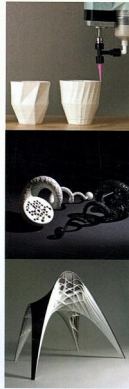# 3D PRINTING
FOR ARTISTS, DESIGNERS AND MAKERS

STEPHEN HOSKINS

BLOOMSBURY

Rapidly gaining popular attention, 3D printing is viewed as the next life changing technology. This book explains how the creative industries are directly interfacing with this new technology and how it is changing the practices of many artists and designers across the globe. A selection of case studies of leading practitioners in their respective disciplines reveals this exciting process in action.

The book also introduces the groundbreaking research by Stephen Hoskins and his 3D team at the Centre for Fine Print Research, world leaders in the development of techniques for 3D printing in ceramics, and includes a history of 3D printing, from its origins in aerospace to its current, diverse applications in bio-medics and Formula One racing, through to furniture design and jewellery.

A fascinating investigation into how the applied arts continue to adapt to new technologies, this book is for academics and 3D print users from both the arts and science backgrounds, as well as artists, designers, those in creative industries and anyone who has an interest in new technological developments.

Professor Stephen Hoskins is the Hewlett Packard Professor of Fine Print and Director of the Centre for Fine Print Research (CFPR) at the University of the West of England Bristol, UK.

Front cover image: Dyed Lemon Squeezers designed by Assa Assauch, photo by co designed permutations. Back cover images from top to bottom: ceramic 3D printer in operation at Unfold making 'Stratigraphic Porcelain' cups, photos by Kristof Vrancken and Unfold; Michael Eden, 'Amalthea' © Michael Eden; Bram Geenen, 'Gaudi chair' © Freedom of Creation.

Also available from Bloomsbury

DIGITAL CRAFTS

GLASS

CHANT COSMIQUE.
.etude en maillage filaire sur Autocad.

1

1 Christian Lavigne,
'Chant Cosmique', 1994.
Stereolithographic print. ©
Christian Lavigne.

2 Mary Visser, 'Circle of
Life', 2011.
© Mary Visser.

3 Bram Geenen, 'Gaudi chair', c.
2010. Laser sintered nylon.
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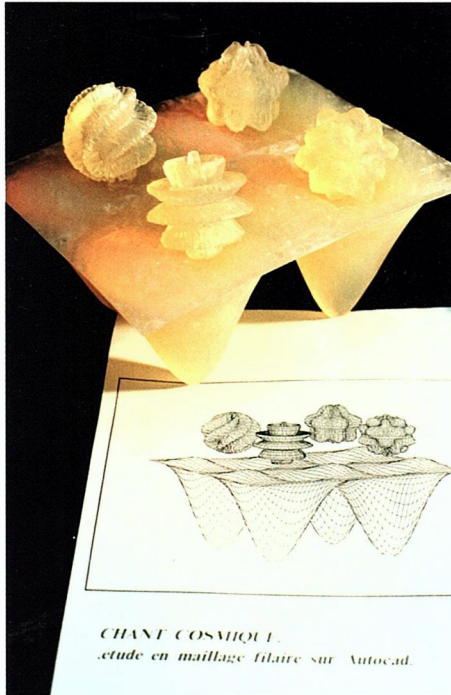
The French artist Christian Lavigne created the first French stereolithographic print in 1994 and around the same time founded 'Ars Mathmatetica' in conjuction with Alexandre Vitkine and the American visual artist Mary Visser.[44] Lavigne outlined the origins of this:

Our non-profit association, Ars Mathematica, was founded 20 years ago, and we have accumulated considerable knowledge on techniques and artists of this new discipline, 'Cybersculpture'. We organized the first worldwide computer sculpture exhibition in 1993 at the Ecole Polytechnique in Paris, and then the exhibition became the biennial 'Intersculpt'. Personally, I started to use the computer in art at the beginning of the 1980s, and I first used a CNC machine in 1985. In 1994, I materialized the first digital sculpture in France, with the help of the Ecole Centrale Paris and the Association Française de Prototypage Rapide.

Originally, the sculpture (entitled 'Chant Cosmique') was planned to be built in 1990 with the RP process invented in Nancy by the Pr. Jean-Claude Andre. It's important to know that the sterolithography process was simultaneously invented and patented first in France and then in the USA.

Professor Mary Visser teaches sculpture and computer imaging at Southwestern University in Georgetown, Texas. She organized one of the first juried national digital art exhibitions for the Brown Symposium in the early 1980s. Visser received a Mundy Fellowship for rapid prototyping in 2002 where she completed a Partnership in Stereo Modeling with PRISM Labs, Inc. at Arizona State University. She was one of the curators for the International Rapid Prototyping Sculpture exhibition touring since 2003. Most recently she received a Cullen grant to work with Accelerated Technologies to produce large-