

Completed Master Theses

Version Feb 2026

HOCHSCHULE
FÜR TECHNIK
STUTTGART

SMART CITY
SOLUTIONS

klimakompetent
resilient
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Cohort	No.	Given Name	Surname	First Supervisor	Defence	Title
7th	57	Ahmed Mohamed	Aljabali	Prof. Dr. Marco Caniato	Samir Alzeer, M.Eng. WiSe25_26	Integration of Construction Noise Simulation Into 4D BIM: Towards Sustainable and Transparent Planning
7th	56	Amine	Elkhalifaouy	Prof. Dr.-Ing. Benjamin Reuter	Dipl.-Ing. rebecca Heckmann WiSe25_26	Development of A Charging Hub Model for E-trucks in Public and Private Areas
7th	55	Aybars	Dağ	Prof. Dr. Jakob von Heyl	Dr. Irem İnce Keller WiSe25_26	Risk and Management Strategies for Post-Disaster Temporary Settlements: Integrating Lean and Agile Principles in the Context of the Hatay Earthquake
7th	54	Lona	Hussein	Prof. Dr. Tobias Popovic	Archie Sushil Parakh WiSe25_26	Evaluating the Return on Investment (ROI) of DGNB-Certified Green Buildings: A Comparative Study of Projected vs Actual Operational Savings and Market Performance
7th	53	Yosri	Kaabar	Prof. Dipl.-Ing. Horst Sondermann	Prof. Dipl.-Ing. Roland Dieterle WiSe25_26	Digitalisation to Overcome Bureaucratic Bottlenecks in Construction Permits and City Planning
6th	52	Denis	Savalskii	Prof. Angela Blanco-Vogt	M.Sc. Hamidreza Ostadabbas WiSe24_25	Integrating Building Information Modeling (BIM) and Geographic Information Systems (GIS) for Enhanced Management and Efficiency of Urban Infrastructure in Smart Cities
6th	51	Fatemeh	Fanaei Sheykholeslami	Prof. Dr. Iris Belle	M.Sc. Philipp Alber SoSe25	Optimization workflow for water balance calculations; Integration of Green Hydrogen production in Natural water cycles
6th	50	Gaygysyz	Allamyradov	Prof. Dr. Tobias Popovic	Andrew Yarhamadi, MBA WiSe24_25	Municipal Heat Planning in Germany – Innovative Sustainable Infrastructure Financing Approaches for Funding the Implementation
6th	49	Lorena	Ortiz Lopez	Prof. Dr.-Ing. Lutz Gaspers	Dr.-Ing. Walter Vogt WiSe24_25	Analyzing the relevance of Active Mobility in the design of a Smart City
6th	48	Mariya	Bodylevskaya Evgenievna	Prof. Dr. Iris Belle	Dipl.-Ing. Andreas Luka WiSe24_25	Proposing and demonstrating a toolbox for designing bioswales and evaluating their impact on sustainability using Building Information Modeling (BIM): a case study of Breitscheidstrasse, Stuttgart
6th	47	Mustafa Muqdad Tawfeeq	Flayyih	Dr. Michael Aiello	Prof. Dr.-Ing. Dieter Uckelmann SoSe25	How can AI support smart cities initiatives?
6th	46	Rahand Farooq Karim	Shwany	Prof. Dr.-Ing. Christina Simon-Philipp	Amando Reber SoSe25	Integrating Spatial and Human-Centered Evidence for Climate-Resilient Green Belt Design: A Comparative Analysis of Erbil and Stuttgart
6th	45	Ramya	Ravindran	Prof. Dr. Iris Belle	Martina Maier SoSe25	Embodied Carbon Quantification in Early Design Stages for Architectural Practices
6th	44	Shantanu	Parmar	Prof. Dr.-Ing. Lutz Gaspers	Dipl.-Ing. Rebecca Heckmann WiSe24_25	Integration of renewable energy sources in electric vehicle charging infrastructure
6th	43	Siddhant Rohit	Ullal	Prof. Dr.-Ing. Angela Blanco-Vogt	Dr. rer. Nat. Satyendra Singh SoSe25	Innovating Flood Risk Management: Spatial Planning Technologies for Supporting Decision-Making and Stakeholder Collaboration
5th	42	Amaan	Shaikh	Prof. Dr. Iris Belle	Prof. Jan Cremers WiSe23_24	Enhancing Building Functionality and Sustainability: Assessing the Advantages of Integrating Flexibility into Design and Construction Processes
5th	41	Jonah	Scheible	Prof. Jakob von Heyl	Fabian Gierl WiSe23_24	What are the impacts of digital transformation for a real estate service developer in particular on real estate project development processes and how can approaches be developed to adapt to the transformation?
5th	40	Mohammed Aliyu	Bobbori	Prof. Dr. Iris Belle	Dr. Florian Kölsch WiSe23_24	Design of a Waste and Recyclables Islands Case Study of Khalil Al Salem Street, Amman, Jordan
5th	39	Pavithra	Arumugam	Prof. Dr.-Ing. Jakob von Heyl	Prof. Dr.-Ing. Heiko Gsell SoSe24	Analysis of Challenges in Implementing Business Intelligence (BI) Tools for Corporate Real Estate: Enablers, Barriers, and Strategic Insights
5th	38	Prajwal	Hosmane	Dr.-Ing. Christina Simon-Philipp	Dipl. Ing. Cathrin Krumrey WiSe23_24	The role of AI in designing responsive urban spaces for people with disabilities: Designing Inclusive and Accessible Urban Spaces with AI
5th	37	Samantha	Rusek	Prof. Dr. Iris Belle	Prof. Dr. Katharina Gapp-Schmeling SoSe25	Using LCA Scenarios for Reducing Green House Gas Emissions in the Residential Building Stock: A Life Cycle Carbon Balance Case Study Approach to Analyze Embodied Carbon Impact in Single Family Deep Energy Retrofit Actions
5th	36	Sasika	Goonawardana	Prof. Dr. Iris Belle	Ms.Catalina Díaz, M.Sc WiSe23_24	Study of Urban Environments: Proposing Guidelines for Sustainable Development for Mixed-use Urban Neighborhoods Adhering to the "15-minute City Concept.
5th	35	Sila	Egridere	Prof. Dr. Iris Belle	Dr. Nourhan Bassam Elhalawany WiSe23_24	Understanding Urban Emotions to Design an Urban Development Project for a Smart City Using Neuroarchitecture as a KPI
5th	34	Timothy	Fuller	Professor Dr. -Ing. Philipp Dechow	Uli Sailer WiSe23_25	Three Ladders of Participation: A Proposed Model for Public Social Spaces
5th	33	Tirtha	Mandhle	Prof. Dr. Iris Belle	Professor Dr.-Ing. Jan Cremers SoSe24	Investigating the Barriers in Adoption of Smart Home Energy Management Systems (SHEMS) in Single Homes with an aim to identifying solutions for planning to end user: A Cross-Case Comparison of Germany and India
4th	32	Abdelhameed Mohamed	Mohamed	Prof. Dr. Iris Belle	DI Ghazal Etminan WiSe22_23	Key context indicators for smart city developments
4th	31	Dimitris	Zervas	Prof. Dr. Iris Belle	Prof. Dr.-Ing. Markus Schmidt WiSe22_23	Future MAAS Systems with hydrogen-powered shared vehicles inside smart cities
4th	30	Enisa	Selmanaj	Prof. Dr. Iris Belle	Katharina Aguilar WiSe22_23	Smart tourism and smart city goals: an exploration/ guideline of the implementation of technologies for experience enhancing and their potential to increase sustainability
4th	29	Hirad	Narimannejad	Prof. Dr.-Ing. Philip Dechow	Dipl.-Ing. Cathrin Krumrey WiSe22_23	Sharing City and Tactical Urbanism: how smart city can enable and promote citizen participation in a more interactive way
4th	28	Jay Viresh	Chapaneriya	Prof. Dr. Iris Belle	Dr. Hanns Menzel SoSe23	Integral Planning for Smart Residential Waste
4th	27	Khaled	Elwan	Prof. Dr. Iris Belle	Prof. Dr.-Ing. Heidrun Bögner-Balz SoSe23	Innovative Technologies for Recycling Construction Waste in Road Building for Smart Cities: the German Case
4th	26	Nataly Isabela	Martinez Obando	Prof. Dr. Iris Belle	Dipl.-Ing. Matthias Schaepers SoSe23	Comparison of Implementation vs non-Implementation of Carbon Dioxide Capture Technologies in Cities
3rd	25	Dhanesh Chaturanga	Delpachithra Arachchige	Prof. Dr. Iris Belle	Prof. Fabienne Hoelzel SoSe22	Social Capital in collaborative decision-making as a tool for creating a smart region in developing countries. With special reference to handicraft industries in Sri Lanka
3rd	24	Divya	Karthikeyan	Prof. Dr. Tobias Popovic	Dr. Gunnar Gladen SoSe22	Sustainable Municipal Waste Management: Comparing the carbon footprint of ECO CYCLING as an alternate to traditional solid waste disposal practices
3rd	23	Helen Saleem	Dawood	Prof. Dr. Tobias Popovic	Dr. Dilay Kesten Erhart WiSe21_22	The relevance of digital tools for increasing refurbishment rates in residential buildings in Germany
3rd	22	Madhavi	Phatak	Prof. Dr. -Ing. Markus Schmidt	Dr. Stefan Carsten WiSe21_22	Contribution of Shared Autonomous Vehicles (SAVs) in restructuring and transformation of the public streets
3rd	21	Maroun	Aad	Prof. Dr. Julian Petrin	Dr. Bruno Bueno, Janina Willmann MSc WiSe21_22	Attempt on easing building integrated photovoltaics' software simulation: focus on visualisation and luminance image generation by MorphoColor® case study
3rd	20	Naim	Meftah	Prof. Dr. Iris Belle	Adnan Rao, M.Sc.MBA SoSe22	What challenges does the public sector face when tendering for autonomous buses and what can this look like? An example based on a fictitious small town in a rural area
3rd	19	Omid	Nikkhah	Prof. Dr. Iris Belle	Dr. phil. Sven Schneider, Dr.-Ing. Julian Petrin WiSe22_23	Exploring the applicability of machine learning as a supporting instrument in public participation
3rd	18	Vikas Rao	Aroor Mundadi	Prof. Dr.-Ing. Markus Schmidt	Dr. Barbara Flügge WiSe22_23	Guidelines for last mile connectivity with a focus on micro mobility infrastructure planning model for smart cities

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2nd	17	Abeo	Trotter	Prof. Roland Dieterle	Mr. Marius Mohr	WiSe21_22	The role of nature-based solutions in addressing the urban drainage challenges in the city of Kochi
2nd	16	Achim	von Nefe	Prof. Dr. Tobias Popovic	Dr. Azar Shahgholian	WiSe21_22	Smart districts and grid reliability
2nd	15	Asmita	Rawool	Prof. Dr. Tobias Popovic	Ms. Ezgi Gökdemir	SoSe21	Analysis of mobility solutions in smart cities (rural areas)
2nd	14	Halimeh	Abu Ayyash	Prof. Dr. Jürgen Breuste	Prof. Roland Dieterle	WiSe21_22	Biophilic smart cities: urban, nature, people. Relations in arid regions
2nd	13	Mireille	Jean	Prof. Dr.-Ing. Christina Simon-Philipp	Prof. habil Ursula Eicker Phd, Dr.-Ing. Nicole Baron	SoSe22	To what extent can the adoption of innovations in residential street design improve the resilience of a neighbourhood of Quebec City?
2nd	12	Olga	Timofeeva	Prof. Dr. Iris Belle	Dr. Barbara Flügge	SoSe21	Mobility drives real estate: What requirements should mobility solutions fulfil in order to be incorporated in real estate development projects?
2nd	11	Taha	Al Taie	Prof. Dr. Iris Belle	Mr Jochen Scherer	SoSe21	An innovative approach to smart finance of foreign funding for socially, environmentally and economically sustainable infrastructure projects
2nd	10	Vipul	Sarnot	Prof. Dr. Bastian Schröter	Dr. phil. Dirk Pietruschka	SoSe21	Simulation-based parameter study (energetic/economic) for the design of solar thermal energy as a second heat source for an existing regenerative local heating network (wood chip firing) in Weißenbronn in the municipality of Wüstenrot
1st	9	Abdelraman	Shaikh ali	Prof. Dr. Armin Grunwald	Prof. Dr.-Ing. Dietrich Schröder	WiSe19_20	Assessing the relationship between temporal change of urbanization and urban vegetation cover and its implication on the vulnerability to urban heat islands for Karlsruhe and Rheinstetten cities
1st	8	Alaa	Sndyan	Prof. Ralf Petersen	Carmen Antuna Rozado, M.Sc.	WiSe19_20	The city's role in strengthening the natural ecosystem habitat developing a conceptual framework for urban designer to integrate nature-based solutions
1st	7	Amruta	Jayawant	Dr.-Ing. Nadine Kuhla von Bergmann	Dr.-Ing. Marius Mohr	WiSe19_20	Active citizen engagement as an asset for conservation and management of urban water bodies: a case study of rejuvenation of water canals in city of Kochi, India
1st	6	Anna-Lena	Fischer	Prof. Roland Dieterle	Dipl.-Kffr. Katja Halbherr	WiSe19_20	Development of a vision for sustainable industrial factory conversion as contribution to sustainable urban development. Case: Mercedes-Benz AG, Sindelfingen
1st	5	Michelle	Fuentes	Prof. Dr. Tobias Popovic	William Pissolatti, M.P.M.	WiSe19_20	How to reduce the energy consumption and carbon footprint in office buildings using the example of Bosch in Schwieberdingen?
1st	4	Mitchelle	Rosales	Dr.-Ing. Nadine Kuhla von Bergmann	Dipl.-Ing. Andreas Herrscher	WiSe19_20	Digital visual tools as supporting instruments for collaborative decision-making process in smart city projects: Case study with SWM for "Smart M-Quartier"
1st	3	Rhea	Fernandes	Dr.-Ing. Nadine Kuhla von Bergmann	Prof. Dr. Iris Belle	WiSe19_20	Evaluation of EU funded smart city projects to inform funding bodies and participating entities
1st	2	Sanjana	Ravi	Dr.-Ing. Nadine Kuhla von Bergmann	Prof. Dr.-Ing. Markus Schmidt, Dipl.-Geogr. Sascha Behnsen	WiSe19_20	Framework of design consideration for autonomous buses in complex urban systems: Analysis of the challenges for the implementation of autonomous buses using German streets as case study
1st	1	Susann	Konratzki	Prof. Dr. Sabine Rein	Int. Dipl. BW Werner Maier	WiSe19_20	A corporate responsibility analysis toolkit facilitating brand spaces' function as interaction and integration incubators for sustainable development in metropolitan areas