AND HUMANIZED COMPUTING*  
Zhang, T., Fu, W., Ye, J., Fischer, M.  
2017; 8 (1): 133-146
- **A method to estimate climate-critical construction materials applied to seaport protection** *GLOBAL ENVIRONMENTAL CHANGE-HUMAN AND POLICY DIMENSIONS*  
Becker, A., Chase, N. T., Fischer, M., Schwegler, B., Mosher, K.  
2016; 40: 125-136
- **BIM-based decision-support method for master planning of sustainable large-scale developments** *AUTOMATION IN CONSTRUCTION*  
Kim, J. I., Kim, J., Fischer, M., Orr, R.  
2015; 58: 95-108
- **Semiautomated Scaffolding Planning: Development of the Feature Lexicon for Computer Application** *JOURNAL OF COMPUTING IN CIVIL ENGINEERING*  
Kim, J., Fischer, M., Kunz, J., Levitt, R.  
2015; 29 (5)

- **Ranking appliance energy efficiency in households: Utilizing smart meter data and energy efficiency frontiers to estimate and identify the determinants of appliance energy efficiency in residential buildings** *ENERGY AND BUILDINGS*  
Kavousian, A., Rajagopal, R., Fischer, M.  
2015; 99: 220-230
- **Towards seaport resilience for climate change adaptation: Stakeholder perceptions of hurricane impacts in Gulfport (MS) and Providence (RI)** *PROGRESS IN PLANNING*  
Becker, A. H., Matson, P., Fischer, M., Mastrandrea, M. D.  
2015; 99: 1-49
- **Automated updating of space design requirements connecting user activities and space types** *AUTOMATION IN CONSTRUCTION*  
Kim, T. W., Kim, Y., Cha, S. H., Fischer, M.  
2015; 50: 102-110
- **Ontology for Representing Building Users' Activities in Space-Use Analysis** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Kim, T. W., Fischer, M.  
2014; 140 (8)
- **Fully Constrained Design: A general and scalable method for discrete member sizing optimization of steel truss structures** *COMPUTERS & STRUCTURES*  
Flager, F., Soremekun, G., Adya, A., Shea, K., Haymaker, J., Fischer, M.  
2014; 140: 55-65
- **Sharing of Temporary Structures: Formalization and Planning Application** *AUTOMATION IN CONSTRUCTION*  
Kim, J., Fischer, M., Kunz, J., Levitt, R.  
2014; 43: 187-194
- **Automated Generation of User Activity-Space Pairs in Space-Use Analysis** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT*  
Kim, T. W., Fischer, M.  
2014; 140 (5)
- **CAD-Centric Attribution Methodology for Multidisciplinary Optimization Environments: Enabling Parametric Attribution for Efficient Design Space Formulation and Evaluation** *JOURNAL OF COMPUTING IN CIVIL ENGINEERING*  
Welle, B., Haymaker, J., Fischer, M., Bazjanac, V.  
2014; 28 (2): 284-296
- **A bi-level hierarchical method for shape and member sizing optimization of steel truss structures** *COMPUTERS & STRUCTURES*  
Flager, F., Adya, A., Haymaker, J., Fischer, M.  
2014; 131: 1-11
- **A method to automate look-ahead schedule (LAS) generation for the finishing phase of construction projects** *AUTOMATION IN CONSTRUCTION*  
Dong, N., Fischer, M., Haddad, Z., Levitt, R.  
2013; 35: 157-173
- **A knowledge-based framework for automated space-use analysis** *AUTOMATION IN CONSTRUCTION*  
Kim, T. W., Rajagopal, R., Fischer, M., Kam, C.  
2013; 32: 165-176
- **Determinants of residential electricity consumption: Using smart meter data to examine the effect of climate, building characteristics, appliance stock, and occupants' behavior** *ENERGY*  
Kavousian, A., Rajagopal, R., Fischer, M.  
2013; 55: 184-194
- **Application of life-cycle assessment to early stage building design for reduced embodied environmental impacts** *BUILDING AND ENVIRONMENT*  
Basbagill, J., Flager, F., Lepech, M., Fischer, M.  
2013; 60: 81-92
- **BIM-Centric Daylight Profiler for Simulation (BDP4SIM): A methodology for automated product model decomposition and recombination for climate-based daylighting simulation** *BUILDING AND ENVIRONMENT*  
Welle, B., Rogers, Z., Fischer, M.  
2012; 58: 114-134

- **A study of virtual design and construction implementation and benefits using a bayesian approach** *REVISTA DE LA CONSTRUCCION*  
Rischmoller, L., Fischer, M., Kunz, J.  
2012; 11 (3): 74-87
- **A genetic algorithm-based method for look-ahead scheduling in the finishing phase of construction projects** *ADVANCED ENGINEERING INFORMATICS*  
Dong, N., Ge, D., Fischer, M., Haddad, Z.  
2012; 26 (4): 737-748
- **A method to compare simulated and measured data to assess building energy performance** *BUILDING AND ENVIRONMENT*  
Maile, T., Bazjanac, V., Fischer, M.  
2012; 56: 241-251
- **Method to produce field instructions from product and process models for cast-in-place concrete operations** *AUTOMATION IN CONSTRUCTION*  
Mourgues, C., Fischer, M., Kunz, J.  
2012; 22: 233-246
- **SUSTAINABILITY RATING SYSTEMS** *JOURNAL OF GREEN BUILDING*  
Mehdizadeh, R., Fischer, M.  
2012; 7 (2): 177-199
- **GENERATING A NETWORK OF INFORMATION DEPENDENCIES AUTOMATICALLY** *14th International Design Structure Matrix Conference*  
Senescu, R. R., Head, A. W., Steinert, M., Fischer, M. A.  
CARL HANSER VERLAG.2012: 139–152
- **Climate change impacts on international seaports: knowledge, perceptions, and planning efforts among port administrators** *CLIMATIC CHANGE*  
Becker, A., Inoue, S., Fischer, M., Schwegler, B.  
2012; 110 (1-2): 5-29
- **Research in Visualization Techniques for Field Construction** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*  
Kamat, V. R., Martinez, J. C., Fischer, M., Golparvar-Fard, M., Pena-Mora, F., Savarese, S.  
2011; 137 (10): 853-862
- **Can we grow buildings? Concepts and requirements for automated nano- to meter-scale building** *ADVANCED ENGINEERING INFORMATICS*  
Rebolj, D., Fischer, M., Endy, D., Moore, T., Sorgo, A.  
2011; 25 (2): 390-398
- **Teaching construction project management with BIM support: Experience and lessons learned** *AUTOMATION IN CONSTRUCTION*  
Peterson, F., Hartmann, T., Fruchter, R., Fischer, M.  
2011; 20 (2): 115-125
- **Closure to "Areas of Application for 3D and 4D Models on Construction Projects" by Timo Hartmann, Ju Gao, and Martin Fischer** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*  
Hartmann, T., Gao, J., Fischer, M.  
2010; 136 (8): 932-934
- **Implementing information systems with project teams using ethnographic-action research** *ADVANCED ENGINEERING INFORMATICS*  
Hartmann, T., Fischer, M., Haymaker, J.  
2009; 23 (1): 57-67
- **Integrated Scope-Schedule-Cost Model System for Civil Works** *1st International Conference on Improving Construction and Use Through Integrated Design Solutions*  
Peterson, F., Fischer, M., Tutti, T.  
TECHNICAL RESEARCH CENTRE FINLAND.2009: 176–199
- **Areas of application for 3D and 4D models on construction projects** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*  
Hartmann, T., Gao, J., Fischer, M.  
2008; 134 (10): 776-785
- **Quantitative analysis of workflow, temporary structure usage, and productivity using 4D models** *AUTOMATION IN CONSTRUCTION*  
Jongeling, R., Kim, J., Fischer, M., Mourgues, C., Olofsson, T.



2008; 17 (6): 780-791

- **Formalization of construction Sequencing rationale and classification mechanism to support rapid generation of Sequencing alternatives** *JOURNAL OF COMPUTING IN CIVIL ENGINEERING*  
Koo, B., Fischer, M., Kunz, J.  
2007; 21 (6): 423-433
- **A formal identification and re-sequencing process for developing sequencing alternatives in CPM schedules** *AUTOMATION IN CONSTRUCTION*  
Koo, B., Fischer, M., Kunz, J.  
2007; 17 (1): 75-89
- **Supporting the constructability review with 3D/4D models** *BUILDING RESEARCH AND INFORMATION*  
Hartmann, T., Fischer, M.  
2007; 35 (1): 70-80
- **Formalizing construction knowledge for concurrent performance-based design** *13th International Workshop of the European-Group-for-Intelligent-Computing-in-Engineering*  
Fischer, M.  
SPRINGER-VERLAG BERLIN.2006: 186–205
- **Capitalizing on early project decision-making opportunities to improve facility design, construction, and life-cycle performance - POP, PM4D, and decision dashboard approaches** *19th International Symposium on Automation and Robotics in Construction*  
Kam, C., Fischer, M.  
ELSEVIER SCIENCE BV.2004: 53–65
- **Perspectors: composable, reusable reasoning modules to construct an engineering view from other engineering views** *ADVANCED ENGINEERING INFORMATICS*  
Haymaker, J., Kunz, J., Suter, B., Fischer, M.  
2004; 18 (1): 49-67
- **Knowledge and reasoning for MEP coordination** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*  
Korman, T. M., Fischer, M. A., Tatum, C. B.  
2003; 129 (6): 627-634
- **An ontology for relating features with activities to calculate costs** *JOURNAL OF COMPUTING IN CIVIL ENGINEERING*  
Staub-French, S., Fischer, M., Kunz, J., Paulson, B.  
2003; 17 (4): 243-254
- **The benefits of virtual building tools** *CIVIL ENGINEERING*  
Fischer, M.  
2003; 73 (8): 60-67
- **Distributed coordination of project schedule changes using agent-based compensatory negotiation methodology** *AI EDAM-ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN ANALYSIS AND MANUFACTURING*  
Kim, K. S., Paulson, B. C., Levitt, R. E., Fischer, M. A., Petrie, C. J.  
2003; 17 (2): 115-131
- **A feature ontology to support construction cost estimating** *AI EDAM-ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN ANALYSIS AND MANUFACTURING*  
Staub-French, S., Fischer, M., Kunz, J., Ishii, K., Paulson, B.  
2003; 17 (2): 133-154
- **A generic feature-driven activity-based cost estimation process** *ADVANCED ENGINEERING INFORMATICS*  
Staub-French, S., Fischer, M., Kunz, J., Paulson, B.  
2003; 17 (1): 23-39
- **Automated generation of work spaces required by construction activities** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*  
Akinci, B., Fischer, M., Kunz, J.  
2002; 128 (4): 306-315
- **Representing work spaces generically in construction method models** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*

- Akinci, B., Fischer, M., Kunz, J., Levitt, R.  
2002; 128 (4): 296-305
- **Closure to "Feasibility study of 4D CAD in commercial construction" by Bonsang Koo and Martin Fischer** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*  
Koo, B., Fischer, M.  
2002; 128 (3): 274-275
  - **Importance of capacity constraints to construction cost and schedule** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*  
O'Brien, W. J., Fischer, M. A.  
2000; 126 (5): 366-373
  - **Feasibility study of 4D CAD in commercial construction** *JOURNAL OF CONSTRUCTION ENGINEERING AND MANAGEMENT-ASCE*  
Koo, B., Fischer, M.  
2000; 126 (4): 251-260
  - **Into the fourth dimension** *CIVIL ENGINEERING*  
Staub, S., Fischer, M., Spradlin, M.  
1999; 69 (5): 44-47
  - **Project-modelling in AEC to integrate design and construction** *COMPUTERS IN INDUSTRY*  
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