# 2022 Quality 4.0 Summit Program Guide

We're excited to return to an in-person Summit for the first time since 2019! Below is a schedule of the keynotes, breakout sessions and workshops available to you at this year's event. Use the guide to build a schedule personalized for your information needs.
In addition to a valuable program agenda, this year's Summit includes:

- ✓ Daily networking opporutnties, including the new **Quality Community Roundtables** that let you participate in up to three 20-minute conversations each focused on key topics in the quality community.
- ✓ A **Solution Center** showcasing industry suppliers and solutions to optimize your digital transformatiom journey.
- ✓ **Meals**, including 3 breakfasts, 2 lunches and 1 networking reception to keep you fueled and focused on growing your network of peers and colleauges.

**Start planning your Summit visit now!**

| Keynote Presentations and Mainstage Summit Schedule | | |
|---|---|---|
| Wednesday, October 12 | 8:30 a.m. – 9:30 a.m. CT | **Opening Keynote** Digital Transformation: The Future is Automated by Kevin Surace |
| Thursday, October 13 | 10:45 a.m. – 11:45 a.m. CT | **Thursday Keynote** Technology, Disruptors & Future Workforce by Stephanie Gaulding |
| Thursday, October 13 | 1:15 – 3:15 p.m. CT | **Guided Workshop:** Insights on Excellence, facilitated by Matt Meuleners |
| Friday, October 14 | 8:30 – 9:30 a.m. CT | **Closing Session and Keynote** The Future of Sustainable Jobs in Quality by Rebekah Kowalski |

# 2022 PROGRAM GUIDE

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## Wednesday, October 12, 2022

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### KEYNOTE
### DIGITAL TRANSFORMATION: THE FUTURE IS AUTOMATED
### 08:30 a.m-09:30 a.m

**Presented by**: Kevin Surace
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

Artificial Intelligence and automation are reshaping company processes across industries. How will quality organizations, teams and professionals be impacted? Kevin Surace, pioneer of AI and one of the original inventors of Siri technology, discusses the latest insights, advances, and applications of AI and automation and sheds light on how these forces will continue to shape and disrupt industries across the globe.

### WORKSHOP
### TRANSITIONING THE WORK FORCE FORWARD TO QUALITY 4.0 IMPLEMENTATION: SKILLS, TECHNOLOGY, STRATEGY, IMPLEMENTATION
### 10:00 a.m-12:00 p.m.

**Presented by**: Betsy Macht, Walden University
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

As a leader, how could you prepare your team for a Quality 4.0 transformation? This transformation is a change management opportunity requiring the need to bring the organization along on a clearly defined journey. What is that journey within your organization and how will you prepare your team for success on that journey? When evaluating a team for skills and skill gaps how will you balance the need for change against organizational restructuring and disruption? In this session I will discuss the skills potentially needed, the technology options that support quality management systems for training, process control and monitoring, and raw material/product testing.

## DEALING WITH THE CHALLENGES OF E-GOVERNMENT
### 10:00-10:45 a.m.

**Presented by**: Kerry L. Bass, Potential to Reality Consulting LLC, ASQ Center for Electoral Quality and Integrity
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

As digital solutions and infrastructure proliferate society, Government continues to lag industry and other areas of social endeavor in the adoption of state-of-the-art technology. While the military is routinely the source of technological advancement, the deployment of new e-Government solutions are often more difficult to procure and to implement. The focus of Quality 4.0 dictates that governments must address the disparity of technology adoption between its services and other areas of social interaction to maintain relevance. This presentation will share some of the persistent challenges that must be addressed, the root causes of those challenges and some potential solution areas that should be considered.

## EVIDENCE IS NOT ENOUGH: USING THE VALUE-BASED FRAMEWORK TO DRIVE QUALITY IN CONTEMPORARY CLINICAL TRIAL METHODOLOGY
### 10:00-10:45 a.m.

**Presented by**: Marla Sharp, Hospital for Special Surgery
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

The paradigm shift from fee-for-service to value-based models in the United States healthcare system has had a substantial impact on improving the quality, cost, and accessibility of medical care for patients and their families. However, the methodology of the clinical research studies that ultimately inform the evidence-based practices in this new patient-centric model has not been subject to similar revision. Despite serving as the primary source of evidence-based treatment modalities, clinical trials remain strikingly expensive, lengthy, and resource-intensive. This session will discuss the application of a value-based framework (focused on reducing cost, increasing quality, and improving outcomes) in contemporary clinical research design through use of pragmatic and adaptive randomized clinical trial methodologies that can provide increasingly generalizable, high-quality evidence, at a fraction of the current cost.

## QUALITY 4.0 TOOLS, FRAMEWORKS AND METRICS FOR SUCCESSFUL DIGITAL TRANSFORMATION
### 10:00-10:45 a.m.

**Presented by**: Suchitra Veera, Snayu
**Area of Focus**: Alphabet City in the Digital World **Level:** Intermediate

Quality 4.0 with its focus on digitalization with the help of AI, ML, ioT, VR, AR and other types of innovations and new technologies requires managers to adapt some of the existing quality management methods and approaches. This presentation will discuss how existing tools, frameworks and metrics can be adapted and new ones added where relevant, to enable successful digital transformation. Management and planning, creativity and innovation and process improvement frameworks and tools will be reviewed in the light of requirements for Quality 4.0. to be able to brainstorm, plan, implement and track process changes and quality improvement initiatives. Metrics required to set targets, measure and track progress and take corrective actions in the digitalized environment will be discussed. Attendees will leave the session equipped with a toolkit that can be used in the digital transformation journey.

## ASK NOT WHAT TECHNOLOGY CAN DO FOR YOU: THE ROLE OF THE QUALITY PRACTITIONER IN LEADING DIGITAL TRANSFORMATION
### 11:00-11:45 a.m.

**Presented by**: David Fetterman, ASQ Lean Enterprise Division
**Area of Focus**: Alphabet City in the Digital World **Level:** Intermediate

In this session focused on the role of quality in the software development context, you'll learn some basic terminology and more than 20 acronyms. No more sleepless nights, tossing and turning because you don't know the difference between UAT and SIT. No more of those uncomfortable moments at parties where you're surrounded by Scrum Masters and DevOps Automation Engineers telling jokes about MTBF and MTTR, and you're never sure when to laugh. But wait -- there's more! You'll learn how Lean is the foundation for two important paradigms in digital transformations: Agile and DevOps. And you'll learn that as a quality practitioner, you can add significant value to your organization's digital transformation by helping your colleagues in Information Technology understand and apply Lean values and principles. So get ready to find out what you can do for technology!

## QUALITY 4.0 PROGRAMS GET RESULTS, IF DONE RIGHT
### 11:00-11:45 a.m.

**Presented by**: James Wells, LNS Research
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

A Quality 4.0 transformation effort can have tremendous business benefit. However, there are several risks. The percentage of active Quality 4.0 Transformations is increasing, however, our results show that over 50 percent of Quality 4.0 Transformation efforts are underachieving their goals. Research has identified poor practices amongst those not succeeding. LNS Members that we identify as Transformation Leaders report significantly better business results across 16 KPIs measured than peers who lag behind. This session showcases best practices and highlights what to avoid to improve your chances of success in your journey.

## QUALITY 4.0: INFRASTRUCTURE OR PROGRAM
### 11:00-11:45 a.m.

**Presented by**: Jim Duarte, Imagilytics
**Area of Focus**: Data Integration and Optimization **Level:** Intermediate

There have been many concepts created and instituted within industry over the years. Some have become part of the organization's infrastructure while others have been programs not linked to organizational strategy. Quality 4.0 can exist in either environment. To be successful it must be part of the infrastructure and strategy of the organization. Quality personnel must understand data science and the Data Science Value Chain as it pertains to organizational decision making. This presentation will outline the Data Science Value Chain, roles of Data Scientists and propose an analytical maturity model as an essential part of an organization's infrastructure and strategy. Participants will see possible roles that they can play moving Quality 4.0 into an organization's infrastructure and strategy.

## DANGERS OF DIGITIZATION -- BUILDING A CULTURE OF PLAYERS, NOT SPECTATORS
### 1:30-2:15 p.m.

**Presented by**: Shane Yount, Competitive Solutions, Inc.
**Area of Focus**: Data Integration and Optimization **Level:** Intermediate

By 2023, data literacy will become an explicit and necessary driver of business value, demonstrated by its formal inclusion in over 80 percent of data and analytics strategies and change management programs. The importance of correct measurements and specific action

on those measurements is the driving force of success. In this session, you will learn the key elements to create a culture that is engaged and using metrics to drive the business forward.

## DIGITAL TRANSFORMATION FOR QUALITY EDUCATION IN BRAZIL
### 1:30-2:15 p.m.

**Presented by**: Marcelo Fernandes, MF Treinamentos
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

View the results of a Digital Transformation in a Continuous Improvement training business in Brazil. The number of students per year increased in more than 10 times, while retaining the same staff size, and the sudent satisfaction rate increased from 4.2 to 4.7! The positive impact to the society with free high-quality online content and certification was significant. In this presentation attendees will analyze in detail the steps of this digital transformation journey, including pitfalls to avoid and important insights to consider in your education/training activities.

## LEAN INTO IT
### 1:30-2:15 p.m.

**Presented by**: Larry Edwards, ASQ Government
**Area of Focus**: Alphabet City in the Digital World **Level:** Intermediate

The global smart cities market is expected to reach USD 237.6 billion by 2025, expanding at a CAGR of 18.9 percent from 2019 to 2025, according to a new study conducted by Grand View Research, Inc. But what do mean by smart and is it limited to cities only?. Lately, you may have felt the weight of your internet connected devices and social media leaning on you. Technology plays an ever-increasing role in our lives in more ways daily. Don't lay back but lean into it. Lean into IT will explore efforts already underway through the intentional partnerships between government, residents and business are working to improve accessibility to resources, environment, and our quality life on a daily basis. Come join us in working smarter and not harder!

## A CAPABILITY ROADMAP FOR THE TRANSITION TOWARDS QUALITY 4.0
### 2:30-3:15 p.m.

**Presented by**: André M. Carvalho, Applied Artificial Intelligence Laboratory
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

As Industry evolves, the concept of Quality also changes. Quality 4.0 integrates technology into numerous daily tasks and organizational processes. However, it is not clear how can organizations promote the necessary changes internally, or even where their aim should be. To this day, there is no comprehensive model to assist organizations in preparing for this transition. In this presentation, we share our results in creating such a model, helping organizations understand where they stand and serving as a roadmap for future steps. Our Capability Roadmap presents several skills necessary to a sustainable quality transition, highlighting their maturity and readiness levels in an effort to support a step by step move towards Quality 4.0.

## QUALITY 4.0 AI-BASED COMPUTER VISION BRINGS ACTIONABLE INSIGHTS TO MANUFACTURING
### 2:30-3:15 p.m.

**Presented by**: Adam Bennett, Matroid
**Area of Focus**: Alphabet City in the Digital World **Level:** Basic

By far our most important organs of sense are our eyes. We perceive about 80 percent of all impressions by means of sight. What if we could augment machine vision and supervisory systems with human like perception? Imagine cameras taking images or video streams and analyzing data to detect/classify objects, defects, people, and even people's actions. Deep-learning technology is at the core of Computer Vision and it has advanced tremendously in the last few years. Attend this session to better understand how enterprise scalable platforms such as Matroid are empowering subject matter experts in industry to build, test, deploy, and manage custom deep-learning based detectors.

## USER SCENARIOS BASED QUALITY OF EXPERIENCE MINING AND DEPLOYMENT: A NEW PRACTICE IN AUTOMOTIVE INDUSTRY
2:30-3:15 p.m.

**Presented by**: Kai Yang, Wayne State University and Jie Hu, SAIC GM Wuling Automobile Co., Ltd.
**Area of Focus**: Data Integration and Optimization **Level:** Intermediate

For decades, quality has emphasized conformance, defect minimization, perception enhancing and cost-saving reliability improvements and it is multidimensional by nature. From the product view, it is defined by functions, features, ingredients, attributes, performance, durability, etc.. From the customer's view, it is defined by a degree how their needs are satisfied. From the stakeholder's view, quality means cost vs benefit. However, quality concept should be holistic and unified, with customer's needs meeting as the focal point. Thus, a new quality concept is carried over from website design, which is called as quality of experience (QoE). In this presentation, we will present a real world QoE system, named as Simulated User Scenarios Assessment system (SUSA). It is new practice that fits Quality 4.0 objectives and an automotive implementation example is presented.

# Thursday, October 13, 2022

## WORKSHOP

### MORE IMPACT, LESS STRESS: LEADING CHANGE IN THE NEVER NORMAL
### 08:30-10:30 a.m.

**Presented by**: Erin Urban, UPPSolutions, LLC
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

We are on the brink of authoring a new age accelerated by the socio-economic impacts of the pandemic and the adoption of new technologies. This is an exciting time, yet many are finding that the level of continued uncertainty is a significant source of stress. It is likely that you and your company are doing everything possible to manage change successfully, yet, no one can pour from an empty cup. Doing what has always been done won't get the desired results. Different tools and methods are needed now, more than ever, to effectively absorb and navigate the "never normal". Join a lively discussion about the critical tools to reduce stress, empower your teams, collaborate more easily, and access peak performance. Learn why adapting your approach is critical during strong change cycles and how to lead change in the evolving workplace. Learn how to leverage easily applicable strategies to mindfully manage change responses while increasing your influence in rapidly shifting environments.

### EPISTEMIC VIRTUES: THE ROLE OF POSITIVE HABIT-FORMATION IN MANAGEMENT AND SYSTEM DESIGN
### 09:30-10:15 a.m.

**Presented by**: Carter McCain, Axogen
**Area of Focus**: Managing People, Process and Change **Level:** Basic

As technological advances and societal changes increase the extent of automation and the accessibility of big data, it is more difficult to appreciate the centrality of the human in the quality endeavor. This session will introduce attendees to the concept of epistemic virtues: Habits of thinking and acting that support robust knowledge management and help form healthy communities of practice. We will then explore three particular virtues - courage, curiosity, and humility - to understand their importance in the transformation of industry inherent in Quality 4.0, and the vices to which they stand opposed. We will then explore their applicability in both

personnel management and quality system design, focusing on practices that support individual growth in these virtues and help frame an environment in which others will grow in them as well.

## THE ASSUMPTION CHAIN: LEVERAGING THE TOOLS OF AN INTERNAL CONSULTANT TO DEMONSTRATE ROI
### 09:30-10:15 a.m.

**Presented by**: Matt Meuleners, FOCUS Training
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

To drive the transformational change of Quality 4.0 in our organizations, quality professionals are called upon to act as internal consultants and sell the return on investment (ROI) for these initiatives. How can we effectively show ROI in a way that strategic decision makers engage with and provide evidence of our success once the change is in progress? In this session we explore Kirkpatrick's Levels of Evaluation, a model of measuring the impact of learning, as applied to transformational change. From this foundation, we will practice the building of an Assumption Chain, an internal consulting tool for mapping the ROI of a project. Participants will have the opportunity to work through a case example from their own work environment and leave with tangible next steps to use this tool with leaders in their organization.

## THE DECAY OF SIX SIGMA AND THE RISE OF QUALITY 4.0 FOR MANUFACTURING INNOVATION
### 09:30-10:15 a.m.

**Presented by**: Carlos Escobar, Harvard Extension School
**Area of Focus**: Alphabet City in the Digital World **Level:** Intermediate

Smart Manufacturing processes exhibit rapidly increasing complexity, non-linear patterns that exits in hyper-dimensional spaces, high volumes of data, transient sources of variation, and non-Gaussian pseudo-chaotic behaviors. Traditional quality control techniques are not up to the task of handling all these dynamics. Therefore, for the last decade, quality engineers went into stagnation stage with little innovation to offer to the manufacturing industry. In recent years, Artificial Intelligence, specifically Machine Learning has been applied to solve complex engineering problems and drive innovation. Although significant efforts are being made to adapt AI into Six Sigma; the DMAIC problem solving strategy does not fit the full machine learning cycle. In this presentation, the limitations of the Six Sigma techniques and paradigms in driving manufacturing innovation are discussed. We also highlight some of the most relevant advantages of Q4.0. The presentation is supported with a case study that highlights the importance for the quality professionals to be trained in Q4.0.

## KEYNOTE
## TECHNOLOGY, DISRUPTORS & FUTURE WORKFORCE - POWERED BY ASQE
### 10:45-11:45 a.m.

**Presented by**: Stephanie Gaulding, Past Chair, ASQ Human Development and Leadership Division
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

ASQ member leader Stephanie Gaulding presents the latest research from the 2022 Insights on Excellence® Category Report, featuring benchmarking results, data trends, and takeaways. Understand how leaders and their workforce can gain consensus to pursue best practices based on key findings, especially in categories of technology performance, barriers, and disruptors. Gathered from multi-national companies across global regions, the IoE research examines how digital-era quality initiatives provide actionable guidance in facing challenges and prioritizing efforts for current and future needs of the workforce. Join this session* to understand how your team and organization can benefit from using this research as you pursue excellence through quality.

* This session will be followed by a the facilitated group workshop (see below) for a deeper dive into the research shared above. Through small group discussions and exercises, attendees will tap into the benchmarking results, trends and data points from the Category Report and establish a tailored strategy for their organizations and teams.

## FACILITATED GROUP WORKSHOP
### IoE FUTURE OF WORKFORCE - POWERED BY ASQE
### 01:15-03:15 p.m.

**Presented by**: Matt Meuleners, FOCUS Training
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

Matt Meuleners from FOCUS Training facilitates this engaging workshop that features the 2022 Insights on Excellence® Category Report and content from today's mainstage presentation on the "Future of the Workforce". Explore and discuss the data trends and key takeaways for quality professionals and executives to understand how to prioritize efforts for the future needs of the workforce. IoE research and benchmarking is a leading benefit in ASQE's Organizational Membership levels - join this session to network and experience this benefit to pursue excellence through quality.

# Friday, October 14, 2022

## KEYNOTE
## THE FUTURE OF SUSTAINABLE JOBS IN QUALITY
### 08:30 a.m-09:30 a.m

**Presented by**: Rebekah Kowalski, Manpower Manufacturing
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

Rebekah explores the latest in sustainability workforce research with a focus on current trends, drivers and roles needed now and in the future.

## CAPACITY BUILDING FOR ORGANIZATIONAL RESILIENCE: INTEGRATING STANDARDS ON RISK, DISRUPTION AND BUSINESS CONTINUITY IN THE CURRICULUM
### 09:45-10:30 a.m.

**Presented by**: Lisa Greenwood, Rochester Institute of Technology
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

Disruption is an inevitable factor in business and society, and the COVID-19 global epidemic has been a painful reminder. There is a clear need to be able to mitigate and manage risk, and the inability to do so can cause significant, potentially irreparable damage to business, the economy, and our ways of life. Businesses have increasingly incorporated elements of continuity planning, particularly following natural disasters, cybersecurity breaches, and acts of terrorism, yet many were unprepared to meet challenges for continued operations during a global pandemic.

The crisis has heightened private and public interest in standards-based, systematic strategies for risk management, crisis preparedness, and business continuity to enhance organizational and societal resilience and competitiveness. Curricula that incorporate and apply key standards used in the U.S. offer students a rich skill-set in preparation for effective performance in their careers. Such standards and strategies will shape how our society deals with vulnerability and disruption, and will in turn shape the standards of how the professional will create value for society. Those entering the public or private workforce must understand not only the role of standards in general, but also the role that particular standards and their application can have upon professional

practice. As we move forward, it is clear that we need to cultivate capable professionals who understand the challenges and risks facing organizations and society, and who grasp standards and systems for strategic planning, preparedness, response, and recovery to promote organizational continuity, resilience, and sustainable development.

## THE FUTURE OF QUALITY MANAGEMENT BEYOND DIGITIZATION
### 09:45-10:30 a.m.

**Presented by**: Willy Vandenbrande,Thought Provoking Quality
**Area of Focus**: Managing People, Process and Change **Level:** Intermediate

The future of quality management is often referred to as Quality 4.0. This puts a lot of focus on digital technology and the idea is created that the future of quality will be technical and operational. Nothing is further from the truth. Automation and digitization will take care of operational quality, the future of quality management will be strategic and people oriented. Any department has to add value and contribute to the long term success of an organization. Quality management can show its value by helping the organization tackle the business risks of the future. To succeed new knowledge, new tools and a change in mindset will be needed. In this presentation we will look at three major risks for an organization and for quality management: not being sustainable, not adapting to changing customer expectations and lacking the flexibility in mindset to see beyond old but no longer valid truths. These challenges are much more complex than just introducing new technology but they are vital for the future of quality.

## EFFECTIVELY UTILIZING LARGE QUALITY DATA IN PREDICTIVE ANALYTICS FOR PROACTIVE RISK MANAGEMENT IN QUALITY 4.0 -- WHAT REALLY MATTERS?
### 09:45-10:30 a.m.

**Presented by**: Javed Cheema, Neapco Drive Lines; MC2Square Ventures, LLC
**Area of Focus**: Data Integration and Optimization **Level:** Intermediate

Get insights into both art and science of large data creation, management and utilization for knowledge-based decision making as a competitive advantage. This presentation explains major paradigm shifts in the way we have been using data-based quality tools and processes. And how the future state will provide the ability to distinguish between useful data and noise, replacing skills in statistical sampling and DoE. Proper coding in machine learning will eliminate repeat issues yet, new problems will require complex problem-solving skills. Effectively digitized quality systems will provide maximum benefit in proactive risk management and accurate predictive analytics about probable future failures and equipment reliability. The presentation explains how failure modes and effect analysis and process control plans will be fully automated.

**## End Program Listing ##**

| Join your peers each day for exhibits, networking and meals! | |
|---|---|
| Wednesday, October 12 | 7:30 – 8:30 a.m. CT Continental Breakfast and Networking<br>9:30 –10:00 a.m. CT Morning Beverage Refuel<br>12:00 – 1:15 p.m. CT Lunch<br>3:30 – 4:30 p.m. CT Quality Community Roundtables |
| Thursday, October 13 | 8:00 – 9:30 a.m. CT Continental Breakfast and Networking<br>10:15 – 10:45 a.m. CT Morning Beverage Refuel<br>11:45 a.m. –1:00 p.m. CT Lunch<br>3:15 – 4:15 p.m. CT Quality Community Roundtables<br>5:00 – 6:30 p.m. CT Reception (on the Terrace) |
| Friday, October 14 | 7:30 – 8:30 a.m. CT Continental Breakfast and Networking |
| **All networking and meal functions take place in the Solution Center** | |