

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

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 Awardees, Research Summaries

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 the International Council for Near Infrared Spectroscopy (ICNIRS)

Tomas Hirschfeld Award presented to Jean-Michel Roger by Pierre Dardenne on behalf of ICNIRS

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 should be present to discuss their work.

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

Vendor Showcase, Organizer: Howard Mark, Mark Electronics

Registered IDRC exhibitors will highlight novel aspects of their products.

Wednesday Morning Session, August 3, 8 am - Noon

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

Student Travel Awardees, Research Summaries

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, 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"*

Break

Ali Gahkani, Aunir, *"Managing large networks of diverse NIR instruments"*

Ellen Miseo, Hamamatsu *"Detectors for sensors"*

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

Departure

