RECIPROCITY

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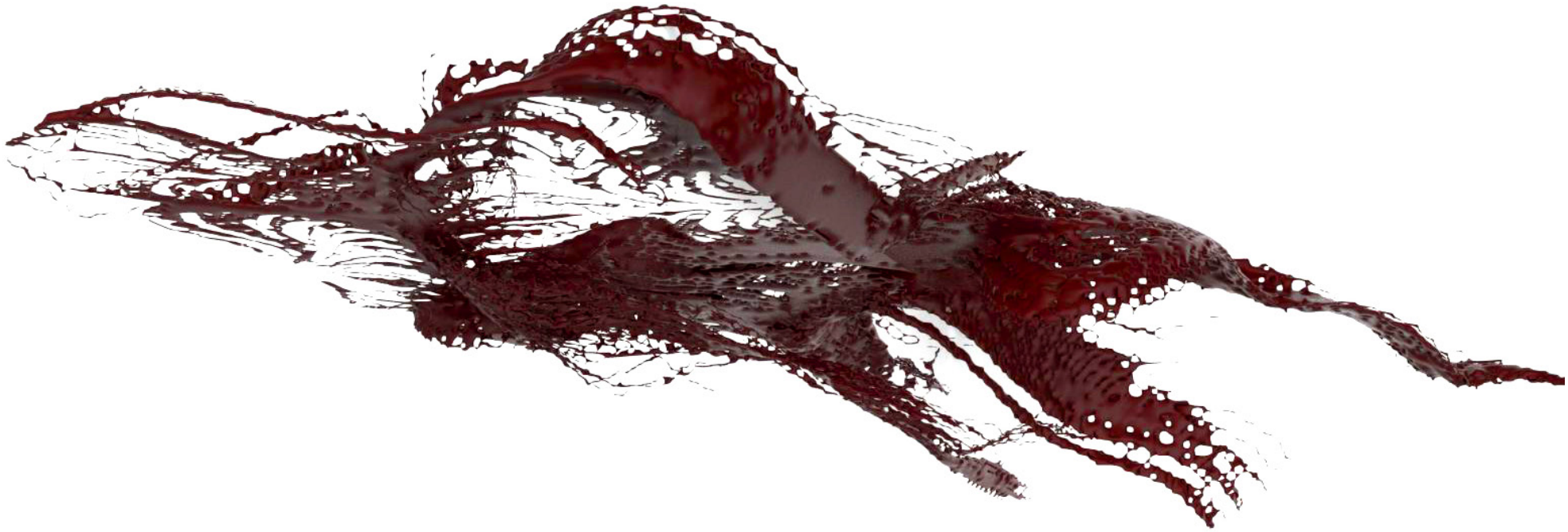
agent-based design at the urban scale



IAAC - INTELLIGENT CITIES SEMINAR

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2015-2016

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tutors:
alessio erioli
aldo sollazzo

RECIPROCITY
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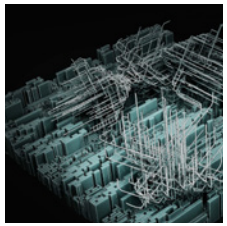
brief

While urban structures act like ecologies, developing interdependent relations across diverse scales; all too often the design tools applied at the urban scale (ie planning) limit themselves to a series of top-down decisions, with a single decisional direction spanning concentric scales.

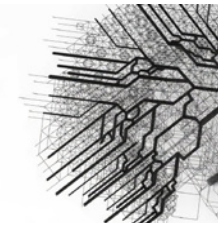
The aim of the workshop is to explore a shift in the design paradigm, from the planning of urban criteria and parameters, to the design of behaviors able to operate in information rich environments, finally allowing to build urban structures from the bottom up.

Starting from pervasive data maps, the operational substrate, participants will design basic behaviors for a multi-agent based system able to grow building coherent compounds, which are not only responsive geometries, but are constantly assessed by an internal feedback system.

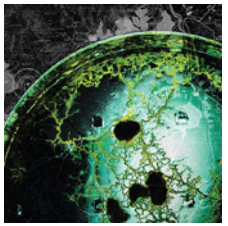
The general aim is to design an ecology of mutual negotiation strategies between agents and the environment, thus re-thinking the hierarchies at work on the urban scale. In this sense scale itself is not just understood as extensive metric size, but rather the detection of certain system behaviors. Using detail as the form of procedural information [1], the workshop outcome will span several scales, the definition of the system detail being decisive and propagative in its influence on the system's growth, shape and performance.



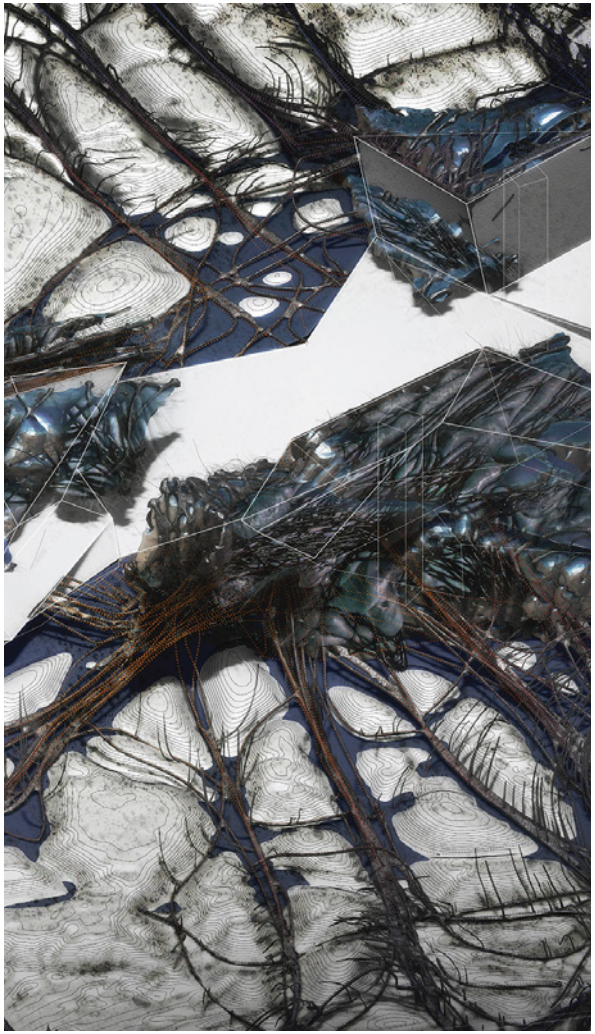
urban morphology
/// 1



mobility system
/// 2



energy production
/// 3

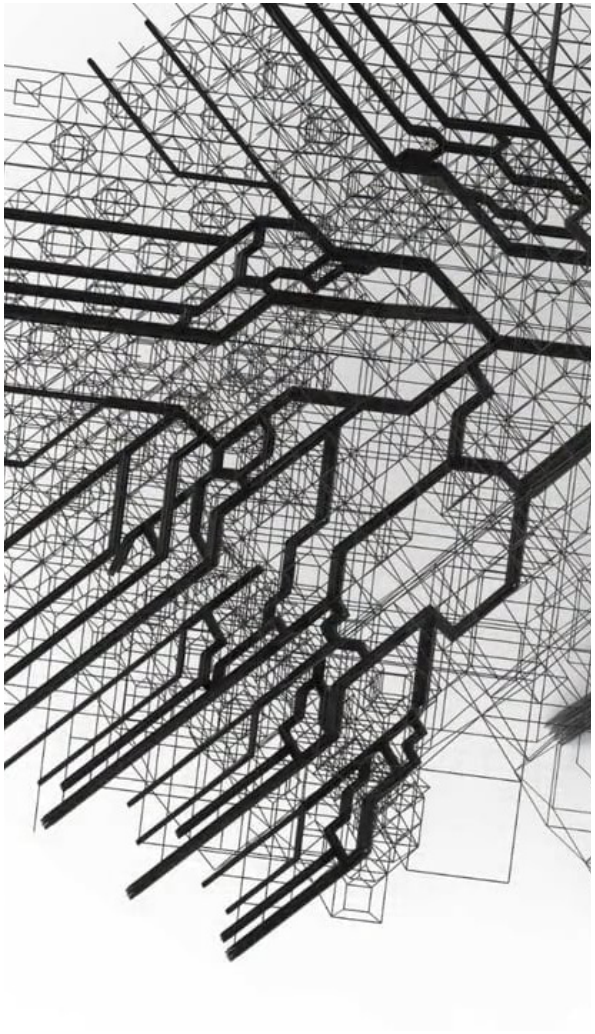


swarm-urbanism/kokkugia/
/// 1

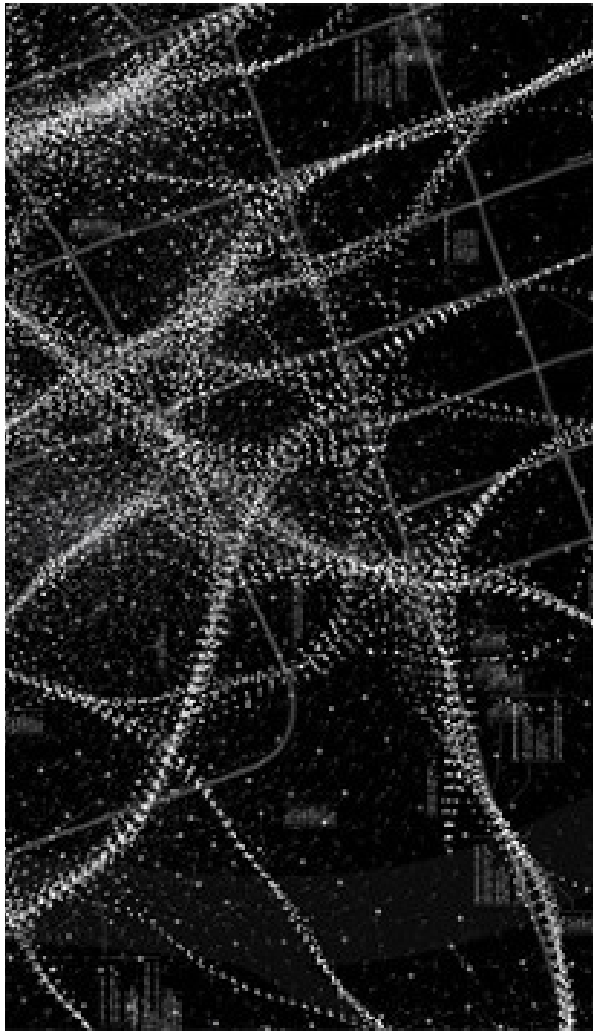
AA_shanghai_summerschool/retsin/
/// 1

swarm town/new_territories/
/// 1

urban morphology
/// 1



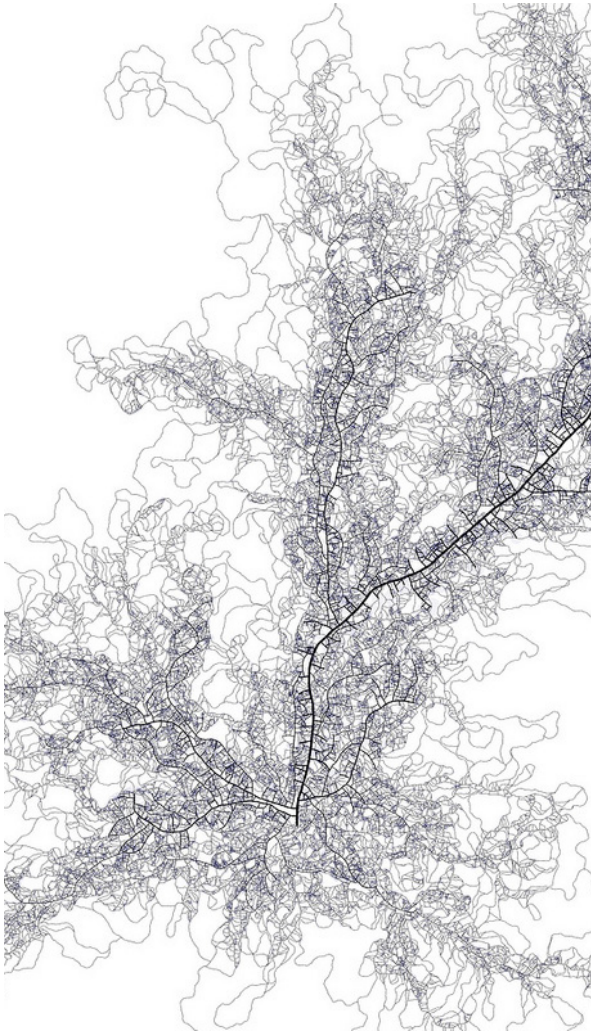
spacestream/daniel widrig/
/// 2



swarm-urbanism/kokkugia/
/// 2

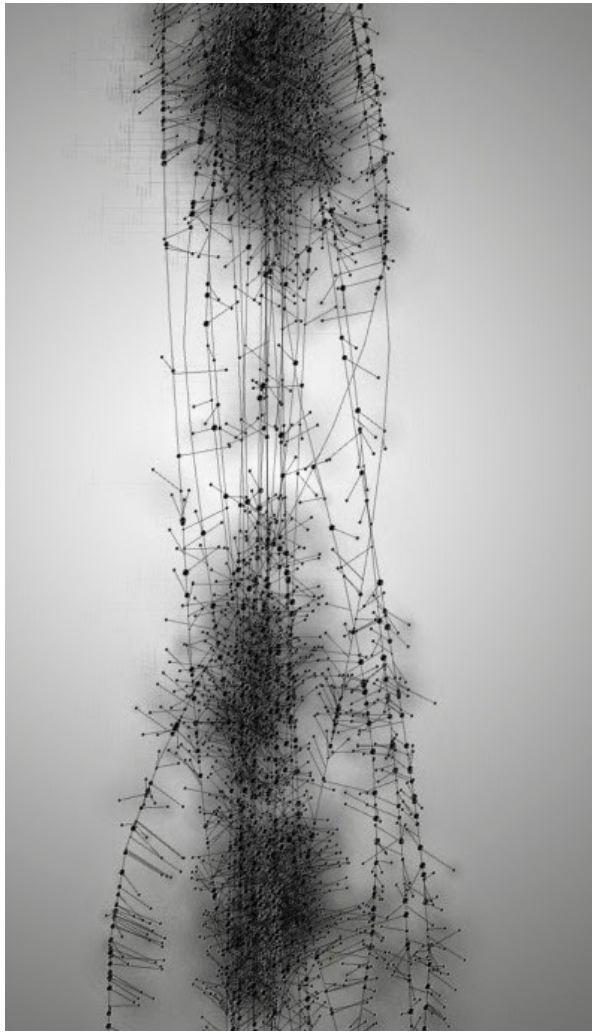
aavs-shanghai-2015
/// 2

mobility system
/// 2



iconvergent/networks/
/// 3

spyropoulos and more/adaptive ecologies/
/// 3



jose sanchez /moth/
/// 3

energy production
/// 3

ALESSIO ERIOLI

Engineer and Senior Researcher at Università di Bologna where he also teaches Architectural Design, MArch in Biodigital Architecture, PhD in Architectural Engineering, co-founder and coder at Co-de-iT (www.co-de-it.com). His recent interests regard the aesthetics and tectonics that emerge as a consequence of computation in architecture (and related fields), investigated through Agent-Based modeling simulation of Complex Adaptive Systems (autonomous constructor agents, whether robotic or biological) coupled with form-finding strategies. He is also skilled in computational design, programming & modeling on several platforms.

ALDO SOLLAZZO

Aldo is an architect and researcher.
Master in Advanced Architecture in 2013 at Institute for Advanced Architecture of Catalona (IaaC), Fab Academy Diploma in 2014 at the Fab Lab Barcelona, Aldo is founder of Noumena and Fab Lab Frosinone. Expert in computational design and digital fabrication that teaches in international events and explore within the Lab and its own practice. Since 2013, he is director and coordinator of RESHAPE – digital craft community, a platform dedicated to the development and implementation of innovative ideas from the world of digital design and fabrication. He is actually Head of IaaC visiting programs.

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