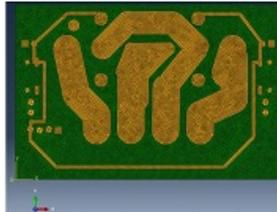


## All Meshed Up

This image, created in our Sherlock Automated Design Analysis™ software, shows a heavily meshed structure for the copper traces and PCB. The different models that can be created are the uniform, layered, uniform elements and layered elements models. This new addition to Sherlock is an enhanced meshing approach that can apply to elements of the printed circuit board such as copper and the substrate identifying risks due to warpage, thermal issues, mechanical loads etc.

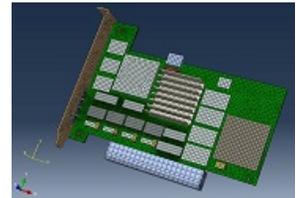


For more information on this new Sherlock feature, please contact **Dr. Nathan Blattau** or **Tom O'Connor**.



### Sherlock Spotlight

See how Sherlock seamlessly integrates with Abaqus.



For more information please contact **Tom O'Connor**.

## Component Packaging Test Services

Our extensive component testing capabilities address temperature, temp cycling, humidity (THB), vibration, mechanical shock, drop testing, bending (cyclic), pull/shear and combined environments. We then takes any failures encountered and performs failure analysis including decapsulation, cross sectioning, and optical or electron microscopy. **This presentation** highlights these capabilities. If you would like to learn more about our **Component Packaging Test Services**, please contact **Ed Dodd**.

## Impact of Reprocessing Technique on First Level Interconnects of Pb-Free to SnPb Reballled Area Array Flip Chip Devices

First level interconnects are the wire bonds or C4 bumps between the die and the interposer. **This presentation** addresses the results of a program where DfR assessed the reliability impact of these interconnects as a function of the package being reballled from Pb-free to Sn/Pb balls. Device reliability of these interconnects is critical and knowing that repair, rework, or complete reballing actions do or do not affect the solder bumps or bond wires is vital data. For more information please contact **Dr. Nathan Blattau**.

## Wearable Electronic Medical Devices: What Fails and Why?

### Try Sherlock Free

**Sign Up Now for a Free Trial!**

Sherlock Automated Design Analysis™ software

### Upcoming Webinars

**Mark Your Calendars!**

**Improved Efficiency & Reliability for Servers Using Immersion Cooling Technology**

Presented by Cheryl Tulkoff

**Thursday, November 20, 2014**

11am EST Session **Register Now**

2pm EST Session **Register Now**

**Back by Popular Demand!**

**Root Cause Analysis of HALT Failures (pre-recorded)**

What are the requirements of wearable electronic medical devices? They must be nonrestrictive, portable, always accessible, easily controllable, and have both localized communication and possibly wireless communications capabilities.

Wearable medical electronics falls into the categorization of "Next Generation Technologies", technologies the supply chain or the user will implement because they are cheaper, faster, and stronger.

With these new medical electronics, there are several issues that need to be addressed from a reliability perspective to assure these applications are both safe and reliable including new device packaging, environmental conditions like sweat, UV & temperature exposure, tumble & drop, bending and torque, and the inevitable water immersion. The implications of RF ID and battery life are also explored. **This presentation** delineates these issues. For more information please contact **Dock Brown**.

---

## Next Generation Battery Technology

This interesting article, **Improving Rechargeable Batteries**, shows advances being made with regard to Lithium Ion batteries. The focus of the research is on the development of new quantum materials due to their unique properties such as zero resistance, essentially superconductivity. DfR Solutions has previously written an article entitled **Autonomous Maintenance and Health Monitoring of Rechargeable Batteries** jointly with Exponent on Li-ion battery implementation. For more information please contact **Greg Caswell**.

---

## Other Interesting Items

Read the quote by **Cheryl Tulkoff** in the article entitled **Wearable Sensors: Technology Trends and Challenges**.

Watch for an upcoming article entitled **3-D ICs: Progress Updates, Reliability Concerns, and Failure Mechanisms** in a future issue of **EDFA** magazine. This article was jointly written by Jan Vardaman of Techsearch International and Greg Caswell and Craig Hillman. For more information please contact **Greg Caswell**.

Cheryl Tulkoff received the SMTA "Member of Technical Distinction" award at the SMTA International Symposium. This award recognizes individuals who have made significant and continuing contributions to the SMTA. Here is the official **press release from SMTA**. Congratulations Cheryl.

An update on the **Chip Scale Review** article recently published on **Cu Wire Bonding for Automotive Applications**:

**John Day's Automotive Electronics** recently made this article his lead industry news item. **Review this update**. For more information please contact **Jim McLeish**.

---

## On Location

At DfR Solutions we still believe that personal relationships are best. Our Senior Staff spend a lot of time visiting clients in order to personally ensure that their projects are going well and discussing their overall reliability needs.

If you would like a personal visit from DfR Solutions, please **Contact Us**.

---

## Sherlock User Forum

To better accommodate the users of Sherlock Automated Design Analysis™ software, DfR Solutions has established a User Forum which will provide insight in FAQs, discussions on Sherlock releases, Feature requests, Tips and Tricks, and also where you, the user, can input your experiences.

Please go to **Sherlock User Forum**. Once you enter your information you will need to wait for DfR confirmation.

Originally presented by Cheryl Tulkoff and Greg Caswell

**Thursday, November 13, 2014**

11am EST Session **Register Now**

2pm EST Session **Register Now**

If you missed the original presentation of this webinar, you have two more chances to catch it! We will be re-broadcasting the recording and answering any new question live.

---

## We'll Meet You There!

**Nov 12:** Wearable Sensors and Electronics, Santa Clara, CA

**2015**

**Jan 8 and Jan 15:** Joint webinar with the SMTA

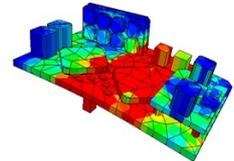
**Jan 26-29:** RAMS, Palm Harbor, FL

**Feb 22-26:** IPC APEX, San Diego, CA

---

## SHERLOCK in 3D!

Click the image below to view a short video about **Sherlock's New 3D Capabilities**.



**View short video**

---

## SHERLOCK Demo

**sherlock**  
AUTOMATED DESIGN ANALYSIS™  
**Take the Sherlock Demo**

---

## Reach Your Colleagues

Learn how your business can reach more than 12,000 electronics professionals.  
**Contact Us.**

**Sign up to receive The Solutions Report!**

