



WELCOME

The ASQ Reliability Division is the largest group in the world promoting reliability training and education. This newsletter covers professional development opportunities plus division activities information and news.

Chair's Note



David Auda

Chair, Reliability Division of ASQ
(518)385-0919
chair@asqrd.org

Dear Friends,

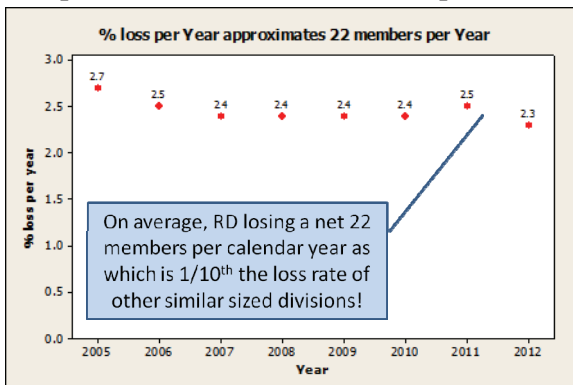
The division is accepting applications for volunteers who are interested in serving as member leaders. This is an opportunity to be part of a leadership team that is growing the Reliability discipline across industries and across the globe. You will be working in a diverse organization with challenging initiatives that will allow individuals to further develop and refine their leadership skills. Whatever your experience level, send a short introduction paragraph along with your resume to me at chair@asqrd.org.

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Membership

Update on ASQ-RD Membership!



Row Labels	Count of Count-----
Engineer	1021
Manager	446
(blank)	191
Director	169
Other	103
Consultant	94
Retired	65
Professor	51
Senior Staff	49
President	37
Specialist	36
Statistician	29
Six Sigma Black Belt	25
Supervisor	22
Technician	22
Analyst	22
Student	21

Table 1

Table 1 is the RD membership by job title, and you can see we cover most normal job titles. **Table 2** characterizes the RD membership by type of membership held. Of interest is the healthy number of members who hold ASQ Senior, Full & Fellow memberships. This distinguishes the RD division from several other divisions of similar size. **Table 3** characterizes the RD membership by country, although most of the RD members are in the US, we have almost 500 members in other countries of the world.

Row Labels	Count of Count-----	Row Labels	Count of Count-----
SENIOR	1269	USA	2080
FULL	959	CAN	121
ASSOCIATE	132	IND	44
FELLOW	63	BRA	21
ORGANIZATION	57	MEX	20
STUDENT	41	NGA	20
ORGMEMBER	23	CHN	19
SITE	18	HKG	17
HONORARY	1	AUS	15
(blank)		GBR	14
Grand Total	2563	DEU	14
		SGP	14
		SAU	13
		TTO	10

Table 2

Table 3

Announcements

The Reliability Calendar

Find a wide array of seminars, conferences, classes, webinars and more for your professional development from as many sources around the world as we can find. Visit www.reliabilitycalendar.com

ASQ RD LinkedIn Group

There is an ASQ RD Group within LinkedIn. Another forum to network, stay in touch and engage in professional discussions with your peers. Click here to link in.

ASQ RD webinars

Recorded webinars on topics relevant to reliability engineers delivered by subject matter experts. Visit <http://asq.org/reliability/quality-information/webinars-reliability.html>

Division Budget Update

	FY 12	FY 13	FY 13
DESCRIPTION	Actual	Budget	30-Apr-13
REVENUE			
Dues	\$22,410	\$25,000	\$6,500
Retail_Sales	\$212	\$500	\$184
Advertising	\$1,538	\$4,000	\$2,835
Registrations	\$17,421	\$10,000	\$2,647
Interest	\$319	\$200	\$84
Dividends	\$708	\$600	
Miscellaneous			
TOTAL REVENUE	\$42,608	\$40,300	\$12,250

	FY 12	FY 13	FY 13
DESCRIPTION	Actual	Budget	30-Apr-13
EXPENSES			
Printing & Production	\$307	\$800	\$197
Promotional Giveaways	\$50	\$100	\$0
Postage & Shipping	\$1,077	\$1,000	\$133
Contract & Professional	\$400	\$800	\$424
Bank fees	\$4	\$0	\$0
Advertising	\$975	\$200	\$526
Equipment Rentals	\$836	\$300	\$347
Meetings & Banquets	\$5,865	\$6,000	\$5,828
Travel	\$20,344	\$30,500	\$6,965
Equipment	\$999	\$0	\$0
Supplies	\$14	\$100	\$197
Telephone/Web	\$1,336	\$1,000	(\$1,198)
Partner Payment	\$3,500	\$3,500	\$3,500
Awards & Gifts	\$1,646	\$1,700	\$106
Donations/Scholarships	\$0	\$0	\$0
Other	\$110	\$2,500	\$0
TOTAL EXPENSES	\$37,462	\$48,500	\$17,026
NET INCOME/(LOSS)	\$5,146	(\$8,200)	(\$4,776)

As you can see from the Reliability Division budget,

We completed 2012 with a surplus of \$5,146 primarily as a result of the excellent results from RAMS® 2012 which returned over \$17,000 to the Division. We are budgeting a loss of \$8,200 for 2013 as we try to spend some of our reserves in providing services to our members, especially our very successful webinar series which we continue to offer at no cost. As you can see from the 1st Quarter results we are ahead of track. However, we do expect to receive additional monies from RAMS 2013.

Update provided by RD Treasurer

Alfred Stevens.



Latest from OPS ALA Carte:

Ops is Teaching the CRE Prep Class.

We have been teaching this course for 15 years. It is being offered on-line via web conference. So whether you are trying to prepare for and pass the ASQ CRE exam or you just want a better understanding of reliability principles, this course is right for you. Starts August 13th and runs for 7 consecutive Tuesdays. Also we are now teaching an East Coast as well as West Coast version. Classes run 6-10pm on both coasts live and via webinar.

Also, check out our

New RELIAPEDIA website – Most complete library of technical articles and videos on reliability, completely searchable, comes with help desk for quick answers.



Professional Reliability Consulting, Testing, and Training Services
We provide *customized solutions* to optimize your product reliability.

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- Goals
- Benchmarking
- Reliability Program Plans
- MTBF Pred
- FMECA
- EOL Assessment
- Warranty Analysis
- HALT/HASS
- ALTs
- Rel Demo Tests
- Software Reliability
- RCA
- DOE
- Training/Teaching
- RoHS/WEEE Transition



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ASQ-RD Succession Planning & Org Chart

Succession Planning

It's never too soon to think about succession planning in the division. Even with 2-year terms, we are already at about the midpoint of the second year. For 2014, Trevor Craney will succeed Dave Auda as Chair, and Dave will move into the Immediate Past Chair position. By decree (and full agreement) with ASQ Headquarters, the Office of the Chair position will become effective at the onset of the 2014 term. The Office of the Chair means that a person elected into the Chair-Elect position automatically agrees that his or her term includes ascension to each of the Chair and the subsequent Immediate Past Chair position. The nominees put forth by the Reliability Division's nomination committee to assist Dave and Trevor in the leadership of the division for the term beginning January 1, 2014 are:

Chair-Elect: Marc Banghart

Treasurer: John Bowles

Secretary: Jim Breneman

If a member of the Reliability Division wishes to nominate himself/herself or someone else in the division for one of the three positions above, he or she may do so by submission of a nomination petition. The nominated individual must be a Regular member of the Reliability Division in good standing and the petition must be signed by at least 10 Regular members of the division. The petition must be sent to both the Reliability division's Secretary (Dave Gregerson: dgregerson@atmc.net) and the Reliability division's Nomination Committee Chair (Mark Durivage: mdurivage@hotmail.com). Petitions must be received by July 31 for consideration to be applied for the term beginning in 2014.

2013 ASQ Reliability Division

Leadership			
Chair	Chair-Elect	Treasurer	Secretary
Dave Auda	Trevor Craney	Alfred Stevens	Dave Gregerson

Continuing Education & Networking	
Education Chair	Jim Breneman
Conferences Vice-Chair	Marc Banghart
RAMS BoD Representatives	Trevor Craney (West) Alfred Stevens (East)
ASTR Conf Comm Representatives	Marc Banghart Jim McLinn
ISSAT Liaison	Guangbin Yang

Awards	
QE Best Paper Chair	Trevor Craney
RAMS Best Paper Chair	John Bowles

Leadership Team Support	
Membership Chair	Bob Stoddard
Audit Chair	Chris Deepak
Nominations Chair	Mark Durivage
Fellow Nominations	Charlie Plotkin
Succession Planning & Leadership	"Past Chair"
VOC Chair	Bob Stoddard
Communications Chair	Mauro Andreassa
Social Responsibility	Kristina Bergkvist

Outreach	
Newsletter Editors	Jim Breneman Bob Funk
Marketing	Jim Breneman
ASQ.org website	Jim Breneman
ASQRD.org website	Marc Banghart
reliabilitycalendar.org website	Fred Schenkelberg
Monographs Editor	Fred Schenkelberg
CRE Liaison	Leslie Shattes
LinkedIn Gatekeeper	Deniz Eroglu
Regional Councilors	Dan Burrows (N.Amer) Ernesto Primera (Int'l)

Webinars	
Executive Producer	Fred Schenkelberg
English Hosts	Dave Auda
	Cheryl Tulkoff
	Michael Parrillo
Spanish Hosts	Alejandro Ordaz Ernesto Primera
Chinese Hosts	Frank Sun Wendai Wang
Speaker Manager	Marc Banghart
Copyright Manager	Bart Chase
Publicity Manager	Mauro Andreassa
GTW & GC Scheduler	"Host"
Data Analyst	Mark Durivage
Marketing	Jim Breneman
Producer	Dave Auda

An Introduction to **Reliability 3.0** and **The Synthesis Platform**

• • • A Complimentary One-Day Seminar by ReliaSoft

Spend a day with ReliaSoft's CEO Pantelis Vassiliou, a world-renowned expert in reliability engineering, to get an exclusive inside look at a new continuous self-improving Design for Reliability (DFR) process that transforms how we approach reliability engineering, as well as the groundbreaking new Synthesis Platform that simplifies and manages the process.



A new, DFR-focused, cradle-to-grave approach to reliability that minimizes both the time-to-market and reliability program costs while simultaneously maximizing the achieved reliability.

The Synthesis Platform is the framework that enables and facilitates Reliability 3.0 through an advanced IT platform that provides intelligent integration between reliability program activities and tools, while simultaneously facilitating effective information sharing and cooperation between engineering teams of any size.

Attendance

There is no fee for this seminar. Prior registration is required and there are a limited number of seats at each event.

Schedule

9:00 - 10:00	Registration & Check-in (Coffee & Pastries Provided)
10:00 - 11:45	Lecture
11:45 - 12:15	Working Lunch (Lunch Provided)
12:15 - 2:00	Lecture
2:00 - 3:00	Q&A

For more information or to register for this event visit:
www.Reliability3.com or contact:

ReliaSoft

Phone : +1-520-886-0410,
Toll Free: 1-888-886-0410,
E-mail : Reliability3@ReliaSoft.com

Huntsville, AL	7/22/13
Indianapolis, IN	7/24/13
Milwaukee, WI	7/26/13
Chicago, IL	7/29/13
Detroit, MI	7/31/13
Alexandria, VA	8/2/13
Seattle, WA	8/12/13
San Jose, CA	8/14/13
Los Angeles, CA	8/16/13
San Diego, CA	8/26/13
Phoenix, AZ	8/28/13
Albuquerque, NM	8/30/13
Denver, CO	9/9/13
Minneapolis, MN	9/11/13
Dallas, TX	9/13/13
Houston, TX	9/16/13
Dayton, OH	10/16/13
Cincinnati, OH	10/18/13
Rochester, NY	10/21/13
Albany, NY	10/23/13
Boston, MA	10/25/13



SOFTWARE TOOLS, EDUCATION AND CONSULTING TO EMPOWER THE RELIABILITY PROFESSIONAL

ReliaSoft Corporation is the global leader in reliability engineering software, training and services that combine the latest theoretical advances with essential tools for the practitioner in the field. We are dedicated to meeting the reliability, quality and maintenance planning needs of product manufacturers and equipment operators worldwide.



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THE RELIABILITY PROFESSIONAL

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INTEGRATION TO EMPOWER THE RELIABILITY ORGANIZATION



WEIBULL++

Life data analysis



ALTA

Accelerated life testing data analysis



DOE++

Experiment design and analysis



RGA

Reliability growth analysis



λ PREDICT

Standards based reliability prediction



MPC

MSG-3 aircraft systems and powerplant analysis



RBI

Risk Based Inspection



BLOCKSIM

System analysis using block diagrams or fault trees



XFMEA

FMEA/FMECA and related analyses



RCM++

Reliability centered maintenance analysis



RENO

Visual stochastic event simulation and risk analysis



XFRACAS

FRACA/FRACAS activities



Orion eAPI

Web-based asset performance management



EDUCATION TO EMPOWER
THE RELIABILITY PROFESSIONAL

EDUCATION

ReliaSoft offers an extensive curriculum of reliability training courses that provide thorough coverage of the underlying principles and theory as well as the applicable software tools. The complete course list and calendar of upcoming public seminars are published on the web.



CONSULTING TO EMPOWER
THE RELIABILITY PROFESSIONAL

CONSULTING

ReliaSoft's expert reliability consulting services team offers a uniquely powerful combination of industry insight, unparalleled subject mastery and, most important of all, direct access to all of ReliaSoft's global resources, expertise and contacts.

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Regional Councilors– who they are, what they do

Needed:

USA Reliability Division Regional Councilors

The regional councilors support the Reliability Division mission and the ASQ strategic plan objectives, showing evidence of this activity in a measurable manner.

We are actively seeking individuals who are willing to energetically promote the practice of the reliability toolset, bring greater awareness of the benefits of the practice to the community at large, and increase the capability of the division. This is a leadership position, requiring competencies in communications, tactical planning, interpersonal skills and refinement of influential leadership skills. Contact Dan Burrows (d1c1b1@hotmail.com) or Dave Auda (davidauda@yahoo.com)



US and Canada Regional Councilor Geographical Breakdown

Regional Councilors

USA

Region 1 - Mohammed Pourgol-Mohammad

Region 2 - *Open*

Region 3 - *Open*

Region 4 - *Open*

Region 5 - Deniz Eroglu

Region 6 - *Open*

Region 7 - *Open*

Region 8 - *Open*

Region 9 - *Open*

Region 10 - Guangbin Yang

Region 11 - Jason Overstreet

Region 12 - Dan Burrows, (Jim McLinn, Co-Councilor)

Region 13 - Mitchell Rausch , *Need co-councilor*

Region 14 - *Open*

Region 15 - *Open*

Canada – *Open*

Get to Know Your Regional Councilors

Dan Burrows, Region 12 co-Councilor/US-Canada Coordinator

Residence: Tinley Park, IL

Education: BSME, MBA, CRE, CSSBB, CMQ/OE

Present job position: Corporate Reliability Director, Panduit Corp

Dan's Reliability Division Contributions:

Dan has been a frequent presenter at Region 12 ASQ Section meetings on the topics of reliability and effectiveness. He has also presented at AQS sponsored regional conferences such as the Illiana Quality Conference and the Northern Illinois Quality Conference. A secret Dan shares with us: "One secret that folks should know about being involved is that you usually get a free meal and a gift – not too shabby!"

Dan has also been involved in other professional reliability events such as the Reliability and Maintainability Symposium (RAMS) and the Applied Reliability Symposium (ARS) and developing reliability curricula and courses for individual companies and the Wisconsin Technical College System.

Favorite Reliability Quote:

An adaptation from a statement of the Role of the Reliability Function in the Quality Council of Indiana's CRE Primer, *"A reliability professional's responsibilities include providing both technical support and guidance to the organization. The reliability professional needs both analytical and persuasive abilities to succeed in this role."*

Jim McLinn, Region 12 co-Councilor, Twin Cities Area

Residence: Hanover, Minnesota

Education: MS, Solid State Physics

Present job position: Retired

Jim's Reliability Division contributions:

Running local reliability chapter holding monthly meetings with IEEE Reliability Society.

ASQ-RD Monograph author and Division Bookstore Manager

Other organizational involvement: Past ADCOM of IEEE Reliability Society

Ernesto Primera, Region Councilor/Coordinator for Global Regions

Residence: Margarita Island – Venezuelan Caribbean

Education: BSc.(Mechanical Engineering) A.J. de Sucre University. Venezuela; MSc. (Maintenance & Reliability) Sevilla University. Spain; Reliability Specialist. ASME Education Institute. USA; CMRP. Society Maintenance & Reliability Professional. USA.

Present job position: Reliability Specialist Advisor for CHEVRON EV&T Latin America Business Unit.

Ernestos' Reliability Division contributions:

Spanish Webinar Instructor for the ASQ-RD.; LAConfabilidad.net magazine editor in Spanish; Currently editing articles for the magazine in English for QP Magazine ASQ and ASQ-RD Newsletters.

Other organizational involvement: Founder of the SRE Venezuela Chapter. Promoting the SRE Latin American Section.

George Box (18 October 1919 – 28 March 2013) — One of the great statisticians of the 20th century, one of the founders of Response Surface Methodology and Time Series Analysis; contributed greatly to field of Quality and Bayesian Inference. Received ASQ's Shewhart medal in 1968. Some of his quotes:

"All Models are wrong, but some are useful"

"Data cannot always speak for themselves."

"Common sense is not common"

"When Murphy speaks, listen."

"Certain words should be used sparingly. These include should, could, would, ought, might, can't, and won't."

(And the editor's personal favorite:) "When running an experiment the safest assumption is that unless extraordinary precautions are taken, it will be run incorrectly"

Interested in Being an International Regional Councilor for ASQ-RD?

Same requirements as North America Regional Councilors:

- willing to energetically promote the practice of the reliability toolset,
- bring greater awareness of the benefits of the practice to the community at large
- increase the capability of the division.

This is a leadership position, requiring competencies in communications, tactical planning, interpersonal skills and refinement of influential leadership skills.

Contact Ernesto Primera

Ernesto.primera@gmail.com

International Regional Councilors

Name	E-mail	Country
Sibson Dalgo	sibsondalgo@gmail.com	UK
Anand Keerthi	keerthi.anand@ge.com	India
Mingbin Chen	mingbin.a.chen@invista.com	China
João Luiz Mapel Junior	jmapeljr@gmail.com	Brazil
Gehadeldin Hamoda	gehadeldin@msn.com	Qatar
Hermanto Ang	hermanto_ang_w@yahoo.com	Norway
Navaid Syed	nfsyed@hotmail.com	Saudi Arabia
Alessio Griffoni	alessio.griffoni@gmail.com	Italy
Irma Santoa	ISantos@Littelfuse.com	Philippines
Javier Villarrubia Derqui	javier.villarrubiaderqui@googlemail.com	Spain
Mustafa Pehlivan	navilhep@yahoo.com	Turkey
Daniel Vargas	devg28@gmail.com	Dominican Republic
Leandro Daniel Torres	infotorresconsulting@gmail.com	Argentina
Carlos Beza	carlosbeza@hotmail.com	Honduras
Rafael Narvaez	rnarvaez13@gmail.com	Venezuela



CALL FOR PAPERS

\$1000 Annual Award for Best RELIABILITY Paper

Quality Engineering is a technical journal of ASQ published by Taylor & Francis. It is directed to professionals in all engineering and management fields interested in quality improvement and reliability.

Quality Engineering is published January, April, July, and October. Continuing since it began in 2011, the ASQ Reliability Division will administer a \$1000 annual award for the best Reliability focused paper published in Quality Engineering. Published papers will be evaluated for the four issues of the Jul-Jun year and the winner will be notified by January of the following year. The second award winner will be formally announced at RAMS in January, 2014.

Note – to be eligible for the award, at least one of the authors for a paper must be a member of the ASQ Reliability Division when their paper is published.

For more information: Trevor.A.Craney@shell.com

To submit papers for publication: <http://mc.manuscriptcentral.com/lqen>
(also, expect to register when you get to the website)



Organizers & Sponsors:

The conference is organized and sponsored by the International Society of Science and Applied Technologies, In cooperation with the ASQ Reliability Division.

The ISSAT International Conference on Reliability and Quality in Design is an international forum for presentation of new results, research development and applications in reliability and quality in design. Papers may address any aspect of reliability and quality in design. Papers dealing with case studies, experimental results, or applications of new or well-known theory to the solution of actual reliability and quality problems in engineering design are of particular interest.

Topics of Interest:

- Reliability
- Modeling Analysis and Simulation
- Fault Tolerance
- Quality Assurance and Cost Issues
- Optimization
- Software Reliability and Testing
- Survival Data Analysis
- Maintainability and Availability
- Data Collection and Analysis
- Human Factors and Reliability
- Concurrent Engineering and Design
- Performance Analysis
- Experimental Design for Quality Control
- Statistical Approaches in Reliability
- Data Computing
- Software and Algorithms
- Methodologies for Quality Control
- Robust Design
- Safety-Critical and High Assurance Systems
- Risk Assessment Modeling
- Reliability Modeling and Testing
- Network Reliability
- Design Issues in Manufacturing
- Process Control and Management
- Quality Planning and Measurements
- Engineering Design Optimization
- Quality Engineering
- Total Quality Management Techniques
- Parallel and distributed Computing
- Life Testing

For more information, go to <http://issatconferences.org/>

Upcoming ASQ RD Webinars

The following events are free to attend and we welcome all that are interested in the topics. Please pass along this invitation to those you think would find this interesting.

You can find the full schedule of events, plus almost all of the slide sets are at reliabilitycalendar.org/webinars/

If you are an ASQ RD member recordings of past events are at ASQ.org/reliability in the library area.

If you would like to present, please let us know. Please enjoy, learn, and contribute to this program with the intent to provide profes-

English Webinars

Cost-Optimized Reliability Test Planning and Decision-Making Through Bayesian Methods and Leveraging Prior Knowledge

June 6, 2013 0900 US Pacific Coast Time
<https://www1.gotomeeting.com/register/424833584>

Presenter: Charles H. Recchia

Field Data Analysis and Statistical Warranty Forecasting

June 13, 2013 09:00 US Pacific Coast Time
<https://www1.gotomeeting.com/register/609131609>

Presenter: Vasiliy Krivtsov

Comparing Individual Reliability to Population Reliability for Aging Systems

July 11, 2013 09:00 US Pacific Coast Time
<https://www1.gotomeeting.com/register/946528641>

Presenter: Dr. Christine M. Anderson-Cook

Reliability Program Success: Design for Reliability Roadmap

August 8, 2013 09:00 US Pacific Coast Time
<https://www1.gotomeeting.com/register/198102440>

Presenter: Moataz Elheddeny

Data Acquisition: a Key Challenge for Quality Improvement

November 14, 2013 0900 US Pacific Coast Time
<https://www1.gotomeeting.com/register/537035961>

Presenter: Necip Doganaksoy and Gerald Hahn

Chinese Webinars

*New Chinese Webinars to be announced shortly.
Please check Reliabilitycalendar.org*

Webinar Outreach

Webinars

Executive Producer

Fred Schenkelberg
fms@garlic.com

Chinese Host

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franksun99@yahoo.com

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Producer

David Auda
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Speaker Manager

Marc Banghart
Marc.Banghart@wyle.com

Other Information

When is the next Reliability Certification exam?

Exam	Application	Late Application Fee	
Date	Deadline	(\$50) Deadline	Location
5-Oct-13	16-Aug-13	21-Aug-13	ASQ Local Sections and International Sites
1-Mar-14	10-Jan-14	15-Jan-14	ASQ Local Sections and International Sites
4-Oct-14	15-Aug-14	20-Aug-14	ASQ Local Sections and International Sites

Current CRE statistics:

There are currently 2,709 people holding CRE certification, 1249 of the CRE's are in the U.S. For calendar year 2012 there were 302 newly certified CRE's.

Local ASQ Sections and international organizations host exams all over the world. You will be asked to designate a preferred examination site on your application. If you are not a member of ASQ, please [find the Section that is closest to your location](#). If you live in a country other than the United States, Canada or Mexico, international certification affiliates administer certification exams. [Find an international certification exam location](#). ASQ will make every effort to accommodate your request. ASQ offers some [translated certification exams](#).

Volunteer Opportunities for CRE Exam Review:

As a workshop participant you will assist the team in preparing the next CRE exam and you will receive 2 RUs towards recertification. Some pre-work is required and participants must sign a nondisclosure agreement which limits CRE exam preparation training for a period of two years. ASQ refunds travel expenses for the workshop.

Upcoming Conferences:

35th Annual ELECTRICAL OVERSTRESS/ ELECTROSTATIC DISCHARGE SYMPOSIUM

September 8-13, 2013 at Rio All Suite Hotel, Las Vegas, NV USA

<http://www.esda.org/symposia.html>

2013 Prognostics and System Health Management Conference

PHM-2013 Milan 8-11 September, 2013

<http://www.aidic.it/phm/>

2013 Workshop on Accelerated Stress Testing & Reliability –“Accelerating Reliability into the 21st Century” October 9 - 11, 2013

San Diego, California

<http://www.ieee-astr.org/>

The 60th Annual Reliability & Maintainability Symposium (RAMS®) will be held at [The Broadmoor](#) in Colorado Springs, Colorado on

January 27 - 30, 2014.

<http://www.rams.org/>

Webinar Quick Facts

1. We are getting about 1,000 views a week of webinar slides,
2. We have just gone over 100 hours of free webinars provided.
3. We are averaging almost 200 attendees per English event.

Amari wins ASQ Best Paper Award at 2013 RAMS

Suprasad V. Amari, a Technical Fellow at Parametric Technology Corporation (PTC), is the winner of the best paper by an ASQ Reliability Division member award at the 2013 Reliability and Maintainability Symposium in January.

His paper, “Optimal Design Configurations of Fault-Tolerant Systems”, presents a methodology for determining optimal design configurations to maximize the reliability of fault-tolerant systems subject to imperfect fault coverage and resource constraints. It assumes the system consists of several subsystems in series and each subsystem contains multiple redundant components.

The ASQ RAMS Best Paper award is presented annually to recognize significant contributions of RD members to RAMS and to encourage more RD members to submit papers to RAMS. The selection committee, appointed by the RD executive committee, reviewed all of the papers submitted to RAMS by ASQ-RD members to select the winner. John Bowles, chair of the selection committee said “We were pleased to have many high quality papers submitted by RD members this year. We anticipate having even more next year.”

The award has two parts: a \$500 honorarium distributed to the winners and a plaque that will be presented to the winners at the ASQ-RD dinner at the 2014 RAMS.

Reliability Training Information

- [Access ASQ Training at your convenience with Web-based \(Self-paced\) courses](#)
- [Next scheduled Classroom \(Instructor-led\) courses--San Diego, CA](#)
- [Bring ASQ Training to your organization with On-site Training](#)
- Other [Upcoming Conferences](#)

Links

The LinkedIn groups Reliability Calendar

<http://www.linkedin.com/e/-mpj7v-gq000w4o-54/vgh/3997941/>

Tech Briefs

<http://www.linkedin.com/groups?about=&gid=3994573>

ASQ Reliability Division(1531 members on LinkedIn)

<http://www.linkedin.com/groups?about=&gid=1875217>

Valuable Training from the ASQ Learning Institute

With training from The ASQ Learning Institute™, you gain the knowledge and skills you need to prove you're a valuable asset to your organization. Many of our courses also count toward [recertification units \(RUs\)](#).

Register for one of these upcoming courses today. And remember, because you are a valued ASQ member, you can take advantage of member pricing on the training listed below. You can **save up to \$200** on the list price of these courses!

June 2013 Course catalog: <http://asq.org/training/catalog/date/june2013.html>

July 2013 Course catalog: <http://asq.org/training/catalog/date/july2013.html>

August 2013 Course catalog: <http://asq.org/training/catalog/date/august2013.html>

[Reliability Training Material:](#)

Slides from Quanterion Solutions Inc Lunchtime Learning series. Topics include Reliability distributions, Weibull analysis, FMEA, DOE. Slides available at: <http://quanterion.com/Training/LunchtimeLearning/index.asp>

For those who teach Reliability:

Example using “Bayesian” assumptions in proving a new design is X% better.

Suppose my current part is producing failures in the field with a Weibull $\beta=2$, $\eta=95$ hours. I have demonstrated that I can reproduce the failure mode in the lab by producing the same β . I have redesigned the part and placed 8 of the new designed parts on test in the same lab setup. After a few weeks they have test times of 210, 260, 570, 120, 225, 280 500 and 400hours with no failures. How much better is this new part?

One way to demonstrate this is to calculate the MLE η of the 8 times demonstrated on the new designed parts, “assuming” a $\beta=2$ and “assuming” 1 failure is imminent:

Therefore, showing you have (conservatively) over 10X better reliability.

$$\eta = \left(\frac{\sum_{i=1}^n \text{times}^{\beta}}{NF} \right)^{\frac{1}{\beta}} = \left(\frac{99.00 \times 10^4}{1} \right)^{\frac{1}{2}} = 995.0 \text{ hours}$$

Excerpt #1 from “A History of Reliability” by Jim McLinn

Reliability is a popular concept that has been celebrated for years as a commendable attribute of a person or a product. Its modest beginning was in 1816, far sooner than most would guess. The word “reliability” was first coined by poet Samuel Taylor Coleridge [17]. In statistics, reliability is the consistency of a set of measurements or measuring instrument, often used to describe a test. Reliability is inversely related to random error [[http://en.wikipedia.org/wiki/Reliability, \(statistics definition\)](http://en.wikipedia.org/wiki/Reliability_(statistics_definition))].

In Psychology, reliability refers to the consistency of a measure. A test is considered reliable if we get the same result repeatedly. For example, if a test is designed to measure a trait (such as introversion), then each time the test is administered to a subject, the results should be approximately the same [<http://psychology.about.com/od/researchmethods/f/reliabilitydef.htm> - Reliability, (Psychology definition)]. Thus, before World War II, reliability as a word came to mean dependability or repeatability. The modern use was re-defined by the U.S. military in the 1940s and evolved to the present. It initially came to mean that a product that would operate when expected. The current meaning connotes a number of additional attributes that span products, service applications, software packages or human activity. These attributes now pervade every aspect of our present day technologically- intensive world. Let's follow the recent journey of the word “reliability” from the early days to present.

An early application of reliability might relate to the telegraph. It was a battery powered system with simple transmitters and receivers connected by wire. The main failure mode might have been a broken wire or insufficient voltage. Until the light bulb, the telephone, and AC power generation and distribution, there was not much new in electronic applications for reliability. By 1915, radios with a few vacuum tubes began to appear in the public. Automobiles came into more common use by 1920 and may represent mechanical applications of reliability. In the late 1920s, product improvement through the use of statistical quality control was being promoted by Dr. Walter A. Shewhart at Bell Labs [20]. On a parallel path with product reliability was the development of statistics in the twentieth century. Statistics as a tool for making measurements would become inseparable with the development of reliability concepts in the near future.

Failure of Successful Reliability Demonstration Tests

Guangbin Yang

Chrysler, Auburn Hills, Michigan, U.S.A.

Synopsis: Many manufacturers have developed reliability programs effective for their products to be implemented throughout the product life cycle, which includes product planning; design and development; verification and validation; production; field deployment; and disposal. In the product planning phase, a reliability target is specified. Then various design-for-reliability techniques, such as the failure mode and effects analysis (FMEA), and design of experiments, are applied in the design and development phase to achieve the reliability target at a low cost and in a short time. ...

Some products fail unexpectedly in the field, and the unexpected failures certainly perplex the design team, because the specified reliability has been “proved out”. Then a natural question is, “Are the reliability demonstration tests correlated to the field application?” Unfortunately, the correlation can be seriously compromised.

Read the complete paper at this url: <http://asq.org/reliability/2013/05/reliability/failure-of-successful-reliability-demonstration-tests.html?shl=112305>

Are you interested in volunteering? Would you like to develop your leadership and team work skills, in a team where you can make a difference?

ASQ Reliability Division leadership team is looking for a secretarial co-chair and treasurer co-chair to join us. Responsibilities include documentation and communication within the division, with the members and with ASQ Global. You will find the requirements for the position in this document

<http://asq.org/member-leader-community/positions/division-secretary/details/index.html>

<http://asq.org/member-leader-community/positions/division-treasurer/details/index.html>

If you are interested, please send your details to chair@asqrd.org.

Division Store

Mechanical Design Reliability - by James A. McLinn, CRE & Fellow, ASQ

Mechanical design reliability has been a sparsely covered topic. This monograph is instructive for practical engineers desiring to understand and test materials and mechanical systems. It addresses the concepts of stress, strain, tension, shear and material fatigue. Elastic limits and plastic deformation is modeled as well as creep situations. Accelerated life, Miner's rule and non-normal material strength and variable load distributions are modeled and illustrated in the 80 pages. Available at \$25.00 each, plus postage.

Practical Weibull Analysis - 5th edition by James A. McLinn, CRE & Fellow, ASQ

This monograph presents practical discussion and examples of essential Weibull topics. Most textbooks on this subject require extensive statistical background. This book was designed to be direct and to the point. In 75 pages it leads the reader quickly through the principles of Weibull analysis. The useful examples and Weibull graphs illustrate applications such as confidence calculations, non-straight lines on a Weibull plot, optimum replacement costs, maintainability, and analysis of accelerated life tests and multiple stress tests. Just \$30.00 each, plus postage.

Credible Reliability Prediction - by Laurence George, Ph.D., ASQ Fellow

This monograph extends MTBF prediction to predict the age-specific reliability of redundant, stand-by, complex, and life-limited systems. The method uses field reliability data and proportional hazards models. Data are from older, comparable products because product generations have similar reliability functions despite changes. Price is \$25.00 each, plus postage. Electronic version available.

Practical Accelerated Life Testing - by James A McLinn, CRE & Fellow ASQ

A 125 page book that simply and uniquely delineates the key steps and guidelines for setting-up and administering accelerated life tests. In eight sections it covers a brief history of accelerated methods, applications of the techniques, guidelines for test selecting test environments, common test methods, practical guidelines for test set-up, key parameters to monitor, sample size decisions, models for analysis and examples of analysis of difficult results. Important guidelines and pitfalls to avoid are given. Examples include multiple level tests and step-stress tests. Just \$30.00 each, plus postage.

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Payment by Credit Card or PayPal in US Dollars. Send orders to James McLinn at JMRel2@aol.com. You will be sent an invoice via PayPal and upon payment your order will be sent to you. You do not need a PayPal account.

Division Store (continued)

Develop Reliable Software at Low Life Cycle Cost: With Upgraded Software Reliability Engineering - by Norman F. Schneidewind, Ph.D. and related articles by Samuel J. Keene, Ph.D.

The contents of this monograph present for software engineers, reliability engineers and software quality specialists, and managers practical tools and methods which the authors have perfected and applied in a broad range of enterprises. They include strategy and tactics for improvement of the software engineering process, software reliability models, development of trustworthy code, and reliability assessment throughout the product life cycle. Price is \$25.00 each, plus postage.

Design For Reliability - by Xijin (Bill) Tian, Ph.D., with added chapters by Drs. L.L. George, S.J. Keene, plus T. Craney and J. McLinn

This new monograph contains the entire series of articles written by Dr. Tian plus much more! The authors clearly describe practical methods they employ in effectively ensuring that high reliability goals are achieved. They integrate reliability improvement practices and methods congruent with project design rules. The additional chapters present relevant material by Drs. Larry George and Sam Keene, plus input from Trevor Craney, and James McLinn. The contents offer a practical Benchmark of resource for reliability and maintainability engineers. Price is \$30.00 each, plus postage.

Homeland Security And Reliability Airport Model - by Norman F. Schneidewind, IEEE Congressional Fellow, IEEE Fellow, Professor Emeritus: Information Sciences, Naval Postgraduate School

Dr. Schneidewind's model presented in this monograph addresses the airport security problem. It facilitated his specific recommendations to the U.S. Congress for legislative or management action to close the security loopholes. Model quantitative results are used to delineate the implications for changes in security policy at the nation's airports. The work presents solutions which maybe extended to many other security settings. Price is \$20.00 each, plus postage.



Reliability in Nature
-Old Faithful-

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ASQ-RD Mission

The mission of the Reliability Division is:

- * Provide a global forum for networking among practitioners of reliability engineering, management and related topics,
- * Facilitate growth and development of division members,
- * Promote reliability engineering principles and serve as a technical resource on reliability engineering for ASQ, standards agencies, industry, government, academia and related disciplines
- * Sponsor, present and promote reliability, maintainability, and related training materials for courses, symposia, and conferences.