



HERRON SCHOOL *of* ART + DESIGN

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BAKER EARNS \$14K GRANT TO RESEARCH 'DIGITAL CLAY EXTRAPOLATION'

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Associate Professor of Ceramics Lesley Baker in the studio during a scholarly trip to China.
Image courtesy Lesley Baker

Lesley Baker, associate professor of ceramics at Herron School of Art and Design, has earned a \$14 thousand Indiana University New Frontiers Experimentation Fellowship to help her apply digital printing technology to clay.

Baker became intrigued with the idea during an unrelated project at UC Berkeley, where she observed works being created with a 3-D printer shared by the Art and Architecture departments. "3-D printing allows for very detailed, intricate structures and forms within forms that could not be created by hand," she said. "The issue with printed clay is how to get a dry powder to stick together to form an object."

"The common binder for clay right now is sugar," she continued. "As the layers are printed, a small amount of alcohol is used to melt the sugar to hold the piece together in a strong enough form to be transported to a kiln for firing. This part of the process works. The problem is the amount of sugar needed. If too little

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sugar is used, the piece disintegrates. When enough sugar is used to hold the piece together as it is fired to temperatures around 2000 degrees, the sugar burns away. The missing sugar leaves the printed form very porous and fragile.”

So Baker is on quest to perfect a ceramic printing recipe.

Her research began with a recent symposium titled “Data Clay” in San Francisco. The attendees comprise a new movement of architects, artists and designers who are interested in the potential of transforming basic materials such as clay into complex hybrids.

Baker’s research plan calls for printed work to be produced by August 2015. “The key is really about learning the 3-D software,” she said. “Once I understand how to create a three-dimensional object that can be changed and manipulated, made smaller or larger, and be morphed into something new, and then constructed from clay or concrete or plastic, the possibilities become endless.”

This kind of experimentation exemplifies projects that will be facilitated by Herron’s new Think It Make It Lab, a dedicated space within Eskenazi Hall that will include cutting-edge digital equipment such as 3-D printers, laser cutters and more. The facility is expected to be open by summer and will be used not only by Herron students and faculty, but also in partnership with other schools and programs across campus.

In the notification letter that informed Baker of her grant, Jorge Jose, IU’s vice president for research said, “Indiana University’s reputation for excellence is based on both the outstanding education we offer students and the excellence of our faculty The New Frontiers Review Committee and I believe that your project will do much to sustain and enhance this reputation.”

Twenty-five faculty members from five IU campuses earned New Frontiers in Arts and Humanities grants in this round. For more information see:

<http://news.iupui.edu/releases/iu/2015/03/new-frontiers-grants-announced.shtml>.

To set up an interview with Professor Baker, contact Glenda McGann. -30-

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