



February 2012 Newsletter

[Component Testing](#) | [100 miles in 24 hours](#) | [Open House](#)

DfR Solutions Expands into Europe!

Due to increasing demand for our premier reliability services throughout the European market, DfR is proud to announce the opening of a European office in Espoo, Finland. Mobile electronics and packaging design expert, Dr. Petri Savolainen, will lead DfR Solutions European office as Senior Member of Technical Staff. More information on Petri's extensive technical background can be found [here](#). To arrange a visit to your European location or discuss possible engagements, feel free to contact Petri by phone (+358 50 368 7121) or [email](#).

Package on Package

PoP packaging is quickly evolving into one of the next generation packaging technologies due to the increased need to miniaturize electronics. To get a flavor for the issues associated with the manufacturability of assemblies utilizing these packages, read DfR's recent article published in the [SMT February 2012 issue](#). For more information, contact [Craig Hillman](#).

Physics of Failure

Walt Tomczykowski presented "[An Introduction to Physics of Failure- Delivering Reliable Products](#)" at the recent RAMS Conference in Reno, NV. The PoF science based approach presented focused on characterizing the life-cycle usage and environmental stress load profiles of an application and understanding the cause and effect physical processes and mechanisms they produce that cause degradation and failure in materials and components. To learn more, contact [Walt Tomczykowski](#).

Vibration and Shock Webinars

Dr. Nathan Blattau recently presented two webinars in conjunction with Qualmark. These well received webinars were entitled "[Investigating Shock Related Failures of Electronic Assemblies](#)" and "[Exploring Vibration Fatigue of Electronic Assemblies](#)." If you were unable to listen in you can still get the valuable information presented by clicking on the papers. If you want further insight, please contact [Nathan Blattau](#).

Sherlock

[Automated Design Analysis™](#)



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The Heat Is On 2012

March 19, 2012

Doubletree Hotel, San Jose, CA

MEPTEC is pleased to announce the continuation of their "[Heat is On](#)" symposiums, which for the second year will be co-located with the 28th Annual [SEMI-THERM](#) conference and exposition.

The Only Thing That Could Put Us Out of Business...

[Self healing electronics](#). If only all variations of electronics could fix themselves. What DfR concerns itself with is the reliability aspects of this new concept. Will it work? Will it be reliable? Will it be cost effective? And will it provide long term benefit to the user. Jury's still out. For more information on our technology insertion services, please contact [Gregg Kittlesen](#).

January Survey: Conformal Coating

As a service to our valuable readers, DfR launched a survey of month in January. Its purpose is to help you gain a deeper insight into the thoughts, goals, and actions of your peers within the electronics industry. A free comprehensive summary of each survey was made available to all survey participants. In January, we asked our readers their thoughts and concerns in regards to [conformal coatings](#). For more information on how DfR selects, qualifies, and audits coating materials and manufacturers, please contact [Greg Caswell](#).

DfR News

Expansion of Component Testing

With the increasing use of [copper wire bonds](#), and their potential risk in regards to quality and reliability, DfR has acquired a state of the art XYZTEC Condor Series Microtester. The Condor Series is the is the most advanced bond tester on the market, with state-of-the-art capabilities that include high-speed shear testing and micro cyclic bend testing. Its broad range of tools and loadings allow for characterization of the pull strength of the smallest bond wire on a fine-pitch, multi-stack architecture to the shear strength of a high power die. For more information on its capabilities and how it can help you qualify copper wire bond technology or Pb-free die attach, please contact [Tom Johnston](#).

Can You Run 100 Miles in 24 Hours?

Cheryl Tulkoff can! On February 4, our very own Cheryl Tulkoff ran 100 miles...without stopping...in the dark...in the rain as part of the [Rocky Raccoon Trail Run](#). She finished [98th out of 376 competitors](#) and was the 9th women to cross the finish line. We couldn't be prouder.

DfR Open House

DfR will be hosting an open house at our facility on March 19. We will have two technical presentations by deep subject matter experts, a tour of DfR's facility and a demonstration of DfR's Automated Design Analysis software-Sherlock. For more information, contact [Tammy Smittenaar](#).

DfR Growing Government Solutions

As part of continuing demand from Government programs, DfR is proud to announce the appointment of Michael Carroll as Senior Director. Mike has over 20 years of experience, most recently as in senior management at Northrup Grumman – San Diego, in ensuring system-level reliability, maintainability, and sustainment goals are achieved in major government programs. At DfR, Mike will be supporting Systems Engineering operating under the Deputy Assistant Secretary of Defense. For more information on Mike's skills or on how he can help your organization, feel free to contact Mike by phone or [email](#).

DfR Continues to Publish Industry Relevant Articles

DfR's Randy Schuller had the [7th most widely read article in PCBdesign007](#). Randy's paper, [Alternative Lead-Free Alloys](#), addressed alternative Pb-free alloys, their potential risks, and potential for eventual industry acceptance. For more information on these new alloys or to congratulate Randy, feel free to contact him by phone or [email](#).

Upcoming Events

Google Calendar

Look for DfR at upcoming events, conferences, webinars, and sales visits that may be in your area on our new [link to Google Calendar](#). For more information on a specific activity, please contact [June Caswell](#).

PERM Meeting (Arlington, VA: February 2)

[Craig Hillman](#) and [Joelle Arnold](#) presented on the status of DfR's [two SBIR programs](#) addressing the reliability of reballed BGAs and the reliability of various Pb-free component packages when subjected to shock and vibration testing. For more information contact [Joelle Arnold](#).

GIDEP Meeting (San Diego, CA: February 6-8)

In his role as vice-chair, [Walt Tomczykowski](#) helped this industry-governmental body understand how to respond to recent counterfeit legislation.

DfR Solutions in Connecticut (February 7-10)

[Greg Caswell](#) visited companies in Connecticut and is available to discuss TSV technology, LEDs, MEMS packaging, and benchmarking your supply chain. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

APEC Conference (Orlando, FL: February 8)

[Craig Hillman](#) presented at the [Applied Power Electronics Conference](#). His

presentation was on "Using Physics and Industry Best Practices to Predict the Lifetime of LED Power Supplies." For more information contact [Craig Hillman](#).

ASQ Reliability Division Webinar (Virtual: February 9, Noon EST)

[Jim McLeish](#) presented "Introduction to Physics of Failure Reliability Methods" during this webinar. For more information, please visit the ASQ website.

SMTA Houston Chapter (Houston, TX: February 9)

[Cheryl Tulkoff](#) made a presentation entitled "Advances and Challenges in High Temperature Component Attachment" at this local chapter meeting. For more information contact [Cheryl Tulkoff](#).

DfR Solutions in Pittsburgh (February 9-10)

[Craig Hillman](#) visited companies in the Pittsburgh area and is available to discuss DfR, component packaging, and Pb-free reliability. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

Central Texas Electronics Association (Austin, TX: February 21)

Greg Caswell made a presentation on "Challenges with Package on Package (PoP)" and Cheryl Tulkoff presented "Design for ESD Prevention and ESD Failure Analysis Techniques" at this local chapter meeting of IMAPS/SMTA and IPC members. For more information contact [Greg Caswell](#) or [Cheryl Tulkoff](#).

IPC APEX Conference (San Diego, CA: February 26-March 1)

[Cheryl Tulkoff](#) will be teaching her highly regarded course on Design for Manufacturability on Sunday, Feb 26th, in addition Cheryl will be moderating these 2 sessions at [APEX 2012](#).

- S19 - Wednesday, February 29, 10:15am-11:45am - PCB Hole Fill
- S31 - Thursday, March 1, 10:15am-11:45am - Pad Cratering

If you would like to meet up with Cheryl at IPC APEX, please contact [June Caswell](#).

DfR Solutions in San Diego (February 26-March 1)

[Cheryl Tulkoff](#) will be visiting companies in the San Diego area and is available to discuss DfM, root-cause analysis, and product qualification testing. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

DfR Solutions in Chicago (March 5-7)

[Craig Hillman](#) will be visiting companies in the Chicago area and is available to discuss DfR, component packaging, and Pb-free reliability. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

IMAPS Device Packaging Conference (Scottsdale, AZ: March 6-8)

[Greg Caswell](#) will be making a presentation at the DPC entitled, "Predicting the Reliability of Zero-Level TSVs." For more information contact [Greg Caswell](#).

DfR Solutions in Arizona (March 6-8)

[Greg Caswell](#) will be visiting companies in Arizona and is available to discuss TSV technology, LEDs, MEMS packaging, and benchmarking your supply chain. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

DfR Solutions in Bay Area (March 14-16)

[Ed Wyrwas](#) will be visiting companies in the Bay Area and is available to discuss integrated circuit reliability at 45nm and below and solid state drive performance. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

DfR Open House (College Park, MD: March 19)

DfR will be hosting another open house at our facility on the 19th. We will have two technical presentations by deep subject matter experts, a tour of DfR's facility and a demonstration of DfR's Automated Design Analysis™ software-Sherlock. For more information, contact [Tammy Smittenaar](#).

SMTA Solar Reliability Conference (San Jose, CA: March 21-23)

[Cheryl Tulkoff](#) will be making a presentation entitled "Reliability Modeling of Electronics for Solar Inverters" at this new conference. For more information, contact [Randy Schueller](#).

DfR Solutions in Bay Area (March 20-23)

[Cheryl Tulkoff](#) will be visiting companies in the Bay Area and is available to discuss DfM, root-cause analysis, and product qualification testing. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

DfR Webtorial (April)

Craig Hillman will be conducting a webtorial entitled "What Can Sherlock Do For You-Planned Maintenance? For more information on this informative event please contact [Craig Hillman](#).

Airworthiness Conference (Baltimore, MD: April 2)

[Walt Tomczykowski](#) will be presenting [Using Physics of Failure Based Software to Predict Remaining Avionics PCBA Life](#). In addition, Walt and [Tom O'Connor](#) will be manning the DfR booth in the exhibit area. Be sure to stop by and visit with them. For more information contact [Walt Tomczykowski](#).

DfR in Huntsville (Huntsville, AL: April 2-4 and May 21-23)

[Craig Hillman](#) and [Cheryl Tulkoff](#) will be visiting companies in the Chicago area and are available to discuss DfR, component packaging, DFM, Root-Cause Analysis, Product Qualification Testing and Pb-free reliability. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

SMTA Webinar (April 12 & 19)

[Cheryl Tulkoff](#) will be presenting "Pad Cratering and Pb-Free" during these webinars. For more information or to register, please visit the [SMTA website](#).

Avionics Maintenance Conference (Anchorage, AK: April 30-May3)

[Walt Tomczykowski](#) and [Craig Hillman](#) will be attending this critical industry conference and presenting case studies on how DfR's Sherlock software could have been used to avoid or mitigate many of the issues identified and discussed by the conference attendees.

SMT Hybrid Packaging Conference (Frankfurt, Germany: May 8 & 10)

[Cheryl Tulkoff](#) will be presenting two half-day tutorials at this conference. The first will be "Design for Reliability" on May 8. The second tutorial will be "Sourcing of Printed Circuit Boards" on May 10. For more information, please contact [June Caswell](#).

Minnesota Reliability Consortium (May 15)

[Randy Schueller](#) will be giving a presentation on DfR's Sherlock Automated Design Analysis Tool to the Minnesota Reliability Consortium. For more information please contact [Randy Schueller](#).

IPC Test and Inspection Conference (May 15-17)

[Nathan Blattau](#) will be making a presentation on "Design for Reliability & Physics of Failure (PoF) Based Automated Design Analysis" at the conference. For more information please contact [Nathan Blattau](#).

DfR Solutions in Germany (May 7-11)

[Cheryl Tulkoff](#) will be visiting companies in Germany and is available to

discuss DfM, root-cause analysis, and product qualification testing. If you and your associates are interested in an onsite visit and/or presentation, please contact [June Caswell](#).

Int. Conf. Soldering and Reliability (Toronto, ON: May 15-19)

[Greg Caswell](#) will be presenting "The Effect of Coating and Potting on the Reliability of QFN Devices." For more information, please contact [June Caswell](#).

Applied Reliability Symposium (New Orleans, LA: June 13-15)

[Jim McLeish](#) will present "The Transition from MTTF Reliability Predictions into Physics of Failure Reliability Assessments" at the [2012 Applied Reliability Symposium, North America](#). For more information, contact [Jim McLeish](#).

Employment

Reliability Manager

Full-time onsite at customer location in Washington, DC, metro area.

Individual will utilize a thorough knowledge of the DoD 5000 acquisition process to draft policy and guidance documents and to review DoD major weapons systems reliability and maintainability documentation. Individual will supervise a team of reliability engineers and analysts. This is a fast-paced, high-visibility position that requires the applicant to be highly engaged, capable of managing multiple tasks, writing comprehensive reports and meeting critical deadlines. Position includes travel up to 25% of the time.

Required:

- Highly skilled in presenting to senior leadership in both industry and government
- Thorough knowledge of reliability improvement, growth theory and practice, and the DoD 5000 acquisition process to include the Defense Acquisition Guide
- 20 years experience working in the DoD system program office
- Minimum M.S. degree in engineering
- Secret clearance and US citizenship

Preferred:

- Cross-domain experience (air, land, sea, space) is a plus

Qualified individuals should [e-mail](#) their resume along with a cover letter.

Reliability Analyst / Engineer

Full-time onsite at customer location in Washington, DC, metro area.

Required:

- DoD 5000 acquisition directives and regulations
- DoD major weapons systems development timeline with an emphasis on reliability and maintainability activities
- Reliability design principles and practices including part selection, physics of failure, R&M math models, etc.
- Best practices in test development and execution including HALT/HASS, reliability growth tests, accelerated life testing, etc.

Required Experience/Education:

- Minimum 10 years of experience including direct experience with system-level technical reviews
- Minimum B.S. degree in engineering
- Secret clearance and US citizenship

Preferred:

- Cross-domain experience (air, land, sea, space) a plus
- Certified Reliability Engineer (CRE)
- Green Belt Six Sigma

Qualified individuals should [e-mail](#) their resume along with a cover letter.

Advertisement

Advertise here and reach more than 12,000 electronics professionals. DfR Solutions is now accepting advertisements in the DfR newsletter. For more information, contact [Tammy Smittenaar](#).