Analogue Processes and Additive Manufacturing

Adrian Bowyer

Reading list and URLs

Why cutter path planning is hard:
John F. Canny - Complexity of Robot Motion Planning
http://mitpress.mit.edu/catalog/item/default.asp?ttype=2&tid=4749

Swainson's original patent:
http://www.directorypatent.com/US/4041476.html

Good general introduction (but beware price – use a library!):
Ian Gibson, David W. Rosen, Brent Stucker: Additive Manufacturing Technologies
ISBN-13: 978-1441911193
http://www.amazon.com/Additive-Manufacturing-Technologies-Prototyping-Digital/dp/1441911197/ref=sr_1_1?ie=UTF8&qid=1330877740&sr=8-1

The technology moving into homes:
Lipson H., Kurman M., (2010): Factory@Home: The Emerging Economy of Personal Fabrication" Report Commissioned by the Whitehouse Office of Science & Technology Policy
http://web.mae.cornell.edu/lipson/FactoryAtHome.pdf

Micro stereolithography:
Three-dimensional microfabrication with two-photon-absorbed photopolymerization
Shoji Maruo, Osamu Nakamura, and Satoshi Kawata
Optics Letters, Vol. 22, Issue 2, pp. 132-134 (1997)
http://lasie.ap.eng.osaka-u.ac.jp/res_2pfab.html

Meso Machining
http://www.sandia.gov/mst/pdf/Meso-machining.pdf

RepRap
Rhys Jones, Patrick Haufe, Ed Sells, Pejman Iravani, Vik Olliver, Chris Palmer and Adrian Bowyer: RepRap – The Replicating Rapid Prototyper, Robotica Volume 29, pp. 177-191 (2011). Cambridge University Press.
http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=7967174&fulltextType=RA&fileId=S026357471000069X

Additive Manufacturing Files:
http://amf.wikispaces.com/

Fixing dud STLs:
Meshlab
http://meshlab.sourceforge.net/

Open-source innovation:
Eric von Hippel – Democratizing Innovation
http://web.mit.edu/evhippel/www/democ1.htm

Additive Manufacturing and the law:
Simon Bradshaw, Adrian Bowyer and Patrick Haufe - The Intellectual Property Implications Of Low-Cost 3D Printing, ScriptEd, 2010 pp.5-31.
http://www.law.ed.ac.uk/ahrc/script-ed/vol7-1/bradshaw.asp
+
Michael Weinberg - It Will Be Awesome if They Don’t Screw it Up
http://www.publicknowledge.org/it-will-be-awesome-if-they-dont-screw-it-up