

# SAYFAN G. BORGHINI

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Yehuda Hayamit, 55  
Tel Aviv Yafo, Israel

## EDUCATION

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| <b>PhD</b> | University 'La Sapienza',         | October 1998 |
| <b>MS</b>  | University 'La Sapienza', Physics | July 1992    |

## ACADEMIC EXPERIENCE

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**HIT** – Holon Institute of Technology, Holon, Israel  
Design Faculty, 2011 to Present

- Lecturer – Multidisciplinary Studies
- Lecturer – Master of Integrated Design

**ECCO** – Evolution, Complexity and Cognition 2015 to Present  
VUB Vrije Universiteit Brussel, Doctoral School  
Affiliated Researcher, Advisor: Prof. Francis Heylighen

- Seminar

**VUB** - The Center Leo Apostel, CLEA,  
• Member and Lecturer at the **Postgraduate School of Thinking** 2018 to Present

**AESOP**, Thematic Group on Urban Planning and Complexity 2016 to Present  
Affiliated Researcher

- Peer review of proposals and publications
- Research collaborations

**PLAST**, Pattern Languages for Systemic Transformation 2015 to 2016  
**Researcher**

- Redacting CAPS European Proposal, Theory Section
- Redacting FET Proact European Proposal

**TEMPUS IDEA**, InterDisciplinary Education Agenda 2014 to 2016  
**Member**, European Consortium, Academy-Industry relations

- Research on Academic Innovation in Europe and in Israel
- Knowledge integration in the interdisciplinary area
- Multiple Academic Training Workshops (Brighton - UK, London – UK, Milan - Italy, Cologne - Germany, Tel Aviv - Israel)

## TEACHING EXPERIENCE

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Master Program in Integrated Design, HIT  
**Urban Ecology Seminar**

October 2011 to Present

- An introductory overview of complex systems theories and their application in the regenerative design of urban environments – understanding the dynamics of socio-technological-natural systems.

Interdisciplinary Track, HIT  
**Biomimicry for Innovation**, with Dr. Elad Segev

February 2013 to Present

- Studio course open to multiple faculties.
- Introduction to the interdisciplinary methodology of biomimicry as a basis for innovation in multiple disciplines
- Project-based learning with Laboratory experiments.

Post Graduate School of Thinking, VUB, Brussels  
**Complexity Thinking**

February 2018 to Present

- Introduction to the Paradigm of thought of the Science of Complexity
- Evolution, Dynamic Systems, Information Theory, Computation

Master Program in Integrated Design, HIT

October 2013 to 2015

**Integrated Design Laboratory: Science, Technology and Design**, co-lecturer

- Development of projects that can reflect the synergies of Design with technology and science.

Master Program in Integrated Design, HIT

October 2016 to 2018

**Integrated Design Laboratory: Service Design and the Human-centered approach**, co-lecturer

- *Design Thinking* led projects in Social Innovation, Education and Healthcare.

Tempus Idea

October 2014

**Design Management: Technology, Design and Innovation**, co-lecturer

- In collaboration with High Tech Start-up. Employing creative thinking methodologies.

Master Program in Integrated Design, HIT

October 2013 to Present

**Masters Students Advised**

- Daphna Levin, “Mapping Wikipedia Collaboration & Identifying Patterns for Human Stigmergy Research”, October 2013
- Ester Cohen Tchernichovsky, “The connection between quality education and tangible experiences”, October 2013
- Mor Ashkenazy, “Dead End City – Suburban Planning at the Urban Scale”, October 2014
- Anat Izzik, “Envisioning Healthcare – My Orchid System”, October 2014
- Orly Avital, “Stigmergy in the Urban Space”, October 2016

- Carmel Shiner, “Design and evolution viewed via artifacts: do artifacts influence our genetic make-up?”, Date Graduated, February 2018
- Ayelet Tarlowksi, “A System for Vertical Gardens”, October 2018.
- Tami Edelman, “Future scenarios in agriculture”, October 2018.

#### INVITED WORKSHOPS & COLLABORATIONS

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**Hadassa Academic College**, Jerusalem, Israel February 2019  
**DAN**, Department of Creative Human Design  
 • “Re-Thinking the Next Step”. Invited Faculty workshop on Academic Innovation.

**CRI Center for Research and Interdisciplinarity**, Paris, France February 2018  
**Member of Initiative**, Montparnasse Initiative, School of Advanced Thinking  
 • “Advanced Thinking”. Workshop on possible methodology for multidisciplinary thinking and teaching.

**Ben Gurion University**, Beer Sheva, Israel June 2016  
**Guest Lecturer**, Department of Geography and Environmental Development  
 • “Complex Patterns in the Urban Fabric”. Invited day workshop to the Master Students in Urban Planning.

**Urban Clinic of the Hebrew University**, Jerusalem, Israel September 2016 to 2017  
**External Researcher**, Urban Clinic  
 • “Placemaking in Jerusalem”. Invited collaboration with the Urban Clinic and AESOP researchers from Portugal and the Nederland to evaluate a wide Placemaking Project in Jerusalem.

**Brighton University**, Brighton, UK February 2015  
**Guest Lecturer**, Department of Arts and Design  
 • “Food Matters”. Workshop in collaboration with local industry.

**Danube University**, Graz, Austria, Italy July 2015  
**Guest Co-Lecturer**, PurpleSoc Week  
 • “PLAST – Pattern Languages for Systemic Transformation”. Workshop on the use of patterns in complex system for social innovation.

**ISIA Design Rome**, University of Rome, Italy June 2014  
**Guest Lecturer**, Design week workshop  
 • “Food Systems”. Workshop in collaboration with local food industry.

#### PUBLICATIONS

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### ***Book Chapter***

Borghini, S. (2021). Thinking Complexity. In: M. Lenartowicz & W.D.R. Weinbaum (Eds.), *The Practice of Thinking: Cultivating the Extraordinary*. Academia Press (forthcoming)

Borghini, Boddington (2017) in Interdisciplinary Research and Education Agenda – A Design Driven Perspective, Vacca, F., Warshavski, T. (Editors), “Collective Narratives: Startup Companies, High Tech and the Global Market”.

### ***Journal Publications***

Borghini, S. G., *Stigmergy in the Design of Social Environments*. Eur. Phys. J. Special Topics 226, 269 –281 (2017)

Rosner-Manor, Y., Borghini, S. G., Boonstra, B., & Silva, P. (2020). Adaptation of the urban codes—A story of placemaking in Jerusalem. *Environment and Planning B: Urban Analytics and City Science*, 47(2), 251-267.

Borghini, S. G. (Free Knowledge Institute), Helene Finidori (Free Knowledge Institute), Tom Henfrey (Schumacher Institute), Nadia McLaren (Global Action Plan International), Kurt Laitner (Third Meta Consulting), Vincent Puig (IRI), Takashi Iba, (Keio University Japan), Martin Pruvost-Beaurain (ICT Consultant), Helmut Leitner (GIVE research society), RenŽ Reiners (Fraunhofer Institute of Technology), Frank Leymann and Michael Falkenthal (University of Stuttgart - Institute of Architecture of Application Systems); “PLAST Pattern Languages for Systemic Transformation”, Spanda Journal, Vol. VI, 1, 2015

Levin, Borghini, Geiger, Markfeld (2014). “Employing Data Visualization to Explore Human Stigmergy in Information Systems”; Proceedings - ECIS 2014, 22d European Conference on Information Systems, Tel Aviv, Israel,

Doria, JD, Borghini, S.G. (2013) “A becoming on the line: painting and the genesis of form”; *Organizational Aesthetics*, Volume 2 Issue 1, Pages 84 to 96, Digital Commons.

Doria, JD; Borghini, S.G. (2013), “A becoming on the line: painting and the genesis of form – Part 2 Walking the fine line”; *Further Field*, Nov 1, 2013.

### ***Journal Papers in Review***

Borghini, S.G., Rosner, Y., Rofo, Y. (forthcoming) “Stigmergy in Informal Communities”. *Environmental Planning B*.

### ***Conference Papers***

(Peer-Reviewed)

Borghini, S.G., Rosner, Y. (2017) “Mediating Adaptation: a City Action System”; proceedings of New Sciences and Actions for Complex Cities – Social and Institutional Innovation in Self-Organizing systems SYPCITY. Florence, Italy, December 14-15, 2017.

Borghini, S.G., Rosner, Y., Boonstra, B., Silva, P. (2017) “Placemaking in a contested city: a story of epigenetic tactics in contemporary Jerusalem”; proceedings of 15<sup>th</sup> meeting AESOP – Crossing over with Complexity: Co-Evolution in Planning. Ghent, Belgium, April 12-14, 2017.

Rosner, Y., Borghini, S.G., Rofè, Y. (2016) “Stigmergy In Informal Communities, The Unrecognized Bedouin Villages In The Negev, Israel”; proceedings of 14th meeting AESOP – Taking Stock of Complexity Sciences: Evidence of Progress in Urban Planning?. Bamberg, Germany, February 11-12, 2016.

Borghini, S.G. & Segev, E. (2015) “יצירתיות ככלי מעורר מוטיבציה בהוראה אקדמית”; proceedings of Creativity in Teaching; Oranim Academy, Israel, June 23, 2015.

Finidori, H., Borghini, S.G., Henfrey, T. (2015) “Towards a Fourth Generation Pattern Language: Patterns as Epistemic Threads for Systemic Orientation”. Proceedings - Purplsoc (Pursuit of Pattern Languages for Societal Change) Conference 2015. Danube University Krems, Austria.

Borghini, S.G. (2014), “The transforming identity of cities”; Transition Towns, Smart City Expo 2014, Barcelona, Spain.

#### PRESENTATIONS AND INVITED LECTURES

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**“Patterns of Informalities”**. Emerging Patterns in the Built Environment. 17th Meeting of the AESOP Thematic Group on Urban Planning and Complexity. Ben Gurion University of the Negev, Beer-Sheva, Israel, November 2018.

**“Mediating Adaptation: A City Action System”**. New Sciences and Actions for Complex Cities – Social and Institutional organization in self-organizing systems. SYPCITY. Università degli Studi, Florence, Italy, December 14-15; 2017.

**“Placemaking in a contested city: a story of epigenetic tactics in contemporary Jerusalem”**. 15th Meeting of the AESOP Thematic Group on Urban Planning and Complexity. University of Ghent, Belgium, 12-14 April, 2017.

**“A Mutual Language”**. Placemaking through the lens of Cities as Complex Systems; Urban Clinic at the Hebrew University; Jerusalem, 26-27 September, 2016.

**“Biomimicry – Material Languages”**. International workshop on organizational communication. Amdocs, Raanana, Israel, 18 July; 2016.

**“Stigmergy in Informal Communities”**; 14th Meeting of the AESOP Thematic Group on Urban Planning and Complexity, University of Bamberg, Germany, 11-12 February;

**“Stigmergy in the Design of Social Environments”**. In: Evolution, Complexity and Cognition - ECCO/GBI Seminar Serie 2015-16, VUB Doctoral School, November 27, 2015.

**“Biomimicry for Social Innovation”**; BioDesign Symposium, HIT, Holon, April 28, 2015.

**“The transforming Identity of Cities”**. Transition Towns Conference, ISIA Design Week, Pordenone Italy, March 18, 2015

**“Wicked Problems in Design Research”**. Open Design Hubs Conference, Shenkar, Tel Aviv; November 26, 2014.

**“Shifting Forms – Systems and Design”**. 3D Expo, Kiev, Ukraine; November 21, 2014.

**“Media Labs: from Science to Art”**. Panel moderation. Ars Campus at Ars Electronica, Linz, Austria, September 5, 2013;

**“Design in Systems”**. Sustainability in Design, HIT, Holon; 2013

**“Shifting forms - The generative streams between design and geometry”**. “Design in Motion/ Motion in Design”, Design Faculty Congress, HIT, Holon, May 6, 2013.

**“From Data to Wisdom: Mapping Complex Systems”**. IDHO Laboratory, HIT, Holon; November 27, 2012.

**“Education, what for?”**. Icon Festival, Panel on ‘Education for an unknown future’, Cinematheque, Tel Aviv, October 4, 2012.

**“Polytopia Project”**. NextNet Collabathon MetaCurrency Project, Rethinking Value, Tranzact, NJ, USA, October 21,22,23, 2011.

**“Polytopia, a Mind Habitat”**. ContactCon, ‘The Evolution will be Social’, Angel Orensanz Center, New York, USA; October 20, 2011.

**“The Future Role of Design”**. Desis Middle East – ‘Design as engine of Social Innovation’, HIT, Holon; December 1, 2010;

**“How do we think the future”**. TEDxHolyland - ‘It’s Time’; American Colony, Jerusalem; October 29, 2010.

#### ACADEMIC CONFERENCES CO-ORGANIZER

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Academic Conference Scientific Advisor; “Placemaking through the lens of Cities as Complex Systems”; Urban Clinic at the Hebrew University; Jerusalem, 26-27 September, 2016.

Member of Organizing Committee; “Bio-Design Symposium”, Master Program in Integrated Design, Design Faculty, HIT, Holon, 28 April, 2015.

Member of Organizing Committee; “Biomimicry: Learning to Innovate from Nature”, Design Faculty Congress, HIT, Holon, 27 May, 2013.

## EXHIBITIONS

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### *Museums*

Curator, with Van Essen, Y.E. and Chitayat, L. “Art, Science and Technology, an Israeli Perspective”, Museum of Modern Art, St Petersburg, Russia, October 2016.

### *Galleries*

Scientific Advisor and Assistant Curator. “BioDesign–Hybrid Fabrications”, Research Gallery of the Master Program in Integrated Design, HIT, 28.4 - 19.5, 2015.

Curator, with Van Essen, Y.E. and Chitayat, L. “Art, Science and Technology, an Israeli Perspective”, 3D Expo, Kiev Ukraine, November 2014.

Co-researcher and Assistant Curator. “The Cartography of the Unseen”, Research Gallery of the Master Program in Integrated Design, HIT, 26.11 - 26.12, 2013.

Scientific Advisor and Assistant Curator. “IL(L) Machine”, Presenting 10 Israeli Academies, ArsCampus Israel at **Ars Electronica Linz**, Austria September 5-9, 2013

## COMMUNITY PROJECTS

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**The Lab of Intelligence Cultures**, NGO 2017 to Present  
Founder. Experimental community investigating different approaches to collective intelligence.

**Polytopia Project**, Space Collective 2009 to 2012  
International Coordinator. Extensive experimental community on the web, exploring future implications of digital environments and pluralistic approaches.

**ICI, Institute for Collective Intelligence** 2011 to 2012  
Invited Board Member. Stratford, Ontario, Canada.