DESIGN PORTFOLIO

EDMUND W. GOLASKI

golaski@alum.mit.edu
http://web.mit.edu/mrbonk/www
(617) 512-2425
Left: Medical device pilot production assembly system. Adhesive is dispensed by the robot at right. The still-fixture part is then moved to the device at center for clamping and curing.

Below: Clamping and curing detail.

Left: Low-volume assembly of cylindrical parts. Frequent changeover and a wide variety of component dimensions drove the design of this assembly machine. Compared to the previous generation, this machine increased the range of part dimensions which could be accommodated, and provided faster and safer changeover. Locking casters allow the machine to be moved, providing greater flexibility in the plant.
Left: Laser Metrology Cart  After assembling and debugging the first of these carts, I implemented a series of improvements in robustness, ease of assembly, and ease of calibration, as well as incorporating additional features requested by the customer.

Right: Inspection Head Detail  I redesigned the sensor head to accommodate new cameras and new inspection geometries, and to speed the calibration process.

To help the design team evaluate the proposed design concept for our genomics workstation (right), I built a model from foam-core and solid foam (left and inset).
MIT’s Commencement speakers for 1999 were Tom and Ray Magliozzi, also known as NPR’s Click and Clack - the Tappet Brothers. The MIT President’s office asked Prof. Samir Nayfeh and I to build kinetic sculpture clocks as gifts for these distinguished alumni. Also involved in the conceptual phase were Professors Alexander Slocum and Sanjay Sarma, and artist Arthur Ganson.

**Left:** The pair of clocks, one shown without its protective bell jar.

**Below Left:** Chairman of the MIT Corporation Alex D’Arbeloff presenting the clocks to Tom and Ray

**Below:** The clocks were modeled in Pro/Engineer before any metal was cut. This was critical to getting the clocks built right the first time, a necessity given the tight schedule.
VACUUM FORMING

For a production of *Star Wars Trilogy: Musical Edition* I built a vacuum-forming machine. The principal use of the machine was to fabricate the plates for the C-3PO costume. A secondary benefit of the vacuum-forming process was the relative ease of producing a second set of plates for a C-3PO dummy to be carried on Chewbacca’s back in Act V.

**Right:** Vacuum forming machine.

**Below:** Interior of the electrical enclosure.

Molds were sculpted primarily from modeling clay, typically laid over a substructure of PVC tubing and metal mesh.
For a production of Cabaret I directed in 2001, we needed a prop microphone appropriate for 1930’s Berlin. The photo on the left shows President Hoover speaking into carbon-type microphones from the period. The center photo is the piece I built from aluminum tube and bar stock and steel springs. The photo on the right shows the piece in use during the show. (The photo appeared in the campus newspaper, The Tech)

Below is a form-model I made for MIT Course 2.744 (Product Design). The product concept is a digital tire-pressure gauge. At left are foam sketch models of different ideas. I refined the top one and modeled it in Solidworks, 3D-printed it, and finished it to look like an injection-molded plastic part.