



From the President



Outlook

APMM President Terry Wellman

Dear Members,

Like me, I suspect that most of you are looking back at your numbers for this year. Many of us are seeing good months and not so good months. Others may see a steady rise beginning in the spring and continuing through this fall.

The economy seems to be going in fits and spurts. Heavy industry is seeing growth, serious growth. Several of our customers have job openings for engineering staff, quality assurance managers, tech positions, etc. Our experience has shown that when this takes place, suppliers such as ourselves begin to see growth shortly after staffing increases at our customers' organizations. I believe that the prognosis is good despite what the pundits say.

QUARTERLY QUICK VIEW

“ I believe that the prognosis is good despite what the pundits say. ”

In my last column I discussed goals that we hope to achieve and one of those goals was to present webinars with our vendors. Jill Kenik our Vendor VP has been diligent in attracting vendors to provide us with really useful webinars. We've had two successful sessions so far (with SensAble and ZCorp) and have four more webinars slated for the coming months. Those who participated had good things to say about their experience, but there is so much more bandwidth that our members have yet to take advantage of! Watch for announcements on upcoming webinars from Direct Dimensions, DelCam, Robert McNeel, and a replay by SensAble of their last popular webinar. I would encourage everyone to take a look and see what they can learn through our webinars.

Inside this issue:

- Outlook 2011** [1+2](#)
- DIY Design** [3+4](#)
- IDSA Report
- Book Review** [5+6](#)
- 3D Printers
- RISD** [7-9](#)
- Conference tour
- Member Profile** [10+11](#)
- Jonathan Ille
- HOK 's** [12+13](#)
- New Model Shop
- In The News** [14](#)

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Support your vendors

I cannot emphasize this enough. Vendors join organizations such as ours in order to support our membership with products and services. We have many vendors who represent anything from graphics to equipment to materials. These companies offer solutions that can assist all of us in our daily work. Take a look at the vendor page and see who 's listed and visit their websites. Perhaps the answer to a perplexing job question can be solved through one of our vendor members.

What does the APMM mean to you?

Recently, I was involved in a discussion with one of my clients about the APMM and what it means to our company. On my way back to the shop I started to think more deeply about that conversation and how the APMM has truly helped our company and I 'll bet many of your outfits as well. For some, the APMM is about camaraderie and brotherhood with fellow model makers and model shops. For others, it is a tremendous limitless resource for materials, techniques, professional development, job leads, employee leads, internships, education, equipment reviews, etc.

QUARTERLY QUICK VIEW

“ Is there something that you can do to help grow the organization? ”

The APMM provides so many things, including the feeling of belonging to something greater than ourselves. Since we can get a handle on what the APMM provides us with, what do we as members provide to the APMM? Some of us volunteer to serve on the Board of Directors, some of us create presentations and workshops for the biennial conferences, while others help out by simply renewing their membership and attending conferences.

Ask yourself: is there something that I can give back to the APMM? Perhaps there is a subject that you are strong on that can be taught as part of a webinar? Is there something that you can do to help grow the organization? Feel free to communicate with us and let us know your ideas on what members can do for the APMM.

I hope that all of you enjoy a wonderful and happy holiday season with your families. 🌟



DIY Design: Threat or opportunity?

The Industrial Design Society of America 's international conference <http://idsadiy2010.org/> was held in Portland, OR this year (following in the proud footsteps of the APMM in 2008!) The conference theme addressed the challenge that Industrial Designers and their firms face from the Do-It-Yourself movement. DIY has become a multi-billion dollar business. Individuals ' access to high-tech prototyping equipment and inexpensive overseas manufacturing resources has allowed them to create fully-realized products on their own, without hiring designers or their companies.

The blog (<http://idsadiy2010.org/blog/>) starts with the post-conference summaries, but the earlier content and presentation descriptions are farther down. Your correspondent was unfortunately unable to attend any of the conference besides a visit to the Vendor Expo. Happily the IDSA website had a preview of the speakers and activities and some summaries.

See: <http://idsadiy>

The most relevant content for model makers is under the " Enabling Technologies" Discussion Topic. The " Cupcake CNC " is one of these technologies available through MakerBot Industries.

<http://www.makerbot.com/>

Also check out the DIYLILCNC <http://diyilcnc.org/> the " cutest CNC ever ". Various kinds of 3D Printers are also mentioned. Under the " Customer Customization " Discussion Topic you can find out about on-line custom-manufacturing companies such as Shapeways. <http://www.shapeways.com/> You can also Google for the search words " Ponoko " and " Uncommon ". Tine Latein gave a talk on using Selective Laser Melting to create " rapid manufactured jewelry. " Check out her site.

<http://www.tine-latein.com/jewelry1-1.html>

QUARTERLY QUICK VIEW

DIY has become a multi-billion dollar business.

Most of the summaries indicate the designers believe there is more " Opportunity" than " Threat ". As people start making things on their own, they will gain a better appreciation of good design and become more sophisticated consumers. It was noted that DIYers would never be able to provide both the caliber and quantity of designed and manufactured goods.



State of the Art

Continued...


Also noted; there are more DIYers than professionals in many fields, but “ Quality Trumps Quantity. ” Maybe these two statements can be reconciled under (Theodore) Sturgeon ’ s Law which states; “ 90% of everything is crud ”. (DIY or manufactured.)

Is DIY a threat or opportunity for Model Makers? How do we describe the companies which manufacture personal one-off items that their customers design? Are they factories, model shops or something in-between?

It seems like a deluge of people who can provide documentation and want one-off things made and don ’ t want a shop in the garage or basement would be



a bonanza for our industry. Or will everybody have cute (and cheap) CNC machines and 3D Printers so our prospective clients just make their own stuff at home?

At the APMM Conference in Boston, Prof. Neil Gershenfeld advised us that more and more people will be fabricating their own products by gaining access to small-scale manufacturing through MIT ’ s Fab Labs or by other means. He told us not to be threatened by that and he encouraged Model Makers to think of ourselves as “ Makers ” , and open ourselves up to new Opportunities. 



Article by: **Bruce Willey**
Model Shop Manager:
 Ziba Design, Inc.

www.ziba.com

2010-2012 Conference VP

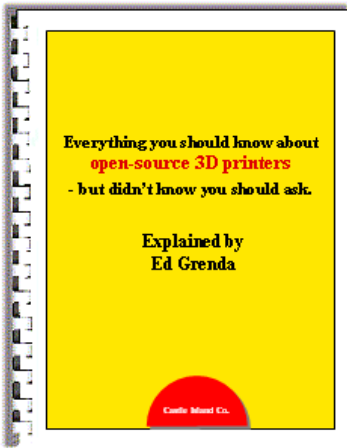
F.Y.I.

“ I ’ m thinking of adding a new 3D printer to our tool arsenal, ” APMM President Terry Wellman said. After many hours of searching for just the right equipment to add to his workshop, Terry found this; a Scaramanga Industries Solex Agitator 3D Rapid Prototyper/Particle Disintegrator. “ We had to make some renovations to the shop space to fit this bad boy in, but it was totally worth the effort! ” explains Terry. “ Thanks to the APMM, we found a surplus merchandiser in a previous issue of the APMM Quarterly Newsletter and it has made a world of difference, no left over scraps of material, we just *ZAP* them and they ’ r e gone!



St. Charles Model Works employees set up the new equipment.

E.Y.S.K.A.O-S.3D.P-B.D.K.Y.S.A.



Ed Grenda's report, entitled Everything you should know about open-source 3D printers - but didn't know you should ask was first published this year and was updated in October to reflect the latest information

about this field. Ed dedicates himself to keeping up with advancements so the latest information on additive fabrication is available to us. As in his book: Printing the future - The 3D Printing and Rapid Prototyping Source Book, this volume clearly lays out his views and experience in a 30-page report full of information, tables and photos.

Children around the world make up games and build toys out of sticks, paper, glue and tape without buying them from a store. As adults we save all sorts of things "in case we need to repair or make something". We have been intrigued with the making of "something" out of what seems to be "nothing" for many years. For many of us this became "real" when we watched Star Trek. On that show we first saw the "replicator". By asking for something, the replicator rearranged subatomic particles into molecules and the molecules were formed into objects. When I think of personal fabricators, I can't help but make the parallel comparison to these sci-fi machines.

According to Wikipedia, "Open source

Title: Everything you should know about open-source 3D printers - but didn't know you should ask.

Author: Ed Grenda

Publisher: For more information, please see: http://www.additive3d.com/pr_os01.htm

Publication Date: updated October, 2010

Format: This 30 page report is available as a download for US \$9.95 from Ed's website:

http://www.additive3d.com/pr_os01.htm

promote access to the end product's source materials." The idea of open source started when the software needed to be rewritten for the growth of the internet. Open source has spread from software to other fields such as biotechnical and hardware (as in 3D additive manufacturing hardware). Open source is a peer production method using bartering and collaboration to make the end product better. It breaks the large products into small parts and these small parts are worked on by individuals or small groups. The end product includes the source code, plans and documentation available at no cost to those who want it. Someday these fabricators will be more available to us to make lots of things. This report puts the developments of additive fabrication into perspective.

Starting in 2009, it became possible to acquire open source 3D printer information and "printer kits" for a third of the cost of the least expensive "professional level" 3D printers. Open source additive fabricators are being developed at a fast pace. This is due partly to expired (or expiring) patents which allow formerly protected information to be used openly.

E.Y.S.K.A.O-S.3D.P-B.D.K.Y.S.A.


Ed states “ There are now well over 8,000 patents and patent applications pertaining to the field of additive fabrication in the US alone, and another 1,000+ are appearing each year at the current rate ”. He talks about the progress being made while avoiding legal problems. For example, if we make original inventions and not copy existing technology we can avoid interfering with existing patents. In fact, we can get the patent to protect the discovery ourselves.

He gives a summary description of personal fabricators (RepRap, Makerbot Industries, Bits From Bytes, Fab@Home & PP3DP Company). He also provides a list of distributors, suppliers for each type of fabricators and a comparison of the open source 3D printers with the low cost commercial 3D printers. I agree with many of the challenges that Ed explains are faced by the community who chooses to use this technology. If you plan to undertake the building of one of these machines, I recommend you be prepared to come across situations like this one.

Chris Lewis and I faced a challenge at the APMM Conference in Boston this spring as we worked late into the evening (or early into the morning) on a bracket that had holes for mounting rails - supports for the RepRap machine we were building. We discovered some round holes needed to be slots and a few counter bored holes needed to be deeper because of the way the part was designed; it needed to be adjustable and the mounting screws did not reach the mating threads. We learned just because someone designed a connector for the RepRap machine and another person built that part on their 3D printer, doesn 't mean it was “engineered” to work. Good thing we were model makers and knew how to convert a hand-held battery-operated drill into a milling machine!

Ed takes a look at the possible future of this “ open source world” and a glossary of terms. At the end of the report , he provides tables with cross reference information about the manufacturers, price, service costs, build envelope, accuracy, strengths and weaknesses of each machine.

I agree with Ed 's summary about this report found on his website. *“If you're thinking of buying an inexpensive kit or an assembled 3D printer - or simply need to know about the field - this unbiased report is the fastest way to find out everything you want to know.”*²

It is an easy read jam packed with useful information and great pictures and charts to supplement the  words.

Footnotes:

- 1) http://en.wikipedia.org/wiki/Open_source



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2010-2012 Secretary, APMM



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RISD NEWS

APMM Education member Rhode Island School of Design hosted a 2010 APMM Conference tour on Friday, March 26, 2010 of the Departments of Industrial Design, Furniture Design and Architecture. Nearly 100 students, faculty, and staff currently are APMM members.



Above ID student Kirchin Weston talked about their fall 2009 studio to help Waste for Life (an international NGO). The students built a Kingston press (an inexpensive thermo-forming press) in order to make product prototypes from remanufactured plastic shopping bags. This enables cartoneros (cardboard picking) collectives in Buenos Aires to create value-added products from recyclables that they collect on the street. See: www.wasteforlife.org.



Steve Santaniello from the RISD metal shop with the Moonbuggy

RISD entered the 2010 NASA Moonbuggy race held April 9-10 in Huntsville, AL at the US Space & Rocket Center. It was RISD's first entry and the only art and design school to ever enter the competition. There were over 70 contestants and RISD finished THIRD! They raced over a course similar to the moon's terrain. For more information on this cool project see:

RI Monthly Article:

<http://www.rimonthly.com/Rhode-Island-Monthly/September-2010/The-Schools-Issue/Shoot-for-the-Moon/index.php?cp=1&si=0%3Cbr%20/%3E>

RISD Moonbuggy in Action:

http://www2.turnto10.com/jar/news/local/education/article/risd_students_will_race_a_moon_buggy/33614/

NASA Press Release:

http://www.nasa.gov/home/hqnews/2010/mar/HQ_10-060_Great_Moonbuggy_Race.html

RISD NEWS

Continued...



RISD Moonbuggy team April 2010



Photograph from Rhode Island Monthly (Cassie is on the left and Eric Peloquin on the right)



Krisa Ryan (left) and Yarrow Throne test the Moonbuggy prior to the NASA race in Huntsville



Left to right: Cassandra Maurer, Eric Peloquin, Cliff Warren and Yarrow Throne conducting last minute checks on Moonbuggy race day.



Preliminary scale model of the RISD Moonbuggy.



See video from Eric 's helmet at <http://vimeo.com/10859503>

Continued...

RISD NEWS



Vivian Chiu, BFA 2011 giving her student project presentation.

Photographs by [Julie Chen](#).



Student Jesen Tanudi leading the Dept. of Architecture tour.



RISD Furniture Design studio.

Photograph by [Julie Chen](#).

Assistant Professor Lothar Windels lead the RISD Dept. of Furniture Design tour which was highlighted with student final project presentations to about 50 APMM members.

Assistant Professor Hansy Better and student Jesen Tanudi gave the RISD Dept. of Architecture tour to APMM members.



Article by: **Hal Chaffee**

President: **Model Builders, Inc.**
E-mail: hchaffee@sbcglobal.net

**2010-2012 Vice President -
President Emeritus**

Jonathan R. Ille - Dynamic Modelmakers

INFORMATION

Name: Jonathan R Ille

Company Name: Dynamic Modelmakers

Company Location: Manchester, UK

Type of Business: Design Model Making and Recruitment

Position: Director

Job Description/Responsibilities: Model Shop Manager; model design and construction, client and staff

management, new business quoting and budgeting



SPECIALTIES

Education/Schooling: HND in Design Modelmaking, Kent Institute of Art and Design, Rochester, UK

Skill Set/Specializations: Architectural model construction

Equipment/Tools Utilized: CNC routing and laser cutting, all work shop machinery, AutoCad



Above: Minearc refuge chamber model

MODEL MAKING

What do you like about model making? Bringing design concepts to life and the global opportunities that come with my job – I have just returned from five years in Australia and hope to relocate to North America next – offers welcome!

How did you get into model making? Studying 3D Product Design when I was 18.

Most Interesting Project: 1:1 full scale model of Eurofighter 2000 for British Aerospace



Above: large scale Monopoly figures

Member Profile

Jonathan R. Ille - Dynamic Modelmakers

ABOUT ME

Hometown: Manchester, UK

Hobbies: Guitar playing, golf, poker, surfing the web

My Dream Job would be: A lucrative design model maker

Something you've always wanted to do: Go into space



Above: Port Cogee Australia master plan model



Above: Radio station exhibition stand

THIS OR THAT

Grey or Gray? Grey

Summer/Spring/Fall or Winter? Autumn

Watch or Clock? Clock

Morning Person or Night Owl? Night owl

Pen or Pencil? Pencil

Casual or Formal? Casual

High Road or Low Road? High Road

FAVORITES

Food? West Australian Dhufish fillets cooked on a BBQ after a days fishing

Midnight Snack? Pizza

Color? Green

Sports Team? Manchester United

T.V. Show? Blackadder

Movie? Dirty Harry

Book? Mr Nice

Music? Rock and/or Roll

Beverage? Yes, please



Above: The Calls Leeds development

HOK Opens New Model Shop



HOK Opens New Model Shop in Downtown St. Louis

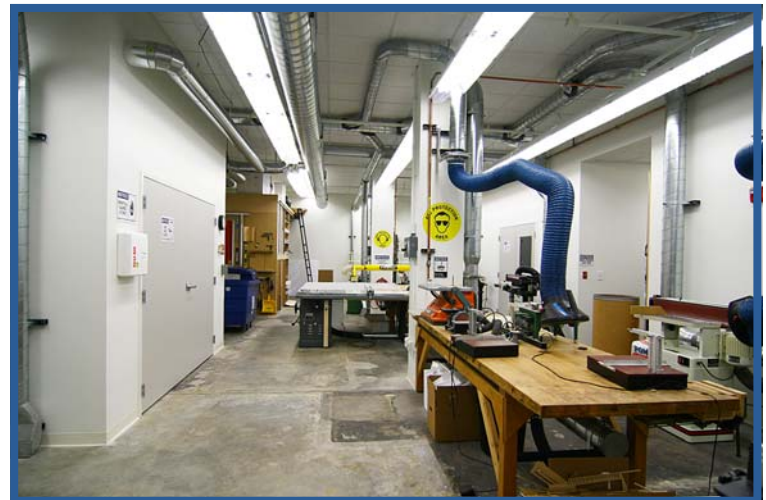
State-of-the-art 4,500-square-foot facility expands global architectural firm's 55-year commitment to the city.

ST. LOUIS – HOK, one of St. Louis' most prominent global companies, has expanded its downtown presence with the opening of a state-of-the-art studio for designing and constructing architectural models.

Located on the first floor of the Millennium Center building at 312 North 6th Street, the new 4,500-square-foot HOK Model Shop enhances the architectural design firm's capabilities to create three-dimensional models for building design, planning and site development, product development, custom crafted interior decorative elements, and full size mock-ups of building details.

The facility's flexible, collaborative workspace separates "clean space" for final model assembly from a sound-isolated work shop for heavy tool use. New capabilities will include laser cutting, vacuum forming, 3-D printing and professional photography resources.

Designed by HOK's Interiors group in conjunction with HOK Model Shop staff, the space gives HOK an exterior storefront presence, with graphics and model display windows designed by HOK's Graphics group. Additionally, HOK's Lighting group provided energy-efficient and dynamic lighting solutions.



HOK Opens New Model Shop

A schedule of design meetings involving key stakeholders helped facilitate the process. Two years into the planning of a new model shop, a space across the street from the firm's main office emerged as an ideal solution.

A location within a shared commercial space posed many challenges, but collaborative brainstorming among disciplines allowed for problem areas to be averted. Team achievements included the integration of recirculating filtration systems for laser and paint fume ventilation, as well as keeping noise and vibrations to a minimum. The open floor plan reflects the forethought for future growth in staff and technology

The new HOK Model Shop currently accommodates HOK's four professional model designers. HOK is currently pursuing LEED certification for the space from the U.S. Green Building Council.



"Our new model shop is a state-of-the-art resource to benefit our clients, our employees and our community," says HOK St. Louis Director of Operations Andrew Gayer.



"We're looking to the future of model making and our new space is just the beginning of something really great for HOK and our clients," says Model Designer Vincent Schell. "The idea was to go beyond the traditional wood shop and create something where shared creativity between designers and model shop staff was more accessible".

[HOK](#) is a global architectural firm that specializes in planning, design and delivery solutions for buildings and communities. Through its collaborative network of 23 offices worldwide, the firm serves diverse clients within the corporate, commercial, public and institutional markets. HOK is committed to developing resources and expertise to help lead the world toward sustainable communities and building environments. Founded in 1955, the firm's expertise includes architecture, engineering, interiors, planning, lighting, graphics, facilities planning and assessment and construction services.

In the News

HOK time lapse - building a model
Click for video:



LGM featured in New York Times
Click to read full article:



David Barrington Holt works on "Dinner for Schmucks" diorama

" In 2010 my entire productive output has been devoted to the Paramount picture "Dinner for Schmucks" - working for the Chiodo Brothers - but even that I took over from fellow APMM member Gene Rizzardi. He supervised the first stage of the build, and I took over as supervisor for the second stage - as well as the PR "coda"!

This, of course, is work rather different from the average fare of APMM members - and I would be happy to show it off, except that I feel others are due the primary credit. For what it is worth, here's a link to the final PR exercise, for which I was largely responsible."

Click either photo for a link:

