

AIChE[®]

Management Insight

Management Division Highlights:

Inside this issue:

Letter from the Chair	1
Changes in Division Leadership	2
National Academy	2
Spring AIChE Meeting Program	3-5
2017 Management Award	6-9
Call for Nominations for 2018 Management Award	10
2017 Management Division Service Award	11-
2018 Management Division Service Award	12
Call for Papers—Pittsburgh 2018 Annual AIChE Meeting	13
Survey	14
Leadership	15

Looking forward to a productive year!

It is my privilege and honor to serve as Chair of the Management Division in 2018. After a long gap since having regular newsletters, with the exception of one in 2016, I want to thank Joe Porcelli for volunteering to become Newsletter Editor and producing this issue. Hopefully you find the information provided in this issue interesting and we look forward to receiving your feedback.

In pages 3 to 5 you can read about the division sessions at the upcoming AIChE Spring Meeting taking place in Orlando, Florida in April. In addition to various interesting sessions, we invite you to join us for the division Board meeting and dinner scheduled for April 24, 2018. You have until March 12 to benefit from the early bird registration fees so we hope many of you can join us at the division sessions and events.

In the last few years we have had a very active Awards Committee led by George Newcomb, which meets on a monthly basis. The initial objective of this committee was to increase the visibility and prestige of the Management Award by encouraging more nominations of high quality candidates. We have seen continuous improvement with high level award recipients. Since not enough division members could benefit from the presentation made by the 2017 Management Award recipient (Robert Zeller) at the Annual Meeting, we are including a summary of the paper in pages 7 to 9 of this newsletter. We are also looking for nominations for the 2018 Management Award and encourage all of you reading this issue to think about excellent managers you may know and consider nominating them for the award. The committee has also focused on new awards, creating a new Management Division Service Award in 2017. Joe Porcelli was selected as the first recipient of this award, with further details available in page 11. The 2018 Service Award recipient (Eldon Larsen) was recently selected and will be honored during the Management Division dinner at the Spring Meeting in Orlando. You can find more information in page 12 of the newsletter.

If you wish to get more involved with the division and volunteer to contribute in any of our ongoing projects, please contact me at fja@htri.net. We also welcome your suggestions and ideas to better meet the needs and interests of all division members.

Fernando J. Aguirre, PhD, PE, FAIChE
Chair, AIChE Management Division

Changes in Division Leadership

The election of division officers and directors in late 2017 resulted in a new Chair, Vice Chair and Secretary as well as two new Directors.

Fernando J. Aguirre moved from Vice Chair to Chair, while Mark Swientoniewski has become our Immediate Past Chair and Nemoy Rau the 2016 Past Chair. Joe Cramer was elected Vice Chair, Mahdi Nouri was elected Secretary, and Bill Welker was reelected Treasurer for another term. Two new Directors were elected: Quinta Nwanosike-Warren and Brandon Harding.

You can find more information about your officers and directors by visiting the following link of the division website.

<https://www.aiche.org/community/sites/divisions/management/more-about-division-board>

A complete list of the Board and other volunteer positions, with contact details, are included in the last page of this newsletter.

Management Division supports the “National Academy Refresh of Chemical Engineering Frontiers”

Immediately after the 2017 Annual Meeting, division officers were notified that AIChE is supporting a refresh of the 30-year Chemical Engineering Frontiers report, also known as the Amundson report. While AIChE plans to provide financial support for the new report, divisions and forums were also asked whether they would contribute. The Management Division Board discussed the request and approved a contribution of US\$1,000 from division funds.

For information about the 1988 report you can visit the following link:

<https://www.nap.edu/catalog/1095/frontiers-in-chemical-engineering-research-needs-and-opportunities>

AIChE Spring 2018 Meeting— Management Division Sessions

Tuesday, April 24, 2018

8:00 to 9:30 am

Managing Project Start-Ups (Chair, Donna Bryant, Syngenta)

SYNOPSIS

Description- One of the last steps in the Project Process is to start up the new or adjusted pieces of equipment. In order to have successful start-up of the project, there must be a Pre-Safety Start Up review involving a few or a large number of people depending on the project. This session will focus on discussion around how to manage this cross function team for the project start up process, and what information is important to have during this process.

08:00 AM [Role of Qualitative Risk Assessments in Managing Project Start-Ups](#)
Robinson Sharon and Robert Jubin, Oak Ridge National Laboratory, Oak Ridge, TN

08:30 AM [Commissioning Planning and the Key to a Successful Project Startup](#)
Peter Kalish, Advanced Manufacturing Operation, OBG, Clifton Park, NY

09:00 AM [Managing Project Start Ups with a Wide Variety of Customers](#)
Donna Bryant, Syngenta, Baton Rouge, LA

10:15 to 11:45 am

Contemporary Ethical Issues - (Chair, Mark Swientoniewski, Strata G)

SYNOPSIS

Session will deal with a broad range of issues important to engineers, managers and PEs.

10:15 AM [Ethics As the Underpinning of Safety and Process Safety](#)
Deborah Grubbe, Operations and Safety Solutions, LLC, Chadds Ford, PA

10:45 AM [Multiple Ways to Failure - How Harassment Hurts the Engineering Profession](#)
Deborah Grubbe, Operations and Safety Solutions, LLC, Chadds Ford, PA

11:15 AM [Remarks on Ethics in Patenting](#)
Charles Collins-Chase and Lauren Dowty, Finnegan LLP, Washington DC

11:25 AM [Ethical Issues Panel Discussion](#)

AIChE Spring 2018 Meeting— Management Division Sessions (Continued)

Management Division Committee and Programming Meeting

12:00 to 1:00 PM

(See Management Division website for location)

Tuesday, April 24, 2018

1:30 to 3:00 pm

How Young Managers can Successfully Manage Experienced Employees—(Chair, Brandon Harding, BAE Systems)

SYNOPSIS

When young engineers become managers, they can find themselves in some tough situations. Many times, they will have employees working for them that have been working on a unit longer than the manager has been alive! During this session, we will take a look at a couple real-life examples of conflicts between young managers and veteran operators / engineers. The session will end with a panel discussion involving the speakers and attendees.

01:30 PM [Young Managers with Experienced Employees](#)
Brandon Harding, BAE Systems, Kingsport, TN

02:00 PM [The Sartomer Success System \(3S\): Achieving Operational Excellence](#)
Rene Neron, Sartomer, West Chester, PA

02:30 PM [1st Year Experience of a Young Manager in a Chemical Manufacturing Unit](#)
Donna Bryant, Syngenta, Baton Rouge, LA

3:30 to 5:00 pm

Managing Yourself: Reinventing Yourself for Your Next Role (Chair, Quinta Warren, Engineering Research Consultant)

SYNOPSIS

Transitioning to new roles requires us to determine what our transferrable skills are. This is especially true when we are moving to roles where we have no direct experience. This session will focus on teaching how we can use job descriptions to tailor our experience to show future employers how we can fit into their organization.

AIChE Spring 2018 Meeting— Management Division Sessions (Continued)

Tuesday, April 24, 2018
3:30 to 5:00 pm (Continued)

03:30 PM [Listen to the Operators, They Know the Process](#)
Martin K. Kimani, Chemical Engineering, Northeastern University, Boston, MA

04:00 PM [An Engineer's Guide to Marketing Yourself Professionally](#)
Meha Jha, Blending and Transfer Solutions, Emerson, Houston, TX

04:30 PM [Leadership By Engineers and Scientists](#)
Dennis W. Hess, School of Chemical & Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA

Management Division Dinner
Joint with the Environmental Division and
and Chemical Engineering and the Law
7:00 pm
(See Management Division website for time and location)

Abstracts and other information on events and meetings can be accessed at the Management Division website—

<http://www.aiche.org/community/sites/divisions/management>

2017 Management Award

Robert L. Zeller III, PhD, PE of Occidental Chemical Corporation was the recipient of the 2017 Management Award for his leadership and innovative approaches to institutionalize his version of Operational Excellence into the culture of OxyChem, resulting in continuous improvement in chloro-vinyls manufacturing. Dr. Zeller received the award at the 2017 Annual AIChE Meeting in Minneapolis, Minnesota and he gave a talk entitled “**A PhD’s Perspective on Driving Operational Excellence in a Manufacturing Environment**”.



From left to right: Cheryl Teich, The Dow Chemical Company, Mark Swintoniewski, 2017 Management Division Chair, Robert L. Zeller, 2017 Management Award recipient.

A summary of Dr. Zeller’s talk on the following pages.

2017 Management Award (Continued)

Presented at the 2017 AIChE Annual Meeting in Minneapolis, MN

A PhD's Perspective on Driving Operational Excellence in a Manufacturing Environment

Robert L. Zeller III, Ph.D., P.E.
Occidental Chemical Corporation

Operational Excellence is not equivalent to excellence in Environmental, Health, and Safety (EHS) or Process Safety Management (PSM), although EHS/PSM excellence is a key facet of Operational Excellence. The four facets of Operational Excellence are:

- EHS/PSM
- Manufacturing Costs
- Plant Reliability
- Product Quality

Finding a balance between these often conflicting priorities is the essence of Operational Excellence. Focusing too much on one will get the system out of balance, often leading to undesirable consequences.

It is critical to have executive/corporate leadership support for an Operational Excellence program. This support drives alignment through plant management down to the process and maintenance technicians, thereby making Operational Excellence a priority in their day to day activities.

In order to improve Operational Excellence, measuring, tracking, and responding to key performance metrics is required. Developing a robust reporting process is a basic requirement. Note that discipline in data collection and reporting is necessary since there are many in organizations who focus their energy on data manipulation for short term perceived gain instead of addressing the issues themselves for long term success.

Foundation of Operational Excellence

The foundation of Operational Excellence is the Key Procedures where the basics are given in OSHA 29 CFR § 1910.

- Lock, Tag, and Try (or Lock Out-Tag Out) and Line Break
- Hot Work
- Confined Space Entry
- Fall Protection

If these procedures are not strictly followed, severe consequences can result. A commonly used mantra is "100% Right, 100% of the Time."

Basics of Operational Excellence

The basics of Operational Excellence define fundamental requirements for communications and equipment.

Communication expectations should be well defined and ingrained into the culture of the manufacturing facility. These include:

- Face-to-face shift relief in the control room or in the field
- Complete logbook entries for shift to shift communication
- Detailed daily operating instructions
- Brief yet focused safety shift meetings for operating technicians and daily tool box safety meetings for maintenance
- Log sheets with operating ranges, and the expectation that action must be taken or a note made signifying understanding for any parameter out of range

The expectations for Equipment can be based upon the facility or company incidents or issues. Protecting the equipment will protect the people, environment, community, and economic viability of the plant. Focusing on key pieces of equipment helps ensure EHS/PSM integrity, maximum reliability, and minimum costs from premature failures. Detailed

2017 Management Award (Continued)

activities for routine monitoring is essential. Subsets of equipment include:

- Electrical Equipment
- Rotating Equipment
- Instrumentation, Alarms, and Interlocks
- Emergency Systems
- Process Equipment

The Next Level of Operational Excellence

Several approaches in Operational Excellence have been developed and successfully deployed to improve EHS/PSM, Manufacturing Costs, Plant Reliability, and Product Quality. These different complementary approaches form a fabric that can help drive an organization to improved Operational Excellence.

Documenting Know-How

Documenting Know-How is essential for knowledge transfer to the next generation of plant personnel. The local communities for which our plants operate and government entities will not tolerate learning through significant incidents.

Three levels of documentation are used:

- Commandments - based upon historical significant incidents and contain knowledge that must never be forgotten
- Manufacturing Guidelines - usually instigated by a recent minor incident, and define the how and why things need to be done for a specific manufacturing or technical topic
- Best Practices and Specifications - documenting the "Company Way"

A Process to Drive Alignment

It is an expectation that all manufacturing plants are in full compliance with the Commandments. For Manufacturing Guidelines, they are broken in to different "compliance items," the plants gap themselves against these compliance items, and then either close or address the gap or request a variance from Corporate Manufacturing Management. Capital planning is included in the process, and the timing to close

gaps is controlled by the plant to manage resource allocation. Variances are good for 5 years to force a periodic risk discussion. An electronic database is used to facilitate the overall process. Routine meetings with Executive Leadership monitors the health of the overall process.

A Way to Confirm Alignment

Operational Assessments review plant practices as compared with the Commandments and Manufacturing Guidelines. The Operational Assessment team can consist of 3 to 8 members, depending upon the size of the facility. The team is Director-level led, and includes engineers, supervisors, managers, and PhD's with a mix of experience.

The agenda for the 2 to 3-day Operational Assessment includes an open forum to discuss incidents that have occurred at the facility, in the company, and in the industry with the goal to transfer knowledge.

A Way to "Break the Cycle"

This is used when a plant is having one issue after the other and needs help. The various key performance metrics can be used to identify when a plant needs help.

A routine conference call with the plant includes key decision makers and corporate-wide resources. The team debates what to do, then a decision is made to do it - all on one call. If additional resources are needed (e.g., capital, people), decision makers on the call can "put their money where their mouth is."

Note that it takes effort to gain the trust of the plant, and the plant to understand this is not a "gotcha game."

Call frequency can be weekly to monthly, with decreasing frequency as issues are addressed and the cycle is broken.

2017 Management Award (Continued)

Systems to Improve and Transfer Knowledge

The **Process Stewardship Conference Call** is a monthly company-wide call with plant leadership, production, maintenance and technical staff, R&D, and process safety professionals. The current agenda consists of:

- Detailed review of recent and past incidents (internal and external) and their process implications
- A segment called “Remembering the Past” where a plant describes in detail a past process-related incident
- Technical experts prepare a “How Things Work” that documents the how/why of our chemical processes and their design

These calls are encouraged to be done in a group setting so that after the call an open discussion on impacts to their plant is held.

The **Control System Fail-Safe Initiative (CSFI)** was started because a control system did not behave as expected. The overall goal of CSFI is to ensure control systems are designed, installed, and maintained in a fail-safe mode.

Each control loop is critically reviewed in a group setting that includes a process engineer, maintenance, engineering, and controls personnel.

Training and a structured CSFI review process were developed to ensuring consistency between manufacturing plants and process technologies.

Corporate Technology Stewards are experts in a specific technology which is used by multiple chemical manufacturing plants. The Stewards report to a Director outside of the normal manufacturing chain of command, thus providing an independent perspective and a resource on resolving individual plant issues. Stewards drive Operational Excellence with the personnel closest to the process; the Process Supervisors and Technicians. Stewards pass knowledge and know-how from plant to plant, thereby improving overall Operational Excellence for the entire manufacturing organization.

Summary

Operational Excellence balances the focus on EHS/PSM, Manufacturing Costs, Plant Reliability, and Product Quality.

Several “next level” approaches have been developed and refined that focus on different facets of Operational Excellence but are complementary to each other.

Striving for perfection in Operational Excellence is elusive and hard, but an ideal worth pursuing.

Operational Excellence is good for business. If you don't get people hurt, scare your neighbors, or force government regulators to be involved in your business, you can focus on optimizing and improving plant operations and your profitability.

About the Author

Robert L. Zeller III, Ph.D., P.E is the Director of Technology at Occidental Chemical Corporation, headquartered in Dallas, Texas, and has nearly 30 years of manufacturing and R&D experience.

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Management Division Award Info:

<https://www.aiche.org/community/bio/robert-l-zeller-iii>

Call for Nominations— 2018 Management Award

The AIChE Management Division recognizes an outstanding individual who has made a substantial contribution to the Management of Engineers involved in the field of Chemical Engineering or to management techniques and procedures utilized in this field. This is an annual event managed by AIChE Management Division Awards Committee, and the award is given to the selected candidate at the AIChE Annual Meeting in Pittsburgh in November 2018. The Awards Committee reviews all nominations and recommends recipients for confirmation by the Division's Board.

Sponsors of AIChE member nominees are invited to submit their Application Forms for this award on or before May 31, 2018. The Award process and criteria with Applications are available on the AIChE Management Division Awards section of the AIChE web site. Initial nominations can be submitted by resume or CV by March 1, 2018, and sent to George Newcomb, Chair of the Management Division Awards Committee (geonewcomb@gmail.com).

Nominees should be individuals who have significant management experience. The selected recipient will be invited to make a formal presentation at the AIChE Annual Meeting where the award will be presented.

The selection criteria will be based on:

- (a) Demonstrated outstanding accomplishments and achievements that have markedly benefitted both society and the profession of chemical engineering.
- (b) The candidate should be a manager in a field utilizing chemical engineering (e.g. Engineering, Design & Construction, Project or Process Development, Manufacturing Operations, or R & D).
- (c) Nominees need not be a member of the Management Division of AIChE.

The Winner will receive a plaque and \$1,000 honorarium and will be requested to be present at the AIChE Annual Meeting (location and date to be advised) to receive the award. An additional US\$1,000 can be available to assist with approved expenses if needed. The Dow Chemical Company has been the sponsor of this award since 2010.

Though AIChE treats all information as highly confidential, applicants are requested NOT to provide any information in their submittal which may violate their Secrecy and Confidentiality Agreements with their company.

Recent Recipients of this Award have been:

2017	Robert L. Zeller III
2016	Ken Reuter
2015	Markus E. Scheller
2013	Michael Thien
2012	Frank van Lier
2011	Anthony G. Cugini
2010	Margaret Walker

Management Division Creates New Service Award —2017 Award made in San Antonio

In 2017 the division Awards Committee, chaired by George Newcomb, established the “Management Division Service Award” to recognize outstanding service to the AIChE Management Division. This is an annual award subject to having enough qualified nominations each year. The award is presented at the Division dinner during the Spring Meeting. The first recipient of this award was easy to identify due to his efforts in ensuring that the Management Division didn’t cease to exist. In 2001, as the division was struggling and about to be discontinued, Joe Porcelli led an effort to recruit new members and presented a plan to the CTOC that gave the division one year to demonstrate its viability. Joe served as division chair during this difficult period and was instrumental in developing a succession plan, engaging many new volunteers who became actively involved and have kept the division vibrant and active until today. Joe Porcelli was unanimously selected as the first recipient of the Management Division Service Award, which was presented at the 2017 Spring Meeting in San Antonio, Texas, USA.

Joe was chair of the Management Division in the early 2000s and also chaired or served on the Technical Committee for several Management Conferences from the mid 1990s through about 2007. In addition, and although not a factor for this award, Joe had an outstanding career of 40+ years as executive in process engineering companies, including more than a dozen years as President & CEO of Scientific Design Company, Inc. and more than 15 years as a private consultant, activity which he continues as of today.



Mark Swintoniewski, 2017 Management Division Chair (right in photo), presents the first Service Award to Joe Porcelli (left in photo).

Management Division 2018 Service Awardee Chosen

Selection of the 2018 Management Division Service Award was recently completed, with the recipient being Eldon R. Larsen. Eldon is a professor and coordinator of the Master of Science in Engineering program at Marshall University. His nomination was based on his role “as a sustaining leader of the division and its most prolific contributor of high quality programming at national meetings, specialty conferences and webinars for more than 15 years.” Eldon has established himself as an authority on project management and an outstanding educator and advocate for AIChE’s Management Division. He served as division Chair in 2006 as well as a director for several years. Eldon will receive the Management Division Service Award at the 2018 Spring Meeting in Orlando, Florida, USA in April. The award will be made at the Management Division dinner in Orlando.



Eldon R. Larsen, 2018 Management Division Service Award recipient.

Call for Papers— Pittsburgh 2018 Annual AIChE Meeting

The **2018 AIChE Annual Meeting** will take place from **October 28 through November 2**, at the **David L. Lawrence Convention Center**.

The AIChE Annual Meeting is the premier educational forum for chemical engineers interested in innovation and professional growth. Academic and industry experts will cover wide range of topics relevant to cutting-edge research, new technologies, and emerging growth areas in chemical engineering.

A highlight of the meeting from the perspective of the Management Division will be the award of the 2018 Management Division Award, and a talk by the awardee.

Tentative sessions in Pittsburgh include:

Management Division(05)

Management Division Award Recipient Presentation

Applied Project Management Fundamentals: A Tutorial

Chemical Engineers and Policy-Making

Innovation from Beginning to End: Generating Ideas, Working with People, and Managing Projects

Money Matters: Understanding Grants and Researching Budgets

Professional Development(05A)

Using the Brains of Others to Innovate Faster

Management Division 2017 Survey

The Executive Committee of the AIChE Management Division wants to ensure that members are seeing value with their membership to the Management Division. In the fall of 2017 a survey of chemical engineers was undertaken to explore and best gauge its effectiveness in reaching those currently fulfilling a management role, as well as understand who may no longer be active within Management Division itself, but retain a management role and previously participated within the Management Division.

The AIChE Management Division mission is to facilitate a networking base, training, and opportunities to present topics pertinent to Technical Management, Project Management, Entrepreneurship, Leadership and other management roles and responsibilities that chemical engineers typically need as they advance in their careers.

The AIChE Management Division Goals are the sponsorship of peer and expert panel management sessions and co-sponsorship of many sessions with fellow Institute members, especially Young Professionals interested in a career path toward management and leadership roles at AIChE conferences and seminars. Provide webinars and newsletters that inform and help business owners, entrepreneurs, and managers through senior executives become better leaders, make better decisions and ultimately achieve better results as related to, and serves the interest of, the chemical engineering profession. Areas of interest are:

- Technical Management
- Entrepreneurship
- Technology Collaboration
- Ethics in Technical Management
- Transition to Management

The high level results of the survey are:

59.12% of respondents are **current AIChE members**

55.23% are **currently in a management role**

15.57% of respondents are **not in a management role, but looking to move into one**

52.03% of respondents **were not aware of the Management Division but would like to learn more**

Majority of respondents **manage 1-5 people (47.37%)**

The full survey may be viewed at:

<https://www.aiche.org/community/sites/divisions/management/survey>

We plan to report further on the actions planned by the Management Division Board as a result of the survey in a future newsletter.

Management Division Leadership for 2018

Officers

Chair	Fernando J. Aguirre Heat Transfer Research, Inc.	fja@htri.net
Vice Chair	Joseph J. Cramer AIChE	josec@aiche.org
Secretary	Mahdi Nouri CH2M	Mahdi.Nouri@ch2m.com
Treasurer	William S. Welker Nestlé USA	bill.welker@us.nestle.com
Past Chair	Mark Swientoniewski Strata-G LLC	mswientoniewski@stratag.org

Directors

2016 – 2018	Eldon R. Larsen Marshall University	Larsene@marshall.edu
2016 – 2018	Drake Freeman INEOS Bio	drakefreeman@msn.com
2017 – 2019	Harold T. Conner, Jr. URS/CH2M Oak Ridge, LLC	hconnerjr@aol.com
2017—2019	Markus E. Scheller Previously with BASF	scheller54@yahoo.com
2018—2020	Quinta Nwanosike-Warren AAAS/Department of Energy	quinta.nwanosike.warren@gmail.com
2018—2020	Brandon Harding BAE Systems, OSI	brandonaharding@gmail.com

Volunteer Positions

Programming Chair	Donna Bryant Syngenta	donna.bryant@syngenta.com
Awards Committee Chair	George W. Newcomb Newcomb Associates	geonewcomb@gmail.com
Newsletter Editor	Joe Porcelli JVP International, Inc.	jvpri@jvporcelli.com

Please visit our website below for more information, membership renewals and current offerings.

AIChE Management Division website, <http://www.aiche.org/community/sites/divisions/management>