

CURRICULUM VITAE

SASA ZIVKOVIC

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Assistant Professor, Cornell University

Director and Founder, Robotic Construction Laboratory (RCL), Cornell University

Co-Principal and Co-Founder, HANNAH Design Office LLC

www.hannha-office.org

www.rcl-aap.com

BIOGRAPHY

Sasa Zivkovic is an assistant professor at Cornell University AAP where he directs the Robotic Construction Laboratory (RCL), an interdisciplinary research group investigating robotic based construction technology. Zivkovic is a co-principal of HANNAH, an experimental architecture practice based in Ithaca, New York. HANNAH's research focuses on advancing traditional building construction techniques by implementing new technologies and processes of making, addressing subjects of construction, rapid urbanization, and mass customized housing design. In close collaboration with the high-tech building industry, HANNAH and RCL explore the implementation of construction techniques such as additive concrete manufacturing and robotic wood construction. HANNAH's *RRRolling Stones* project won the 2018 Folly/Function competition hosted by the Architectural League of New York and Socrates Sculpture Park. In December 2018, HANNAH was named *Next Progressives* by Architect Magazine and recently completed a 3D printed *Guard House in Suzhou*, a pro-bono *Modular Dental Clinic in Ladakh* in India, and a *3D printed Corbel Cabin in Ithaca*, New York.

Zivkovic pursued his graduate studies at MIT where he was the recipient of the AIA Certificate of Merit, a merit-based MIT full tuition scholarship, and a scholarship from the German Academic Exchange Service (DAAD). Prior to MIT, Zivkovic studied architecture and city planning at Stuttgart University where he was awarded a fellowship from the German National Academic Foundation (Studienstiftung des

Deutschen Volkes) from 2007–12. At Cornell, Zivkovic teaches graduate and undergraduate core design studios as well as elective seminar classes or option studios with a focus on digital fabrication, construction, and representation.

EDUCATION

2008-12 Massachusetts Institute of Technology, Cambridge, MA, USA
2005-08 University of Stuttgart, Stuttgart, Germany

DEGREES

M.Arch Master of Architecture, Massachusetts Institute of Technology, 2012
Vordiplom University of Stuttgart, 2007

EMPLOYMENT

Academic Employment History

2016 - current **Assistant Professor**, Cornell University, AAP College of Architecture, Art, and Planning
2015-16 **Visiting Assistant Professor**, Cornell University, AAP College of Architecture, Art, and Planning
2014-15 **Visiting Critic**, Cornell University, AAP College of Architecture, Art, and Planning
2010-12 **Graduate Teaching Assistant**, Massachusetts Institute of Technology, SAP School of Architecture and Planning

Research Appointments

2016 - current **Director and Founder**, Robotic Construction Laboratory (RCL), Cornell University, AAP Department of Architecture

Professional Employment History

2012 - current **Co-Principal and co-founder**, HANNAH Design Office LLC
2012 **Architectural Designer**, NADAAA, Boston, MA (4 months)
 Projects: Boston City Hotel Design Study, Melbourne School of Design
2009-11 **Architectural Intern**, KVA MatX Kennedy & Violich Architecture, Boston, MA
 (multiple internships), Projects (selected): Soft House, IBA Hamburg, Minneapolis River First Competition
2009 **Architectural Intern**, Höweler + Yoon Architecture, Boston, MA

Projects: Rongsheng Mixed Use Development
2004-08 **Architectural Intern**, Neugebauer & Rösch Architekten, Stuttgart, Germany
(initial 9-month internship before architectural studies in Stuttgart, internships during summer and winter breaks, 2-3 days per week during the semester)
Projects (selected): Gewerbehof in Munich, Ossendorfbad in Cologne, Porsche Office Building in Weissach, Volksbank in Schwäbisch Gmünd, Fendt Factory

MEMBERSHIPS

Atkinson **Faculty Fellow**, Cornell University David R. Atkinson Center for a Sustainable Future
(2017 - current)
ACADIA **Member**, ACADIA - Association for Computer Aided Design in Architecture
(2016 - current)
Rob|Arch **Member**, International Association for Robots in Architecture (2017-current / initiated AAP membership)

AWARDS

Personal and Professional Awards and Distinctions

2018 **Winner, Folly/Function 2018: Seats, Architectural League of New York**
“RRRolling Stones” by HANNAH, Leslie Lok & Sasa Zivkovic
International competition, organized by the Architectural League of New York and Socrates Sculpture Park

2018 **Winner and Participant, 2018 CCA Biennial: Duration**
“Log Knot” by Robotic Construction Laboratory (RCL)
Sasa Zivkovic (RCL director and main project lead) & Brian Havener (RCL research associate and project co-lead)
Organized by the Cornell Council of the Arts

2018 **Next Progressives, Architect Magazine**
HANNAH named “Next Progressives” by Architect Magazine, December 2018 Issue

2018 **Best Workshop, Runner-up, Rob|Arch 2018**
“Sub-additive 3D printing of optimized double curved concrete lattice thin shell structures”. Instructors: Sasa Zivkovic (Cornell University, Assistant Professor), Martin Fields Miller (Cornell University, Visiting Critic), Christopher A. Battaglia (Ball State University, 2018-19 Design Innovation Fellow, Assistant Teaching Professor)

2014 **HANNAH selected as Outpost Research Office for OFFICE US,**

US Pavilion at the 2014 Venice Biennale

Curated by Eva Franch i Gilabert, Ana Miljacki, Ashley Schafer

2013

AIA Certificate of Merit

Massachusetts Institute of Technology, Department of Architecture

2010-12

Full Tuition Departmental Merit Scholarship

Massachusetts Institute of Technology, Department of Architecture

2010-11

Full Tuition Scholarship in Architecture

DAAD Deutscher Akademischer Austausch Dienst (German Academic Exchange Service)

2010

Sydney B. Karofsky '37 Prize

Massachusetts Institute of Technology, Department of Architecture

2008-10

Departmental Tuition Award

Massachusetts Institute of Technology, Department of Architecture

2008-10

Full Tuition Scholarship for Graduate Studies in Architecture

SUTOR Foundation in Hamburg

2006-12

Fellow and Scholarship

Studienstiftung des Deutschen Volkes (German National Academic Foundation)

2005-08

Departmental Awards at University of Stuttgart (selected)

1st prize Heilbronn Urban Planning Project (Prof. Bott), 1st prize Explorer Design Project (Prof. Jocher)

Teaching Awards

2018

1st price and 3rd prize, 2018 ACMA Composite Challenge

Invited and sponsored competition, American Composites Manufacturers

Association (ACMA), 1st prize: Tubular Knitting / Jingjing Liu, Jing Wei (William)

Qian, Xiaohang (Gloria) Yan, Jingxin Yan, Yuheng (Amber) Zhu

3rd prize: Don't Leave Me Hangin' / Karolina Piorko, Song Ren, Veronika Varga

Instructors: Sasa Zivkovic (lead instructor), Christopher Battaglia (co-instructor),

Brian Havener (co-instructor)

2015

ArchDaily - Best Student Work Worldwide 2015

Fluid Pavillion by Charisse Foo and Hanxi Wang, designed in elective seminar:

From Sheet to Form (co-instr. with Martin Miller)

Teaching Awards (Cornell AAP)

- 2018 **Elie Boutros (B.Arch. '18), Thesis Prize, Charles Goodwin Sands Memorial Award**, *"The Mourning After: On Exhausting Ruins"*
Instructors: Aleksandr Mergold, Sasa Zivkovic
- 2017* **Yichen Jia (B.Arch. '18), William S. Downing Prize**
Timber Villa Research Option Studio Project, Instructor: Sasa Zivkovic
- 2017* **Ethan Davis (M.Arch. '18), Thesis Prize, Ruth Bentley and Richmond Harold Shreve Award**, *"Odd Wood: Non-Standardized Timber Assemblies"*
Instructors: Sasa Zivkovic, Joao Almeida
- 2016* **Christopher Battaglia (M.Arch. '17), Thesis Prize, Ruth Bentley and Richmond Harold Shreve Award**, *"Sub-Additive: Design Research in Concrete 3-D Printing"*
Instructors: Sasa Zivkovic, Martin Fields Miller
- 2016-18 **Jeremy Bilotti (B.Arch. '18), Rawlings Cornell Presidential Research Scholar**
Faculty advisor: Sasa Zivkovic
- 2015 **Mitsuto Mori (M.Arch. '16), Thesis Prize, Ruth Bentley and Richmond Harold Shreve Award**, *"Safekeeping: Architecture of Protection and Assurance"*
Instructors: Shingo Masuda, Sasa Zivkovic

Awards Practice (With Others)

- 2011 **1st prize - River First Competition**, Minneapolis (Kennedy & Violich Architecture)
- 2010 **1st prize - Soft House Competition**, Hamburg (Kennedy & Violich Architecture)
- 2008 **1st prize - Stadtumbau, Leonberg Mitte** (Neugebauer & Rösch Architekten)
- 2007 **3rd prize – Gewerbehof Laim**, Munich (Neugebauer & Rösch Architekten)
- 2006 **1st prize - Bismarckschule**, Stuttgart Feuerbach (Neugebauer & Rösch Architekten)
- 2006 **1st prize - Ossendorfbad**, Cologne (Neugebauer & Rösch Architekten)

SCHOLARLY WORK

Conferences, Colloquia, Lectures (Organized and Moderated)

- 2018 **Co-Organizer**, *"Cornell AAP Living Room at IPADÉ - at A Prelude to the Shed"*, New York City, May 15, 2018 1-3 PM, Invited by Kunlé Adeyemi and NLÉ,
Event organizers: Sasa Zivkovic & Danica Selem in collaboration with Cornell Living Room & Andrea Simitch, Cornell University, AAP Department of Architecture
- 2017 **Technical chair and co-organizer**, *"Matter Design Computation Symposium: The Art of Building from Nano to Macro"*, Cornell AAP Preston Thomas Memorial

- Lecture Series, March 10/11, 2017, Co-Chair and lead organizer: Jenny E. Sabin, Cornell University, AAP Department of Architecture
- 2017 **Organizer**, colloquium, “*Will This Robot Take My Job?*”
- CIES Migration Lecture Series and Cornell AAP Critically Now Series, October 18, 2018, Cornell University, AAP Department of Architecture

Scholarly Service (Peer-Reviews)

- 2018 **Peer Reviewer, 107th ACSA Annual Meeting**, BLACK BOX: Articulating Architecture's Core in the Post-Digital Era
- 2018 **Peer Reviewer, 2018 ACSA Fall Conference**, PLAY with the Rules
- 2017 **Peer Reviewer, 2017 ACSA Fall Conference**, Crossings Between the Proximate and Remote

PUBLICATIONS

Books, Edited

- Forthcoming Sabin, Jenny E., and Sasa Zivkovic. Editors. “**Matter Design Computation: The Art of Building from Nano to Macro**, In *Proceedings of the Preston Thomas Memorial Symposium “Matter Design Computation: The Art of Building from Nano to Macro”*, Cornell University, AAP Department of Architecture,

Book Chapters & Contributions

- Forthcoming Zivkovic, Sasa. “**A True Collage City: MAT-Materiality and Constructed Collage in Diocletian’s Palace**” in *What if? – Scenarios for Split* by Sverko, Ana, Leslie Lok, and Sasa Zivkovic. Institute of Art History - Center Cvito Fiskovic Split Press. 2019.
- 2015 Zivkovic, Sasa. “**Towards the Anthropocene: Colossal Naturality in Disordered Territories**”. In *Building Discourse - Proposition & Proof*, edited by Irene Hwang, SA+P Press, (2015): 112-131.

Articles, Essays, and Project Publications (Non Peer-Review)

- 2018 Lok, Leslie, and Sasa Zivkovic. “**Additive Guardhouse**”, In *ASSOCIATION Vol.9* (AAP Publications. 2018)
- 2018 Zivkovic, Sasa. “**Daedalus**”, In *ASSOCIATION Vol.9* (AAP Publications. 2018)
- 2017 Lok, Leslie, and Sasa Zivkovic. “**Additive Architectural Elements - A New Robotic Brutalism**”. (Self-published, HANNAH Press, 2017).

- 2016 Zivkovic, Sasa. **“Ghosts of the Future - Architecture in the Anthropocene”**, In *Cornell Journal of Architecture, 10: Spirits*, edited by Caroline O’Donnell. AAP Publications. (2016).
- 2015 Zivkovic, Sasa. **“Towards the Anthropocene: Colossal Naturality in Disordered Territories”**. In *ACADIA 2015: Computational Ecologies - Design in the Anthropocene [Exhibition Catalog of the 35th Annual Conference of the 35th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)]*, (2015): 77-80.
- 2015 Zivkovic, Sasa. **“The Invention of Anthropocene Order - Visual Representation Elective”**, In *ASSOCIATION Vol.7* (AAP Publications. 2015)
- 2012 Zivkovic, Sasa. **“Towards the Anthropocene: Colossal Naturality in Disordered Territories”**, (Massachusetts Institute of Technology, 2012). M.Arch Thesis.
- 2012 Zivkovic, Sasa. **“Milieus and Algorithms”**, in *SuckerPunch*, June 7, 2012. <http://www.suckerpunchdaily.com/2012/06/07/milieus-and-algorithms/>
- 2011 Zivkovic, Sasa. **“Geoformer”**. In *Testing to Failure - Design and Research in MIT’s Department of Architecture*. Edited by Sarah M. Hirschman. SA+P Press, (2011): 102-104
- 2011 Zivkovic, Sasa. **“De-Orchestrated Landscape”**. In *Testing to Failure - Design and Research in MIT’s Department of Architecture*. Edited by Sarah M. Hirschman. SA+P Press, (2011): 99.
- 2011 Zivkovic, Sasa. **“Galapagos Ecological Modernism”**. In *Testing to Failure - Design and Research in MIT’s Department of Architecture*. Edited by Sarah M. Hirschman. SA+P Press, (2011): 289-290
- 2011 Kennedy, Sheila, Marc Baldo, and Sasa Zivkovic. **“Design Innovation for Distributed Energy”**. In *Testing to Failure - Design and Research in MIT’s Department of Architecture*. Edited by Sarah M. Hirschman. SA+P Press, (2011): 370-371
- 2011 Zivkovic, Sasa. **“Archi Punk”**. In *Testing to Failure - Design and Research in MIT’s Department of Architecture*. Edited by Sarah M. Hirschman. SA+P Press, (2011): 405-406.
- 2011 Zivkovic, Sasa. **“Geoformer”**, in *SuckerPunch*, April 16, 2012. <http://www.suckerpunchdaily.com/2012/04/16/geoformer/>

2009 Zivkovic, Sasa. **“Swarm Bridge”**. In *Uncertain Futures - Two Years of Student Research at the MIT Department of Architecture*, Edited by Ana Miljacki, SA+P Press, (2009): 215-217.

Articles, Essays and Reviews by Others (Selected, Featuring Zivkovic’s Work)

- 2019 **“Architecture Firms NYC: 8 Architects to Follow in 2019”** in *Arch2O*.
<https://www.arch2o.com/new-york-city-8-architects-to-follow-in-2019/>
- 2018 Murray, Timothy. **“The Sediments of Duration's Heave: Curating the 2018 CCA Biennial.”** In *Diacritics 46, no. 1* (2018): 102-123. Includes: *“Log Knot”* by RCL.
<https://muse.jhu.edu/> (accessed February 16, 2019).
- 2018 O’Leary, Melissa. **“Tomorrow's Architects Take on Composites”**. In *Composites Manufacturing Magazine*. Issue September/October 2018. Includes: *ACMA Composites Challenge 2018 Winning Projects* by Cornell students
- 2018 Hilburg, Jonathan, **“Knotted installation proposes ways to reduce timber waste”**. In *The Architect’s Newspaper*. October 29, 2018.
<https://archpaper.com/2018/10/cornell-log-knot>
- 2018 Fleeer, BreAnne. **“Robotically-Built LOG KNOT Installation on Ag Quad Optimizes Wood Usage”**. In *The Cornell Daily Sun*. September 4, 2018.
<https://cornellsun.com/2018/09/04/robotically-built-log-knot-installation-on-ag-quad-optimizes-wood-usage/>
- 2018 Keane, Katharine. **“Next Progressives: HANNAH Design Office”**. In *Architect Magazine, The Journal of the American Institute of Architects*. Online and Print Issue. Interview with Leslie Lok & Sasa Zivkovic of HANNAH. December 10 2018.
https://www.architectmagazine.com/practice/hannah-design-office_o
- 2018 **“HANNAH Brings 3D Printed Furnishings to Socrates Park”**. In *Junkies.tech*, July, 15, 2018. <https://junkies.tech/hannah-brings-3d-printed-furnishings-to-socrates-park/>
- 2018 Aloi, Daniel. **“Designers to unveil ‘RRRolling Stones’ at NYC sculpture park”**. In *Cornell Chronicle*, July 31, 2018. <http://news.cornell.edu/stories/2018/07/designers-unveil-rrrrolling-stones-nyc-sculpture-park>
- 2018 Hilburg, Jonathan. **“3D printed furniture rolls into Socrates Sculpture Park”**. In *The Architect’s Newspaper*. July 12, 2018. <https://archpaper.com/2018/07/3d-printed-furniture-socrates-sculpture-park/>

- 2018 Daley, Hope. “**HANNAH’s winning “RRRolling Stones” modular seating to be unveiled at Socrates Sculpture Park**”, in *Archinect News*, July, 11, 2018. <https://archinect.com/news/bustler/6679/hannah-s-winning-rrrolling-stones-modular-seating-to-be-unveiled-at-socrates-sculpture-park>
- 2018 Dechamps, Amelie. “**HANNAH Brings 3D Printed Furniture to Socrates Park**”. In *3DPrinting.com*, July 13, 2018, <https://3dprinting.com/news/hannah-brings-3d-printed-furniture-socrates-park/>
- 2018 Daley, Hope. “**HANNAH’s winning “RRRolling Stones” modular seating to be unveiled at Socrates Sculpture Park**”, in *Bustler*, July, 11, 2018. <http://bustler.net/news/6679/hannah-s-winning-rrrolling-stones-modular-seating-to-be-unveiled-at-socrates-sculpture-park>
- 2018 Koslow, Tyler. “**Socrates Sculpture Park Gets 3D Printed Furniture for the Summer**”. in *All3DP*, July 15, 2018, <https://all3dp.com/4/socrates-sculpture-park-gets-3d-printed-furniture-summer/>
- 2018 Azure Magazine. “**RRRolling Stones**”, July 12, 2018, <https://www.azuremagazine.com/events/rrrolling-stones/>
- 2018 Wessler, Sarah. “**The making of RRRolling Stones**”, in *The Architectural League of New York*, June 29, 2018. <https://archleague.org/article/making-rrrolling-stones/>
- 2018 Aloï, Daniel. “**How they roll: Architecture faculty create winning design**”. In *Cornell Chronicle*. May 9, 2018. <http://news.cornell.edu/stories/2018/05/how-they-roll-architecture-faculty-create-winning-design>
- 2018 Testado, Justine. “**“RRRolling Stones” by HANNAH wins Folly/Function 2018**”, in *Bustler*, April 17, 2018. <http://bustler.net/news/6464/rrrolling-stones-by-hannah-wins-folly-function-2018>
- 2018 Kobata, Kelsi. “**3D-Printed Concrete Is Coming to New York’s Socrates Sculpture Park**”. In *Surface Magazine*. April 18, 2018. <https://www.surfacemag.com/articles/3d-printed-concrete-coming-to-new-york-socrates-sculpture-park/>
- 2018 Miller, Linda G. “**In the News: Like a Rolling Stone: HANNAH wins Folly/Function 2018**” in *AIA New York*, April 18, 2018, <https://www.aiany.org/news/in-the-news-130/>
- 2018 Testado, Justine. “**“RRRolling Stones” by HANNAH wins Folly/Function 2018**”, in *Archinect News*, April 17, 2018, <https://archinect.com/news/bustler/6464/rrrolling-stones-by-hannah-wins-folly-function-2018>

- 2018 Gardiner, Ginger. “**Composites Pavilion at AIA 2018**”. In *CompositesWorld*. June 28, 2018. <https://www.compositesworld.com/blog/post/composites-pavilion-at-aia-2018>
- 2018 Milberg, Evan. “**ACMA Announces Winners of COMPOSITES CHALLENGE for College Architecture Students**”. In *Composites Manufacturing Magazine*. June 25, 2018. <http://compositesmanufacturingmagazine.com/2018/06/acma-announces-winners-of-composites-challenge-for-college-architecture-students/>
- 2018 “**Robots to get Hy-Flex concrete pumps**”. In *The Construction Index*. March 29, 2018. <https://www.theconstructionindex.com/news/view/robots-to-get-hy-flex-concrete-pumps>
- 2012 Jarzombek, Mark M. “**Cauvet Cave**”. In *Architecture of First Societies: A Global Perspective*, (John Wiley & Sons, 2012)
Includes: ink drawings created by Sasa Zivkovic on pp. 69, 70, 72, 73
- 2007 Schürmann, Peter “**Architekten sind Spezialisten. Institut für Baustofflehre, Bauphysik, Technischen Ausbau und Entwerfen der Universität Stuttgart.**” In *Xia Intelligente Architektur, Nr.61*, (2007): 60-65.
Includes: Menschenhaus Stuttgart: Vordiplom Project by Alexander Chmarin, Chaoya Wang, Weijie Wang, Liang Xu, and Sasa Zivkovic

Peer-Reviewed Publications

- 2018 Zivkovic, Sasa, and Christopher Battaglia. “**Rough Pass Extrusion Tooling: Post-Processing Sub-Additive Concrete Lattice Structures.**” In *ACADIA 2018: Re/calibration: on Imprecision and Infidelity [Proceedings of the 38th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)]*, (2018).
[full paper, peer reviewed and accepted from full paper]
- 2018 Lok, Leslie, and Sasa Zivkovic. “**CORBEL CABIN: 3D Printed Concrete Building**” In *ACADIA 2018: Re/calibration: on Imprecision and Infidelity [Project Catalog of the 38th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)]*, (2018).
[project publication, peer reviewed and accepted from abstract]
- 2018 Zivkovic, Sasa, and Leslie Lok. “**Ladakh Dental Clinic: The Local-Imported Modularity - Negotiating Contradictory Material Practices in Remote Cities**” In *ACSA 2018 International Conference: New Instrumentalities [Proceedings of the 2018 International Conference of the Association of Collegiate Schools of Architecture (ACSA)]*, (2018).

- [full paper, peer reviewed and accepted from abstract]
- 2018 Zivkovic, Sasa, and Leslie Lok. “**Additive Architectural Elements - A New Robotic Brutalism**”. In *ACSA 106th ACSA Annual Meeting in Denver, Colorado: The Ethical Imperative [Proceedings of the 106th ACSA Annual Meeting of the Association of Collegiate Schools of Architecture (ACSA)]*, (2018).
- [project publication, peer reviewed and accepted from abstract]
- 2018 Zivkovic, Sasa, and Leslie Lok. “**Cartesian Concrete Spiel: A Syntax of 3D Printing**”. In *2018 ACSA Fall Conference: PLAY with the Rules [Proceedings of the 2018 ACSA Fall Conference of the Association of Collegiate Schools of Architecture (ACSA)]*, (2018).
- [full paper, peer reviewed and accepted from abstract]
- 2018 Battaglia, Christopher A., Martin Fields Miller, and Sasa Zivkovic. “**Sub-Additive 3D Printing of Optimized Double Curved Concrete Lattice Structures.**” In *Robotic Fabrication in Architecture, Art and Design*, Springer, Cham, (2018): 242-255.
- [full paper, peer reviewed and accepted from full paper]
- 2017 Zivkovic, Sasa, and Christopher Battaglia. “**Open Source Factory: Democratizing Large-Scale Fabrication Systems.**” In *ACADIA 2017: DISCIPLINES & DISRUPTION [Proceedings of the 37th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)]*, (2017): 660- 669.
- [full paper, peer reviewed and accepted from full paper]
- 2016 Zivkovic, Sasa, and Leslie Lok. “**Beyond the Ecology of Concrete Sausages.**” In *ACSA 2016 International Conference: Cross-Americas: Probing Disglobal Networks [Proceedings of the 2016 International Conference of the Association of Collegiate Schools of Architecture (ACSA)]*, (2016): 271-277.
- [full paper, peer reviewed and accepted from abstract]

GRANTS

Research Grants Awarded

- 2018 **Rapid Response Fund Grant, Atkinson Center for a Sustainable Future, Cornell University [\$19,426]: EMERGENCY WOOD: Re-purposing Cornell Ash Trees Infected by the Emerald Ash Borer for Sustainable and Smart Robotic Based Wood Construction.** Investigators: Sasa Zivkovic (PI), Kifle Gebremedhin (Co-PI), Peter Smallidge (Co-PI)
- 2018 **Ruch Exchange Grant, Jacobs Technion-Cornell Institute [\$7,000]**

Co-PIs: Leslie Lok, Assistant Professor, Cornell AAP / Aaron Sprecher, Associate Professor, Technion Israel Institute of Technology / Sasa Zivkovic, Assistant Professor, Cornell AAP

- 2017 **Rapid Response Fund Grant, Atkinson Center for a Sustainable Future, Cornell University [\$20,400]:** Concrete Building Innovation: Advancing Full Scale 3-D Printing Processes Towards Sustainable Concrete Construction. Investigators: Sasa Zivkovic (PI), Kenneth Clark Hover (Co-PI), Derek Warner (Co-PI), Timur Dogan (Co-PI)

Building Industry Grants and Sponsorships Awarded

- 2018 **FARO Technologies, equipment loan for Cornell RCL:** FARO Focus 3D S120 laser scanner, [\$80,000 equipment value, \$20,000 equivalent rental value]
- 2018 **RIKON Tools, equipment donation for Cornell RCL:** 18" 4HP bandsaw and blades [\$4,500]
- 2017 **HY-FLEX Corporation, equipment sponsorship/loan for Cornell RCL:** Hy-Flex HF-15 Spray Buddy concrete pump [\$6,000]
- 2016 **UNALAM, donation** to support the timber Villa Research Option Studio and RCL at Cornell [\$5,000]

Project Grants Awarded

- 2018 **Log Knot Production Grant**, CCA 2018 Biennial, [\$8,000]
- 2018 **Folly/Function 2018 Production Grant**, Socrates Sculpture Park, HANNAH: Leslie Lok & Sasa Zivkovic [\$6,000]

AAP College and Departmental Funds Awarded

- 2018 **AAP Faculty Development Fund 2018/19:** conference travel for Rob|Arch 2018, Digital Concrete 2018, and ACADIA 2018, [\$3,000]
- 2018 **Additional Start-up Funding for RCL**, AAP Dean and Chair Funds, [\$20,000]
- 2018 **AAP Faculty Development Fund 2017/18:** ACSA conference and pinkcomma gallery exhibition [\$4,000]
- 2018 **3D Printing Demonstration at Socrates Park**, AAP Dean and Chair Funds, Leslie Lok & Sasa Zivkovic, [\$4400]
- 2016 **AAP Faculty Development Fund 2015/16:** Conference travel to ACSA International Conference in Santiago, Chile [\$2,141]

2015 **AAP Faculty Development Fund 2015/16: Lightweight Modular Construction and Design Research - Ladakh Dental Clinic Humanitarian Project in India** [\$2,500]

LECTURES

Lectures at Peer-Reviewed Conferences

- 2018 **Paper presentation at ROB|ARCH 2018: Radical Cross-Disciplinarity**, “*Sub-Additive 3D Printing of Optimized Double Curved Concrete Lattice Structures*”, ETH Zurich, Speakers: Christopher Battaglia, Martin Miller, Sasa Zivkovic
- 2018 **Paper presentation at ACADIA 2018: Re/calibration: on Imprecision and Infidelity**, “*Rough Pass Extrusion Tooling: Post-Processing Sub-Additive Concrete Lattice Structures*”, Universidad Iberoamericana, Mexico City, Speakers: Sasa Zivkovic, Christopher Battaglia
- 2018 **Project presentation at 1st RILEM 2018 Digital Concrete Conference**, “*Case Study: Full Scale Concrete 3D Printing of Corbelled Sacrificial Formwork in Buildings using a Recyclable Gravel Aggregate as Temporary Support*”, ETH Zurich, Speakers: Sasa Zivkovic & Leslie Lok
- 2018 **Paper presentation at ACSA International Conference 2018 in Madrid: New Instrumentalities**, “*Ladakh Dental Clinic: The Local-Imported Modularity - Negotiating Contradictory Material Practices in Remote Cities*”, El Colegio Oficial de Arquitectos de Madrid (COAM), Speakers: Sasa Zivkovic & Leslie Lok
- 2018 **Project presentation at 106th ACSA Annual Meeting in Denver, Colorado: The Ethical Imperative**, “*Additive Architectural Elements - A New Robotic Brutalism*”, University of Colorado Denver, Speakers: Leslie Lok & Sasa Zivkovic
- 2017 **Paper presentation at ACADIA 2017: Disciplines & Disruption**, “*Open Source Factory: Democratizing Large-Scale Fabrication Systems*”, Massachusetts Institute of Technology, Speakers: Sasa Zivkovic, Christopher Battaglia
- 2016 **Paper presentation at ACSA International Conference 2016 in Santiago de Chile: Cross-Americas: Probing Disglobal Networks**, “*Beyond the Ecology of Concrete Sausages.*”, Pontificia Universidad Católica de Chile, Escuela de Arquitectura, Speakers: Sasa Zivkovic & Leslie Lok

Invited Public Lectures

- 2018 **Invited lecture, “HANNAH: Recent Work and Research”**, Technion Faculty of Architecture and Town Planning, invited by Associate Professor Aaron Sprecher, Speakers: Leslie Lok & Sasa Zivkovic
- 2018 **Invited lecture, IPADÉ - at A Prelude to the Shed, New York City**, “Concrete, Technology, Modernism, and Translation: Leslie Lok and Sasa Zivkovic in conversation with Esra Akcan”. Invited by Kunlé Adeyemi and NLÉ
- 2017 **Invited lecture, UIA 2017 Seoul, UIA (International Union of Architects) World Congress in Seoul, Young Architect Forum**, “A New Robotic Brutalism and Recent Work of HANNAH”, Invited by Jae K. Kim, assistant professor at Hanyang University, Speakers: Leslie Lok & Sasa Zivkovic
- 2015 **Invited lecture, University of Hong Kong, Faculty of Architecture, Division of Landscape Architecture**, “HANNAH - Landscape Systems”, invited by Otto Ng and Scott Jennings Melbourne, research seminar, Speakers: Leslie Lok & Sasa Zivkovic

Lectures at Cornell University

- 2019 **Invited course lecture, DEA 6100 Studies in Design Thinking**, “Robotic Construction at RCL”, invited by Saleh Kalantari, Cornell DEA
- 2019 **Invited course lecture, Carleton University Azrieli School of Architecture & Urbanism PhD course visit to Cornell**, “Robotic Construction at HANNAH & RCL” with Leslie Lok, invited by Sheryl Boyle
- 2017 **Speaker, CIES Migration Lecture Series and Cornell AAP Critically Now Series Colloquium** “Will This Robot Take My Job?”
- 2017 **Invited lecture, Media Studies Midday Colloquium**, “A New Robotic Brutalism”, invited by Jeremy Braddock, Cornell Media Studies Initiative
- 2017 **Lecture, Matter Design Computation Symposium**, “A New Robotic Brutalism”, Cornell AAP Preston Thomas Memorial Lecture Series, Cornell University, AAP Department of Architecture
- 2016 **Lecture, AAP Advisory Board Meeting in NYC**, “HANNAH and RCL - Recent Work and Research”
- 2014 **Lecture, Thumbnail: Origins**, “Anthropogenic Origins: Where Mushrooms Also Come From”

Invited Guest Critic

- 2019 **University of Michigan**, Taubman College of Architecture and Urban Planning, thesis studio mid-review, thesis group: Concrete Labor, invited by Tsz Yan Ng
- 2019 **University of Michigan**, Taubman College of Architecture and Urban Planning, studio mid-review, _MSDMTCAPSTONE investigations in precast concrete, invited by Glenn Wilcox
- 2019 **Syracuse University**, Arc 409: Integrated Building Design Studio, High Performance Low Resolution, mid-review, invited by Marcos Parga
- 2018 **University of Michigan**, Taubman College of Architecture and Urban Planning, Systems Studio Final Reviews, invited by Kasey Vliet and Lars Gräbner
- 2018 **Technion – Israel Institute of Technology**, MTRL project reviews, invited by Aaron Sprecher
- 2018 **Syracuse University**, final studio review, ARC 409: Integrated Building Design Studio, invited by Daekwon Park
- 2018 **Syracuse University**, mid-review, ARC 208: 2nd-year Undergraduate Design Studio, invited by Molly Hunker
- 2017 **Buffalo University**, final review, ARC 606: MEGALITH (Material Culture Graduate Research Studio), invited by Christopher Romano
- 2016 **Harvard University GSD**, mid-review, STU -1311 BRICK: THICK/THIN, graduate option studio, invited by Frano Violich
- 2016 **Massachusetts Institute of Technology**, review, Master of Science in Architecture Studies (SMArchS) 4.221 Colloquium Course, invited by Sheila Kennedy, Rania Ghosn, Timothy Hyde
- 2016 **Massachusetts Institute of Technology**, mid-review, M.Arch Core 3 Studio, invited by Sheila Kennedy
- 2016 **Buffalo University**, final review, Junior Studio: Structures, Envelopes, Assemblies, invited by Christopher Romano
- 2015 **Massachusetts Institute of Technology**, M.Arch 1st Year mid-review, invited by William O'Brien, Rafi Segal, Ryan Murphy
- 2015 **McGill University**, B.Arch Thesis Reviews, invited by Howard Davies
- 2015 **Ithaca College**, final studio review, first year studio, invited by David Salomon
- 2014 **McGill University**, mid-review, B.Arch 3rd Year Studio, invited by Leslie Lok
- 2014 **McGill University**, mid-review, M.Arch 1st Year Studio, invited by Leslie Lok
- 2013 **McGill University**, final review, B.Sc. (Arch.) 3rd Year Studio, invited by A. Sprecher, M. Bressani, V. Simion, L. Lok

- 2012 **Massachusetts Institute of Technology**, mid-review, BSA 1st Year, invited by Bill Hubbard
- 2012 **Massachusetts Institute of Technology**, mid-review, BSA Thesis, invited by Sarah Hirschman
- 2012 **Boston Architectural College**, mid-review and final review, M.Arch 3rd Year, invited by Carl Lostritto

PROJECTS

HANNAH: Architectural Projects and Designs Awarded (Selected)

Unless otherwise noted, collaboration between Leslie Lok and Sasa Zivkovic

- 2018 **RRRolling Stones (built)**, Socrates Sculpture Park, Queens, NY, Client: Socrates Sculpture Park and Architectural League of New York
- 2017- current **Corbel-Bacon Cabin (under construction)**, Ithaca, NY, Client: Leslie Lok & Sasa Zivkovic
- 2016 **Additive Architectural Elements (built)**, Ithaca, NY, Client: Leslie Lok & Sasa Zivkovic
- 2016 **3D Printed Concrete Guard House (built)**, Suzhou, China, Client: WinSun Construction Company
- 2014-17 **Ladakh Dental Clinic (built)**, Leh, India, Client: Instant Home Foundation e.V. and Dr. Rainer Roos, with Alexander Chmarin and Alexander Graf
- 2015 **House Chmarin (built)**, Neustadt an der Weinstrasse, Germany, Client: Julija and Alexander Chmarin, with Alexander Chmarin and Alexander Graf
- 2015 **Concrete 3d Printing Research with WinSun (unbuilt)**, Suzhou, China, Client: WinSun Construction Company
- 2014 **Sakan Jameel Residential Villas Khalidya (unbuilt)**, Jeddah, Saudia Arabia, Client: Abdul Latif Jameel Group, with Alexander Chmarin and Alexander Graf
- 2014 **Duplex Villa Riyadh (unbuilt)**, Riyadh, Saudi Arabia, Client: Mammut Technocrete FZE, Dubai
- 2013 **MIT Media Lab Farm Facade (unbuilt)**, Cambridge, MA, Client: MIT City Farm Group
- 2013 **Seebad Bad Schussenried (competition, unbuilt)**, with Alexander Chmarin and Alexander Graf
- 2013 **Berlin Federal Ministry of Labor and Social Affairs (competition, unbuilt)**, with Alexander Chmarin and Alexander Graf

- 2013 **Arbon Elementary School (competition, unbuilt)**, with Alexander Chmarin and Alexander Graf
- 2012 **Modular Concrete Mosque in Abu Dhabi (consulting, built)**, Client: Mammut Technocrete FZE, Dubai, with Alexander Chmarin and Alexander Graf

RCL: Architectural Research Projects (Selected)

- 2019 **Desert Daedalus**, modified large-scale Daedalus 3D Printer, collaboration between RCL and MTRL (Prof. Aaron Sprecher at the Technion – Israel Institute of Technology), with Leslie Lok, Karen Lee Bar-Sinai, and Tom Shaked
- 2019 **Robotic Wood Envelope for Corbel Cabin**, robotically cut smart SIP panel, with HANNAH, Leslie Lok and Sasa Zivkovic
- 2018 **Log Knot Installation (built)**, Ithaca, NY, Client: CCA Cornell Council of the Arts, Sasa Zivkovic (RCL director and main project lead) & Brian Havener (RCL research associate and project co-lead)
- 2018 **5HP Bandsaw and Log Mount System (built)** for Dionysus Open Source KUKA KR200/2 Industrial Robotic Arm
- 2018 **Water Cooled Concrete CNC Fabrication System (built)** for Dionysus Open Source KUKA KR200/2 Industrial Robotic Arm
- 2017- **Woven Structural Concrete Printing (in development)**
- 2017- **Structural 3D Print Concrete Bending (in development)**
- 2017 **Dionysus Open Source KUKA KR200/1 Industrial Robotic Arm (built)**
- 2016- **Sub-Additive Concrete 3D Printing**, a new spatial 3D printing process developed at Cornell AAP as part of Christopher Battaglia’s (M.Arch. ‘17), M.Arch Thesis project, “*Sub-Additive: Design Research in Concrete 3-D Printing*”, Thesis co-Advisors: Sasa Zivkovic & Martin Miller
- 2016 **Daedalus Large-Scale Open Source 3D Printer (built)**

EXHIBITIONS

Invited and Peer-Reviewed

- 2018 **Peer reviewed group exhibition, Rob|Arch 2018**, final workshop exhibition, “*Sub-additive 3D Printing of Optimized Double Curved Concrete Lattice Thin Shell Structures*”. Instructors: Sasa Zivkovic (Cornell University, Assistant Professor), Martin Fields Miller (Cornell University, Visiting Critic), Christopher A. Battaglia (Ball State University, 2018-19 Design Innovation Fellow, Assistant Teaching Professor)

- 2018 **Invited group exhibition, “Archtober”**, NYC’s architecture and design month, “RRRolling Stones by HANNAH” Leslie Lok & Sasa Zivkovic, Socrates Sculpture Park, Long Island City, New York
- 2018 **Peer reviewed group exhibition, “Projects”, ACADIA 2018: Re/calibration: on Imprecision and Infidelity**, “Cobel Cabin by HANNAH” Leslie Lok & Sasa Zivkovic, Universidad Iberoamericana, Mexico City, Mexico
- 2018 **Peer reviewed group exhibition, “Projects”, 1st RILEM Digital Concrete 2018 Conference**, “Cobel Cabin by HANNAH” Leslie Lok & Sasa Zivkovic, ETH Zurich, Switzerland
- 2018 **Invited solo exhibition at Pinkcomma Gallery, Boston, MA**, “A New Robotic Brutalism - Additive Architectural Elements” by HANNAH, Leslie Lok & Sasa Zivkovic. Curated by Chris Grimley, Michael Kubo, Mark Pasnik
- 2017 **Invited Group exhibition at UIA 2017 Seoul, Korea, “Digital Vernacular”**, “Recent Work by HANNAH”, Leslie Lok & Sasa Zivkovic, UIA (International Union of Architects) World Congress in Seoul, COEX Convention Center. Curated by Jae K. Kim
- 2017 **Invited group exhibition at Cornell AAP**, “Design Build”, “Corbel-Kerf Cabin by HANNAH”, Leslie Lok & Sasa Zivkovic, Cornell University East Sibley Exhibition. Curated by Christopher Battaglia & Takuma Johnson
- 2015 **Invited group exhibition, ACADIA 2015 Conference: Computational Ecologies, Design in the Anthropocene. “Curated Projects/Poster Exhibition”**, “Towards the Anthropocene - Colossal Naturality in Disordered Territories”, M.Arch Thesis Project, Sasa Zivkovic. The curated projects exhibition expands on the conference topic while featuring recent work by cero 9, Stefan Behnisch, NADAAA, New Territories, Philippe Rahm, allthatissolid, CASE, CODA, EASTON+COMBS, ENDEMIC, form-ula, Geofutures, Cesare Griffa, HANNAH, Ciro Najle + Lluís Ortega, pneumastudio, and Terreform ONE. Curated by Chris Perry and Lonny Combs

Student Work

- 2018 **Invited group exhibition, 2018 AIA National Convention “ACMA Composites Challenge 2018”**, “Winning Design Proposals - 1st prize and 3rd prize, 2018 ACMA Composite Challenge”, ACMA Pavilion, June 21 – 23, 2018, Javits Center, New York City

2012 **“Platforms for Exchange: Multitude, Media and Material”** - M.Arch. Core 2
Studio, Spring 2012, MIT Keller Gallery, Instructors: J. Lamere, A. Miljacki,
C. Parreno, Teaching Assistant: S. Zivkovic

Curatorial Work

2010-11 **FAST Festival of Arts, Science and Technology, Massachusetts Institute of
Technology**, Curatorial Research Assistant for J. Meejin Yoon & Tod Machover

TEACHING

Courses taught at Cornell University

2019 **B.Arch 2nd Year Integrative Design Studio**, ARCH 2102
Sasa Zivkovic (coordinator), Rubén Alcolea, Umberto Bellardi Ricci, Rodolfo Dias,
Katharina Kral

2019 **Required Seminar: Media of Representation II**, ARCH 1502
Forms of Making, 1st Year B.Arch required course

2018 **M.Arch Core Studio I: Ends & Metamorphoses**, ARCH 5111
Sasa Zivkovic (coordinator) & Aleksandr Mergold

2018 **Art, Design, and Technology Applications of Granular Jamming in the
Built Environment**, MAE 4900
Instructors: Roberto Bertoia (AAP), Morgan Gendel (Writer-producer, Star
Trek:TNG), Mason Peck (MAE), Jenny Sabin (AAP), Sasa Zivkovic (AAP)

2018 **Independent Study: Robotic 3D Printing - Research on End Effectors and
Materials**
Instructor: Sasa Zivkovic, Student: Song Steven Ren

2018 **Independent Study: Robotic Wood Architecture Continued**
Instructor: Sasa Zivkovic, Students: Kiril Bejoulev, Alejandro Finol

2018 **Option Studio: Robotic Wood Architectures**, ARCH 4101/4102/5101/5116/8913
Sasa Zivkovic (coordinator), Brian Havener (teaching associate)

2018 **Independent Study: 2018 ACMA Composite Challenge**
Sasa Zivkovic (coordinator), Christopher Battaglia (teaching associate), Brian
Havener (teaching associate), Students: Jingjing Liu, Karolina Piorko, Jing
Wei (William) Qian, Song Ren, Veronika Varga, Vela Wang, Xin Yue Chloe Wang,
Becky Xu, Xiaohang Yan, Jingxin Yang, Yuheng Zhu

2017 **M.Arch Core Studio I: de Ovis et Avibus**, ARCH 5111

- Sasa Zivkovic (coordinator) & Aleksandr Mergold
- 2017 **Elective Seminar: Forms of Making**, ARCH 4605/6605: Special Topics in Construction, Special course for 2nd year B.Arch students
- 2017 **Option Studio: Timber Villa**, ARCH 4101/4102/5101/5116/8913
Sasa Zivkovic (coordinator), Christopher Battaglia (teaching associate)
- 2016 **Independent Study: Printing Affordable Environments II**
Instructors: Sasa Zivkovic & Leslie Lok, Student: Jeremy Bilotti
- 2016 **M.Arch Core Studio I: Bubbles, Bones, & Bodies**, ARCH 5111
Caroline O'Donnell (coordinator) & Sasa Zivkovic (co-instructor)
- 2016 **Independent Study: Printing Affordable Environments I**
Instructors: Sasa Zivkovic & Leslie Lok, Student: Jeremy Bilotti
- 2016 **Option Studio: Villa Additiva**, ARCH 4101/4102/5101/5116/8913
Sasa Zivkovic (coordinator)
- 2016 **Elective Seminar: On Figures and Fields**, ARCH 4509/6509: Special Topics in Visual Representation
- 2015 **M.Arch Core Studio I: Bubbles, Bones, & Bodies**, ARCH 5111
Caroline O'Donnell (coordinator) & Sasa Zivkovic (co-instructor)
- 2015 **Elective Seminar: Methods of Digital Fabrication**, ARCH 4605/6605: Special Topics in Construction
- 2015 **2nd Year Integrative Design B.Arch Studio**, ARCH 2102 Design IV
(Coordinated by Aleksandr Mergold), Sasa Zivkovic (instructor)
- 2015 **Elective Seminar: From Sheet to Form**, ARCH 4605/6605: Special Topics in Construction, Sasa Zivkovic and Martin Miller, co-instructors
- 2014 **2nd Year B.Arch Design Studio**, ARCH 2101 Design III
(Coordinated by Arthur Ovaska), Sasa Zivkovic (instructor)
- 2014 **Elective Seminar: Postdigital Formalisms**, ARCH 4509/6509: Special Topics in Visual Representation
- 2014 **Option Studio: Fish Stories**, ARCH 4101/4102/5101, ARCH 5116, ARCH 8913
Frano Violich (coordinator), Sasa Zivkovic (co-instructor)
- 2014 **Independent Study: Anthropozoic Facade Systems**, ARCH 6508-603 IND 5415
Instructor: Sasa Zivkovic, Student: Charles Cupples
- 2014 **Elective Seminar: The Invention of Anthropocene Order**, ARCH 4509/6509: Special Topics in Visual Representation

Courses taught at MIT (as Graduate Teaching Assistant)

- 2012 **Graduate M.Arch Design Studio II:** Platforms for Exchange - Multitude, Media, and Material, 4.124 Architectural Design Studio, Faculty: Ana Miljacki, Cristina Parreno, and Joel Lamere
- 2011 **Undergraduate Design Studio III:** Methods of Self-assembly, 4.113 Applied Architecture Design Studio, Faculty: Skylar Tibbits and Nick Gelpi
- 2010 **MIT Media Lab Seminar:** Designing for FAST (Festival of Arts, Science and Technology), MAS.825J, 21M.580J Music Aesthetics and Media Technology, Faculty: Tod Machover
- 2010 **Interdepartmental Seminar: Design Innovation for Distributed Energy** Department of Architecture & Department of Electrical Engineering and Computer Science, 4.268/6.077 Design Innovation for Distributed Energy, Faculty: Sheila Kennedy and Marc Baldo

Invited Workshops

- 2018 **Invited and selected (peer review) for a 3-day expert workshop at ETH Zurich, ROB|ARCH 2018: Radical Cross-Disciplinarity, “Sub-Additive 3D Printing of Optimized Double Curved Concrete Thin Shell Structures”,** Co-Instructors: Sasa Zivkovic, Martin Miller, Christopher Battaglia
- 2016 **University of Split and Institute of Art History Zagreb,** invited for a two-week workshop: *“Living Monument: Mat-organizations and Diocletian’s Palace”*, Co-instructors: Leslie Lok, Ana Sverko, Sasa Zivkovic

UNIVERSITY SERVICE

Department, College, and University

- 2018-19 Faculty Search Committee Member, Cornell CEE
- 2018 Thesis Coordinator (Fall 2018)
- 2017-18 Professor of Practice Search Committee Member, AAP Department of Architecture
- 2016- M.Arch Committee Member
- 2018- AAP Shop Committee Member
- 2016- Cornell Campus Planning Committee Member
- 2017- Cornell Campus Planning State of the Campus Masterplan Sub-Committee Member
- 2018 B.Arch Petitions Committee Chair (Spring 2018)
- 2016-17 B.Arch Petitions Committee Member

AAP Admissions

- 2015- M.Arch Program Admissions - application reviews
- 2014- B.Arch Program Admissions - candidate interviews
- 2014-15 B.Arch Program Admissions - application reviews

Special Initiatives

- 2018- **Co-founder, Thesis Talks**, with Leslie Lok
- 2017- **Co-founder, Critically Now**, with Esra Akcan, Luben D. Dimcheff, Caroline O'Donnell, Jeremy Foster, George Edward Hascup, Aleksandr Mergold, Jenny E. Sabin

Community Outreach

- 2018 **Lecture and AAP tour** for 8th graders of Moravia Middle School (70 students)
- 2018 **RCL tour** for Ithaca High-School Students (20 students)
- 2017 **Lecture and AAP tour** for 8th graders of Moravia Middle School (70 students)
- 2016 **Lecture and AAP tour** for 8th graders of Moravia Middle School (70 students)