

The 18th International Diffuse Reflectance Conference
Exploring the Spectrum of Diffuse Reflectance

Wilson College
Chambersburg, Pennsylvania USA
July 30 - August 5, 2016

Final IDRC 2016 Program

Saturday Morning Short Course, July 30, 8:30 am – Noon

Integrated 2 day team-taught short course by Lois Weyer, Don Dahm, David Hopkins, and Neal Gallagher

Saturday Afternoon Short Course, July 30, 1:00 – 4:30 pm

Sunday Morning Short Course, July 31, 8:30 – Noon

Sunday Afternoon Short Course, July 31, 1:00 – 4:30 pm

Sunday Evening Session, July 31, 7 – 9:30 pm

Conference Welcome: David Funk, Grain Quality Analytics, LLC, Chair, IDRC-2016

Phil Williams, PDK Projects, Inc. *“How It All Began”*

A Universe of Diffuse Reflectance, Organizer: Donald Dahm, Rowan University

Craig Bohren, Penn State, *“In Defense of Lord Rayleigh: Debunking Tribal Myths of Physicists”*

Bruce Hapke, University of Pittsburgh, *“A half-century of reflecting on reflectance”*

Monday Morning Session, August 1, 8 am - Noon

Frontiers of NIR Diffuse Reflectance, Organizer: Stephen Delwiche, USDA-ARS, Beltsville, Maryland

Student Travel Awardee Research Summaries: Raphael Henn, Natasha Lee Velez-Rodriguez, Tine Ringsted, Yi Li

Moon Kim, USDA-ARS, Beltsville, Maryland, *“Development of Hyperspectral Imaging Platforms”*

Break

Tony Qin, USDA-ARS, Beltsville, Maryland, *“Imaging and Spectroscopy Techniques for Food Safety and Quality Inspection”*

Charles Hurburgh, Iowa State University, *“NIRT Equivalency”*

Stephen Delwiche, USDA-ARS, Beltsville, Maryland, *“Characterizing, Measuring, Sorting, and Counting Moldy Grain”*

Monday Afternoon, August 2

Free time

CNIRS Governing Board meeting, 2-3:30 pm, Patterson Board Room

Monday Evening Session, August 1, 7-9:30 pm

Tomas Hirschfeld Award Session, Organizer: Tom Fearn, University College London

Chair: Pierre Dardenne, Walloon Agricultural Research Centre

Sponsored by FOSS

Tomas Hirschfeld Award presented to Jean-Michel Roger by Lone Vejgaard, FOSS

Jean-Michel Roger, Research Group Irstea - SupAgro *“How to use the projections in the row and in the column spaces”*

Anna de Juan, University of Barcelona, *“Curve resolution for process and image analysis”*

Pierre Dardenne, *“How to build a robust model against perturbation factors with only a few reference values”*

Søren Balling Engelsen, University of Copenhagen *“The 2017 INIRS Conference”*

Tuesday Morning Session, August 2, 8 am - Noon

Instrumentation Advances for Diffuse Reflectance, Organizer: Jerome Workman

Art Springsteen, Avian Technologies, LLC, *"The World of DR Standards"*

Donald Dahm, Rowan University, *"The Ideal Instrument for DR Measurements"*

Break

Jerome Workman, Unity Scientific *"The theory and practice of building instruments for DR measurements"*

Arnold Eilert, Unity Scientific, *"Practical experiences with a variety of instrumentation for DR measurements"*

Tuesday Afternoon, August 2

Poster Session, Organizer: David Semmes, Polytec, Inc., 2 – 4 pm, Laird Hall

All poster authors present to discuss their work.

Tuesday Evening Session, August 2, 7-9:30 pm

Vendor Showcase, Organizer: Howard Mark, Mark Electronics

An opportunity for registered IDRC exhibitors to highlight novel aspects of their products.

Susan Bragg, Avian Technologies LLC

Phil Crim, Perten Instruments Inc.

Andre Kok, Bruker Optics Inc.

David Semmes, Polytec Inc.

Cheryl Provost, FiberTech Optica

Herman He, Thermo Fisher Scientific

Chris Heil, FOSS North America

Jerome Workman, Unity Scientific

Richard Jackson, Galaxy Scientific Inc.

Rick Frost, Viavi Solutions

James de Haseth, Light Light Solutions Instruments

Craig Johnson, Carl Zeiss Spectroscopy

Wednesday Morning Session, August 3, 8 am - Noon

Near-field Hyperspectral Imaging, Organizer: Kurt Lawrence, USDA-ARS, Athens, Georgia

Student Travel Awardee Research Summaries: Yuanyuan Pu, Md. Nayeem Hossain, Yuxiang Zhao, Md. Anik Alam

David Wetzel, Kansas State University, *"Quantitative Chemical Imaging via Near IR: Progress, Technology, and Application to Complex Mixtures of Solids that Result from Processing Plant Material"*

Break

Bosoon Park, USDA-ARS, Athens, Georgia, *"Hyperspectral Microscopy for Agriculture and Food Applications"*

Seung Chul Yoon, USDA-ARS, Athens, Georgia, *"High-Speed Hyperspectral Imaging"*

Kurt Lawrence, USDA-ARS, Athens, Georgia, *"Calibration and Model Transfer in Hyperspectral Imaging"*

Wednesday Afternoon, August 3

Software Shootout, Organizer: Benoît Igne, GlaxoSmithKline

On-site Software Shootout open to all IDRC participants. 1:30 – 2:30 pm

Traditional Software Shootout presentations. 3 – 4:30 pm

Wednesday Evening Session, August 3, 7-9:30 pm

Gerald S. Birth Award Session, "Light Paths," Organizer: David Hopkins, NIR Consultant

Sponsored by FOSS North America

Presentation of Gerald S. Birth Award to Eric Brauns by Dan Klevisha, President, FOSS North America

Eric Brauns, University of Idaho, *"Mid-Infrared Diffuse Reflection on Ultrafast Time Scales"*

Arnold Kim, University of California, Merced, *"Multiscale modeling of backscattered light"*

Andrea Farina, Polytechnic of Milan, *"Recent advancements in time-domain diffuse optics for extreme sensitivity and depth penetration"*

Thursday Morning Session, August 4, 8 am - Noon

Advanced Chemometrics, Organizer: David Honigs, Perten Instruments

Pierre Dardenne, Walloon Agricultural Research Centre, *"A new Local PLS-based regression approach for near infrared spectroscopy (NIRS) data sets"*

David Hopkins, NIR Consultant, *"A fresh look at the Derivative Quotient Method in regression"*

Martin Lagerholm, Perten Instruments AB, *"A practical approach to ANN"*

Break

Mark Westerhaus, FOSS, *"Detecting structure in calibration datasets"*

Heather Brooke, CAMO, *"Modeling and monitoring of batch processes in relative time"*

David Honigs, Perten Instruments, *"Scatter correction for various optical geometries with one function"*

Thursday Afternoon, August 4

Predict Your Own Time (PYOT) validation run, 2:00 p.m. Organizer: David Ryan, DuPont Nutrition & Health

Open CNIRS Meeting, 3:30 – 4:30 p.m., Science Center

Thursday Evening Banquet, August 4, 6 – 9:15 pm

Reception, 6 – 6:45 pm

Banquet, 6:45 – 7:45 pm

Awards and recognitions (Student Travel, Poster, Shootout, PYOT, Electronic Hamburger, Honorary Lifetime CNIRS Membership)

Featured speaker: Peter Griffiths, Griffiths Consulting LLC, *"Diffuse Reflections on Measurements in the Mid-Infrared"*

Announcement of Chair for IDRC-2018 and passing of the IDRC Whip

Friday Morning Session, August 5, 8 am - Noon

Diffuse Reflectance Meets the Internet of Things, Organizer: Franklin W. Barton, II, LLS Instruments, Inc.

Franklin W. Barton, II, LLS Instruments, Inc., *"A Time to Remember"* (Tributes to friends of IDRC we've lost since IDRC-2014)

Nada O'Brien, Viavi Solutions, *"Integrating small instruments"* (Presented by Franklin W. Barton, II)

Break

Chris Piotrowski, Aunir, *"Managing large networks of diverse NIR instruments"*

Ryan Lerud, Portland State University, *"Experiences with a handheld spectrometer"*

Closing remarks and conference adjournment, David Funk, Grain Quality Analytics, LLC, Chair, IDRC-2016

Departure

