

# NRMCA

## Workforce Development



### Improving Concrete Quality

TUESDAY, APRIL 16, 2019, Denver, CO

#### Course Information

**Shawnita Dickens**

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#### Registration and Travel Information

**Jessica Walgenbach**

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Course follows all federal anti-trust guidelines.

This course earns **8 credits** towards a CCPf designation in the Concrete Technology career track. CCPf, standing for Certified Concrete Professional, is the highest professional designation in the industry. For more information, visit [www.nrmca.org/steps](http://www.nrmca.org/steps)

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#### Purpose and Background

Improved concrete quality has far reaching benefits—in improved performance, reduced time and costs, a lower environmental footprint of concrete and an overall improvement in the quality of concrete construction. Based on quality surveys and award submissions, it has been observed that the industry does not commonly track quantifiable quality indicators and, as a result, the return on quality investments is not well understood. *Improving Concrete Quality*, will address these issues as well as other NRMCA resources which provide the basic content for the course.

#### What will you learn?

- How do you know if you have good quality? What should be your quality metric?
- How to become more profitable through better quality?
- What are all the key statistical calculations you need to know in concrete?
- How to control the mixing water content in concrete?
- How to deal with temperature and delivery time variations?
- What is the most effective way to ensure that your material ingredients are of good quality?
- How to improve batching accuracy, mixing uniformity?
- How to identify non standard testing and curing? How to improve testing quality?
- Tests a producer should do, internal audits and many more...

#### Who Should Attend?

This course will be of significant value to concrete producers that will come away with readily implementable steps to manage variability and attain a more consistent product, thereby seeing performance benefits and cost savings. Concrete ingredient material suppliers will benefit by understanding the needs of their customers and to develop information on variability that can help their quality systems.

The course will be of interest to contractors and testing laboratories. The course will help testing labs measure and improve testing quality.

Design professionals can benefit from this course by recognizing the opportunity for improved quality in concrete construction and the evolution to performance-based specifications.

#### Text/handouts – Publications worth \$350+

- NEW *Improving Concrete Quality* book
- Printout of the presentations
- NRMCA QC Manual Section 1
- Quality Management System for Ready Mixed Concrete Companies
- NRMCA Quality Award, Survey and Certification Information
- Variables that Influence Concrete Compressive Strength
- Code and Standards Requirements for Acceptance Testing – Presentation with notes and checklist
- NRMCA/ASCC Pre-Construction Checklist
- Related Technology in Practice topics
- Related Specification in Practice topics and P2P Presentation

#### Instructors

**Kevin A. MacDonald**, FACI, is president and principal, Beton Consulting Engineers LLC, Mendota Heights, MN, with specific expertise in the production and performance of concrete. He is a licensed professional engineer in Minnesota and Ontario, Canada, and is a fellow of ACI. MacDonald co-chairs ACI subcommittee 130-B, Production/Transport/Construction; ACI committee 306, Cold Weather Concreting; chairs the NACE task group; and the TAC awards task group and is an active member of several ACI committees. He is the current president of the ACI Minnesota chapter and serves on the Steering Committee of the Aggregate & Ready Mix Association of Minnesota.

**Karthik Obla**, Ph.D., P.E., FACI, is Vice President, Technical Services at NRMCA. With over 25 years of experience in concrete technology, he is responsible for NRMCA's concrete producer quality initiatives as well as various educational and technical programs. He supports NRMCA's P2P initiative and directs the activities of the NRMCA Research Laboratory. A fellow of ACI and a winner of ACI's Young Professional Achievement Award and ASTM Award of Appreciation from the Sustainability and Concrete Committees, Dr. Obla is an active member of various ACI, ASTM, and TRB technical committees. He has served as chair for ASTM 09.49—Pervious Concrete, and ACI 232—Fly Ash and Natural Pozzolans. He has published a book on concrete quality and a chapter in a book on concrete sustainability and has published over 80 technical articles and reports.

# Improving Concrete Quality Course

TUESDAY, APRIL 16, 2019, Denver, CO | 7:30 AM - 5:00 PM

<i>NRMCA USE ONLY</i>
Date: _____
Member ID: _____
Confirmation#: _____

## ATTENDEE INFORMATION

Name/Title: \_\_\_\_\_

Company: \_\_\_\_\_

Mailing Address: \_\_\_\_\_ City/State/Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

Emergency Contact Name/Phone: \_\_\_\_\_

Dietary Restrictions/Special Needs: \_\_\_\_\_

Please Send Registration/Receipt Confirmation Email to: \_\_\_\_\_

(Notification does not guarantee class will run)

## COURSE FEES/PAYMENT AUTHORIZATION

\$295 Members and Non-members. Select One:  Visa  MasterCard  AMEX

Please submit separate forms for ALL attendees  
10% (3-5 members) 15% (+6 members)

Card Number: \_\_\_\_\_

Exp. Date/CVV# \_\_\_\_\_

Cardholder Name: \_\_\_\_\_

Check Payment:   
*\*by sending a check there will be a delay in processing*  
(Make check payable to NRMCA)  
SunTrust Bank, c/o NRMCA, P.O. Box 79433 Baltimore, MD 21279

Registration without payment will NOT be confirmed.

## COURSE LOCATION

**Course Location:**  
CRMCA, 6880 S. Yosemite Court, Centennial, CO 80112

**Suggested Hotels:**  
Candlewood Suites: 6780 S. Galena, Centennial (1.5 miles)  
Comfort Suites: 7374 S. Clinton, Greenwood Village (1.75 miles)  
Courtyard Marriott: 6565 S. Boston, Greenwood Village (1.19 miles)  
Embassy Suites: 10250 East Costilla Ave., Centennial (1.6 Miles)  
Hyatt House: 9280 E. Costilla, Englewood (1.26 miles)  
La Quinta: 7077 S. Clinton, Greenwood Village (1.38 miles)  
Residence Inn: 6565 Yosemite, Greenwood Village (0.66 miles)  
Sheraton: 7007 S. Clinton, Greenwood Village (1.27 miles)  
Staybridge Suites: 7150 S. Clinton, Greenwood Village (1.50 miles)

**Closest Airport:** Denver International Airport (DIA) is about 30 miles/45 minutes (without traffic) from CRMCA.

## NRMCA POLICIES/INFORMATION

**Cancellation Policy:** Full cancellation refunds, less a \$50 administration fee, will be extended until **March 26, 2019**. All cancellations after **March 26, 2019** will not be refunded. Fee cancellations cannot be transferred to a future class. Substitutions can be made at any time with no penalty. Registration cancellations must be made in writing to: [meetings@nrmca.org](mailto:meetings@nrmca.org).

**Confirmation of Event:** After registration and payment is processed, a registration receipt will be provided (allow up to 72 hours). A class confirmation, confirming the course will run as scheduled, will be sent via email no later than COB, **March 26, 2019**.

**Important/Class Confirmation:** NRMCA reserves the right to cancel this event. In the unlikely event the class is cancelled, NRMCA will refund the entire registration fee, but is not responsible for airline and hotel reservation fees.

## COURSE SCHEDULE

7:30 am	Registration
8:00 am	Overview of Quality Organization
8:30 am	Quantifying Impact of Quality Systems
9:00 am	Statistical Concepts for Monitoring Quality
9:30 am	Monitoring & Controlling Water Content in Mixtures
10:00 am	Break
10:15 am	Quantifying Variability of Ingredient Materials
11:00 am	Quantifying Variability Associated with Manufacturing
11:45 am	Group Discussion
12:15 pm	Lunch
1:00 pm	Quantifying Variability Associated with Testing – Monitoring Test Data
1:45 pm	Producer Product Testing to Minimize Variability
2:05 pm	What to do with acceptance test data – Case study of 3 projects
2:35 pm	Impact of Specifications on Quality
2:55 pm	Break
3:10 pm	The Quality-Sustainability Link
3:25 pm	Quality Management System (NRMCA Quality Certification Program)
3:45 pm	Group Discussion

Register Online: [www.nrmca.org/Education/Seminars/improving\\_concrete\\_quality.htm](http://www.nrmca.org/Education/Seminars/improving_concrete_quality.htm)  
Return Form to [meetings@nrmca.org](mailto:meetings@nrmca.org) or Fax: (301) 565-8200