

MOSAIC: MODERN TECHNOLOGIES MAKE THE MEDIUM ACCESSIBLE



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Description

Mosaic is a timeless art form, yet until recently has suffered from prohibitive lead times and expense. Now, through the availability of enabling computer aided design and robotic manufacturing technologies, the medium is far more accessible. This session is for novices and experts alike, and will provide the knowledge necessary to apply mosaic in your next project. In the course, we briefly explore mosaic history, classify styles, and describe common terms. We compare the past difficulties of using mosaic with the current ease afforded by new technologies. We evaluate the benefits of mosaic for residential and commercial application, and detail sustainability advantages. Finally, we pull this all together through a set of illustrative case studies. An optional factory tour and software tutorial will be offered to those interested in further learning.

Learning objectives

- Explore the history of the mosaic medium.
- Classify the various styles of mosaic, and list common terms.
- Compare the past difficulties of using mosaic with the current ease afforded by computer aided design and robotic technologies.
- Evaluate the benefits of mosaic for residential and commercial application, and detail sustainability advantages.
- Identify the materials used in mosaic, and the installation processes.
- Assess the best applications of mosaic in a set of case studies.
- See a robotic production system in action.
- Learn how to use a CAD software tool to design mosaics for robotic production.

1.5 hour presentation

1 hour factory tour (Optional)

1 hour software tutorial (Optional)

= up to .3 total Continuing Education Units

Outline

- Mosaic Overview – Approx. 25 min; 12 Slides
 - What is mosaic?
 - Origins
 - Timeless Aesthetics
 - Unique, Artistic, Luxurious, etc.
 - Unique Benefits
 - Durability, Energy Efficient, etc.
 - Applications
 - Surfaces & Locations
 - Common Terms
 - Substrate, Tessera, Joint, etc.
 - Classifications
 - Primary Opus examples
 - Materials
 - Tile, Adhesives, Grouts
 - Mounting Methods
 - Face Mount
 - Back Mount
 - Methods of Application
 - Direct
 - Double Direct
 - Indirect
 - Double Indirect
 - Design Variations
 - Solid, blend, gradient, repeat pattern, mural
 - Sustainability

- Sustainable characteristics of mosaic
 - Contribution to projects' LEED certification
- Alignment of Tile & Design Industry Trends – Approx. 15 min; 5 Slides
 - Tile Industry Trends
 - Globalization
 - Sustainability
 - Technology
 - Customization
 - Design Industry Trends
 - Globalization – Lower cost products
 - Sustainable products
 - CAD as a common practice
 - Accessibility to sophisticated, personalized products
 - Mosaic Examples
- Past Difficulties of Mosaic – Approx. 15 min; 3 Slides
 - Difficulties of Mosaic
 - Graphical representation of prohibitive factors
 - Complex Process = Prohibitive Costs
 - Art, Design, Supply, Shipping, Fabrication, Shipping, Installation
 - Long Lead Times & Labor = Prohibitive Costs
 - Timelines and Labor metrics
- CAD Software – Approx. 20 min; 5 Slides
 - Photomosaics & Robert Silvers
 - Small pictures to create larger image
 - Software Example – Exactmosaics
 - Software uses natural marble striation to create larger image
 - Software Example – Tile Creator
 - Paint-by-numbers system
 - Software Example – Tessera
 - Encompassing mosaic design software used alongside bitmap editing software
 - Software Video – Tessera
- Automated Manufacturing – Approx. 15 min; 4 Slides
 - Automated Manufacturing Example – 3Score, Inc.
 - Oregon-based manufacturer
 - Automated Manufacturing Example – Mosaic4U
 - Israel-based manufacturer; curve fitting robotic technology
 - Automated Manufacturing Example – Artaic
 - Boston-based; pick & place robotic technology
 - Automated Manufacturing Video – Artaic
- Bibliography

Additional learning unit opportunities

- Artaic factory tour
 - Artists/design studio
 - Tile library
 - Robotic production facility
 - Projects in process
- Artaic computer aided design (CAD) software tutorial
 - Learn from an Artaic design staff how to use our software to design mosaics, and have them fabricated by robot
 - Take a copy of our software back to work or home to use yourself

Presenter's Biography

Ted Acworth, Founder and CEO

Dr. Ted Acworth is a scientist and engineer by trade, as well as an award-winning entrepreneur. He has been developing and commercializing innovative technology for twenty years. With a deep appreciation for the art of mosaic, he founded Artaic in 2007. Artaic is developing unique design and production technology that aims to revolutionize the industry.

The core of Dr. Acworth's technical expertise is ultra precision metrology systems design. Throughout his career, he has also developed expertise in management of research and development, and technology commercialization. Combined, his work in these areas has been sought by companies, universities and governments in the U.S., Europe, Middle East and Asia.

Ted holds an MBA from the Massachusetts Institute of Technology, where he was a Sloan Fellow in Innovation and Global Leadership. He holds a PhD in Mechanical Engineering from Stanford University, and an MS and BS from Columbia University.

Dr. Acworth lives with his wife and son in Boston's Beacon Hill.

Prior Course Presentations

Date:	Company:	Type:
3-11-09	ADD, Inc.	Lunch & Learn
3-17-09	DRA	Lunch & Learn
4-01-09	CBT Architects	Informal for architects and interior designers
4-03-09	Ellen Zweig	Lunch & Learn
4-08-09	Prellwitz Chilinski	Lunch & Learn
4-09-09	Signer Harris	Informal for architects and interior designers
4-15-09	Cambridge Seven	Informal for architects
4-30-09	Margulies Perruzzi	Mini Tradeshow
5-05-09	Cubellis	Lunch & Learn
5-06-09	Cannon Design	Informal for interior designers
5-13-09	TRO Jung Brannen	Lunch & Learn
5-14-09	Bergmeyer	Mini Tradeshow
5-22-09	Perkins + Will	Lunch & Learn
5-27-09	Cube 3 Studio	Informal
8-26-09	Elkus Manfredi	Lunch & Learn
9-02-09	Sasaki	Lunch & Learn
10-3-09	Tsoi / Kobus & Assoc.	Informal
10-13-09	Vision 3 Architects	Lunch & Learn
10-15-09	Di Domenico and Partners	Lunch & Learn
11-20-09	Build Boston	Workshop Presentation

Please see view the Build Boston presentation at:

<http://www.artaic.com/Presentation/video.html>

Bibliography

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