

Saturday 7 November

- 08:00-08:30 Registration for short courses (7F)
- 08:30-10:00 Parallel Short Courses
Course A: Fundamental NIRS: Getting the Best out of Light (**Room7@C**)
Phil Williams (PDK Projects, Canada)
Course B: NIRS for Process Analytical Technology (PAT) (**Room7@B**)
Katherine Bakeev (CAMO and *Former* Glaxo-Smith-Kline, USA)
Course C: Software Workshop I – Part 1: Bruker (**Room 7@A**)
Andre Kok (Bruker Optics, Germany)
- 10:00-10:30 *Coffee break*
- 10:30-12:00 Parallel Short Courses
Course A: Fundamental NIRS (*continue*)
Phil Williams (PDK Projects, Canada)
Course B: NIRS for PAT (*continue*)
Katherine Bakeev (CAMO and *Former* Glaxo-Smith-Kline, USA)
Course C: Software Workshop I – Part 1: Bruker (*continue*)
Andre Kok (Bruker Optics, Germany)
- 12:00-13:00 *Lunch (4F)*
- 13:00-14:30 Parallel Short Courses
Course A: Fundamental NIRS (*continue*)
Phil Williams (PDK Projects, Canada)
Course B: NIRS for PAT (*continue*)
Katherine Bakeev (CAMO and *Former* Glaxo-Smith-Kline, USA)
Course C: Software Workshop I – Part 2: Buchi
Roman Bossart (Buchi Labortechnik AG, Switzerland)
- 14.30-15.00 *Coffee break*
- 15:00-16:30 Parallel Short Courses
Course A: Fundamental NIRS (*continue*)
Phil Williams (PDK Projects, Canada)
Course B: NIRS for PAT (*continue*)
Katherine Bakeev (CAMO and *Former* Glaxo-Smith-Kline, USA)
Course C: Software Workshop I – Part 2: Buchi (*continue*)
Roman Bossart (Buchi Labortechnik AG, Switzerland)
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- 10.00-17.00 Conference Registration (Foyer of 7F)
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Sunday 8 November

- 08:00-08:30 Registration for short courses (7F)
- 08.30-10.00 Parallel Short Courses
Course D: Fundamental Chemometrics for NIRS (**Room7@C**)
David Hopkins (NIR Consultant, USA)
Course E: Advanced Chemometrics for NIRS (**Room7@B**)
Tom Fearn (University College London, UK)
Course F: Software Workshop II – Part 1: Foss (**Room 7@A**)
Frederik Ronnberg (Foss, Denmark)
- 10.00-10.30 ***Coffee break***
- 10:30-12:00 Parallel Short Courses
Course D: Fundamental Chemometrics for NIRS (*continue*)
David Hopkins (NIR Consultant, USA)
Course E: Advanced Chemometrics for NIRS (*continue*)
Tom Fearn (University College London, UK)
Course F: Software Workshop II – Part 1: Foss (*continue*)
Paul Brimmer (Foss NIRSystems Inc, Australia)
- 12:00-13:00 ***Lunch (4F)***
- 13:00-14:30 Parallel Short Courses
Course D: Fundamental Chemometrics for NIRS (*continue*)
David Hopkins (NIR Consultant, USA)
Course E: Advanced Chemometrics for NIRS (*continue*)
Tom Fearn (University College London, UK)
Course F: Software Workshop II – Part 2: CAMO
Suresh Kumar BV (CAMO-Asia, India)
- 14.30-15.00 ***Coffee break***
- 15:00-16:30 Parallel Short Courses
Course D: Fundamental Chemometrics for NIRS (*continue*)
David Hopkins (NIR Consultant, USA)
Course E: Advanced Chemometrics for NIRS (*continue*)
Tom Fearn (University College London, UK)
Course F: Software Workshop II – Part 2: CAMO (*continue*)
Suresh Kumar BV (CAMO-Asia, India)
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- 10.00-16.00 Conference Registration (Foyer of 7F)
- 17.30-22.00 **Welcome reception** on the Chao Phraya Princess Cruise III
Gather at Lower Lobby at 17.30 sharp
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<i>Monday 9 November</i>

08.00-08.30	Registration	
08.30-09.00	Opening Ceremony (Grand Ballroom, 6F) - Vichai Haruthaithanasan (Conference Chair, Kasetsart University) - Vudtechai Kapilakanchana (President, Kasetsart University) - Yukihiro Ozaki (Chairperson, Asian NIR Consortium) - Peter Flinn (Chairman, International Council for NIRS)	
09.00-09.20	001-K NIR History: How to Set Up an NIRS Networking System for Agricultural Products P.C. Williams (PDK Projects, <i>Former Canadian Grain Commission, Canada</i>)	1
	SESSION 1: Agriculture <i>Chair: Pierre Dardenne (Walloon Agricultural Research Centre, Belgium)</i>	
09.20-09.45	002-I NIRS for Sustainable Agricultural Development and Protection from Food Deficiency G. Batten (Editor-in-Chief, JNIRS and Sea Spec, Australia)	3
09.45-10.00	003-O Tracking of Deionised Water and Deuterated Water in Wheat by NIR Hyperspectral Imaging P.J. Williams,* G. Du Toit, M. Manley and P. Geladi (Stellenbosch University, South Africa)	4
10.00-10.15	004-O The Use of Hyperspectral Imaging to Detect Mildew Damage in Wheat Samples M. Shahin,* D. Hatcher and S. Symons (Canadian Grain Commission, Canada)	5
10.15-10.45	Breaks and Exhibitions	
	SESSION 1: Agriculture (continue) <i>Chair: Akifumi Ikehata (National Food Research Institute, Japan)</i>	
10.45-11.00	005-O Classification of Grass Samples containing or Free of Endophytes using NIR and Extended Canonical Variates Analysis (ECVA) R. Gislum, P.H. Shetty and J.R. Jørgensen* (Aarhus University, Denmark)	6
11.00-11.15	006-O Moisture Content Analyzer for Natural Rubber Sheet by Handheld NIR Spectrometer R. Rittiron,* C. Tiammueng, J. Saehea and S. Sabchuangchote (Kasetsart University, Thailand)	7
11.15-11.30	007-O Time-of-flight NIRS for Detecting Sugar and Acid Contents in Thick Peel Fruit Y. Kurata,* T. Tsuchida and S. Tsuchikawa (Nagoya University, Japan)	8
11.30-11.45	008-O Outer Product Analysis Applied to Time-resolved Reflectance (TRS) and NIR Reflectance Spectra of Apples S. Barzaghi,* M. Vanoli, K. Cremonesi, G. Cortellino, D. Torreggiani, A. Rizzolo, M. Grassi, L. Spinelli and A. Torricelli (Research Centre for Fodder Crops and Dairy Production, Italy)	9
11.45-12.00	009-O Development of an NIR Sorting Machine for Detecting Internal Disorder and Quality of Mangosteens Fruit S. Teerachaichayut,* W. Thanapase, S. Kasemsumran, K. Shigefuji, K. Kiji, Y. Nitta, S. Saranwong and S. Kawano (King Mongkut's Institute of Technology Ladkrabang/Kasetsart University, Thailand)	10
12.00-13.00	Lunch (4F)	

Monday 9 November (cont)

SESSION 1: Agriculture (continue)

Chair: Ana Garrido-Varo (University of Cordoba, Spain)

- 13.00-13.15 **010-O** Use of VIS-NIR System combined with Multispectral Image Analysis in Spinach Seed 11
M. Halkjær Olesen,* J.M. Carstensen and B. Boelt (Aarhus University, Denmark)
- 13.15-13.30 **011-O** Calibration Pixel Selection for Hyperspectral Discrimination of Ruminant and Fish Animal By-products 12
C. Riccioli,* W. Saeys, P. Vallesquino-Laguna, D. Pérez-Marín, J.E. Guerrero-Ginel and A. Garrido-Varo (University of Cordoba, Spain)
- 13.30-13.35 **012-F** Starch and Sugar – The Assessment of Maturation and Ripening of Fruit by Short Wave NIRS (P) 13
K.B. Walsh* and P.P. Subedi (Central Queensland University, Australia)
- 13.35-13.40 **013-F** Use of Peel Spectral Information to Improve Titratable Acidity Prediction in Intact Orange by NIRS in Long Wavelength Region (NoP) 14
A. Terdwongworakul,* P. Laosubchareon, S. Kasemsumran and W. Thanapase (Kasetsart University, Thailand)
- 13.40-13.45 **014-F** Potential of Genetic Algorithm and Support Vector Regression to Evaluate Organic Matter Content of Manure Composts by NIRS (P) 15
G. Huang and L. Han* (China Agricultural University, China)
- 13.45-13.50 **015-F** Use of NIRS for the Estimation of Total Isoflavone Content in Single Seed Soybean (P) 16
T. Sato,* K. Eguchi and Y. Nishiba (National Agricultural Research Center for Kyushu Okinawa Region, Japan)
- 13.50-13.55 **016-F** Rapid Screening by NIRS for Sugarcane Smut Resistance to Improve Breeding and Selection Outcomes (P) 17
D.E. Purcell,* S. Kokot and M.G. O’Shea (BSES Limited, Australia)

SESSION 2: Food

Chair: Roberto Giangiacomo (CRA-IAA, Italy)

- 13.55-14.20 **017-I** Role of NIRS in the Enhancement of Food Safety Monitoring and Food Authentication 19
G. Downey (TEAGASC, Ireland)
- 14.20-14.35 **018-O** Direct Calculation of Amylose-Amylopectin Ratios and Other Proximates by Curve Fitting of NIR Spectra of Cereal Flours 20
A. Haiduc* and V. Leloup (Nestle PTC Orbe, Switzerland)
- 14.5-14.50 **019-O** Testing the Ability of FT-NIR to Determine the α_1 -Casein and β -Casein Content in Individual Milk Samples 21
T.M.P. Cattaneo,* M. Feligini, I. Bonizzi, R. Giangiacomo and S. Barzaghi (Research Centre for Fodder Crops and Dairy Production: CRA-FLC, Italy)
- 14.50-15.05 **020-O** Detection of Melamine Contamination by NIRS and NIR Microscopy Techniques: Which Perspectives and Limits? 22
V. Baeten,* O. Abbas, B. Lecler and P. Dardenne (Walloon Agricultural Research Centre: CRA-W, Belgium)

15.05-15.30 **Coffee Break, Exhibition**

Monday 9 November (cont)

SESSION 2: Food (continue)

Chair: Steve Holroyd (Fonterra Co-operative Group, New Zealand)

- 15.30-15.45 **021-O** Portable NIR Reflectance Spectroscopy for Assessing Flesh Quality of Aquaculture Produce 23
M. Brown,* M. Fluckiger, R. Tume, A. Sikes, M. Brock and N. Elliott
(CSIRO Marine and Atmospheric Research, Australia)
- 15.45-16.00 **022-O** Novel NIR Transfection Measurements for Non-contact Core Temperature of Processed Meat Products 24
M. O'Farrell,* J. Tschudi, K.A.H. Bakke, J.P. Wold and K.W. Sanden
(SINTEF ICT, Norway)
- 16.00-16.15 **023-O** Ability of *on site* NIRS to Predict Shelf Life Extension of Pork Meat 25
A. Soldado,* V. Fernández-Ibáñez, M. Álvarez, A. Martínez, N. Prado,
P. González, J. Díaz and B. de la Roza-Delgado
(Regional Institute for Research and Agro-Food Development, Spain)

SESSION 2: Food (continue)

Chair: Marena Manley (Stellenbosch University, South Africa)

- 16.15-16.30 **024-O** Non-destructive *in vivo* Classification of Iberian Pigs measured with a handheld NIR Digital Transform Spectrometer 26
E. Zamora-Rojas,* A. Garrido-Varo, D.C. Pérez-Marín, E. De Pedro-Sanz and J.E. Guerrero-Ginel (University of Cordoba, Spain)
- 16.30-16.45 **025-O** Quantitative Analysis of Meat Spoilage using VIS/NIR Spectral Imaging 27
J.M. Carstensen,* E. Panagou and G-J.E. Nychas (Videometer A/S, Denmark)
- 16.45-16.50 **026-F** Monitoring Water Content using Multispectral Imaging and NIR in Minced Meat Preparation Process (P) 28
B.S. Dissing,* B.K. Ersboell and J. Adler-Nissen
(Technical University of Denmark, Denmark)
- 16.50-16.55 **027-F** Imaging Water in Bread (NoP) 29
F. Møller,* S.W. Lindström and D. Nilsson (Danisco A/S, Denmark)
- 16.55-17.00 **028-F** Validation of NIRS Analysis in Authentication of Fresh and Frozen-Thawed Fish Products (P) 30
L. Fasolato,* E. Cencetti, R. Riovanto, M. Mirisola, E. Novelli, S. Balzan, L. Serva,
J.C. Ferlito, F. Benozzo, M.E. Teneggi and P. Berzaghi (Padua University, Italy)
- 17.00-17.05 **029-F** Identification of Honey Authenticity by NIRS (P) 31
P. Sirisomboon,* W. Thanapase, S. Kasemsumran and S. Howvimanporn
(King Mongkut's Institute of Technology Ladkrabang, Thailand)

SESSION 3: Networking-Applications

Chair: Richard Streamer (Foss NIRSystems, Australia)

- 17.05-17.20 **030-O** Standardisation of Factory Online Cane Analysis Systems for the NIR Measurement of Brix and Pol 33
D. Donald* and S. Staunton (BSES Limited, Australia)
- 17.20-17.25 **031-F** Sugarcane Diagnosis System using NIR Networking System (P) 34
E. Taira,* M. Ueno and Y. Kawamitsu (University of the Ryukyus, Japan)
- 17.25-17.30 **032-F** The Development of Global Milk Powder Calibrations (NoP) 35
S.E. Holroyd and M. Fauth (Fonterra Co-operative Group Ltd, New Zealand)
- 17.30-18.15 **Poster A** (Room 7@B, 7@C) (Odd numbers, Flash, P-001~ P-089)
- 18.15-19.00 **Poster B** (Room 7@B, 7@C) (Odd numbers, P-091 ~ P-179)

Tuesday 10 November

- 08.30-08.50 **033-K NIR History:** Biomedical, Pharmaceutical and Environmental Applications 37
from Early Routine NIRS to InSb Chemical Imaging
D. Wetzel (Kansas State University, USA)
- SESSION 4: Pharmaceutical and PAT**
Chair: Heinz Siesler (University of Duisburg-Essen, Germany)
- 08.50-09.15 **034-I PAT in the Pharmaceutical Industry:** Applying NIRS to Gain Process 39
Understanding through the Development Process
K.A. Bakeev* and E. Botonjic-Sehic
(CAMO Software Inc., Former Glaxo-Smith-Kline, USA)
- 09.15-09.30 **035-O Simultaneous Determination of Lamivudine and Zidovudine in Fixed Dose** 40
Combinations using NIRS
S.S. Simões,* S. Grangeiro Jr, D.P. de Santana, M.M. de Albuquerque and
M.F. Pimentel (LAFEPE/UFPE, Brazil)
- 09.30-09.45 **036-O Identification of Counterfeit Tablets and Authentication of Medicines in the** 41
International Wholesaling Supply Chain
S. Assi,* R. Watt and A. Moffat (University of London, UK)
- 09.45-10.00 **037-O Understanding Calibration Transfer Problems in NIRS:** 42
Diethylene Glycol-Glycerol-Water Mixtures
N. Hongrisuk,* R. Jee and A. Moffat (University of London, UK)
- 10.00-10.30 **Coffee Break, Exhibition**
- SESSION 4: Pharmaceutical and PAT (continue)**
Chair: Tsuyoshi Miura (Bruker Optics KK, Japan)
- 10.30-10.45 **038-O Reliable Quantitative Analysis of Pharmaceutical Suspension using NIRS** 43
Y.A. Woo,* S. Cho, M.H. Lee, Y.W. Choi, K. Shin, H. Chung and H.J. Kim
(Korea United Pharm. Inc., Korea)
- 10.45-11.00 **039-O The Using of NIR Process Analytical Technologies (PAT) in Pharmaceutical** 44
Manufacturing Drying Processes
C. Chen,* J. Timmermans and S. Hammond (Pfizer Inc., USA)
- 11.00-11.15 **040-O Monitoring Drug Quality using NIR Method in the Circulation Field** 45
Y. Feng,* D. Lei, X. Wang and C. Hu
(National Institute for the Control of Pharmaceutical and Biological Products, China)
- SESSION 4: Pharmaceutical and PAT (continue)**
Chair: Katherine Bakeev (CAMO, USA)
- 11.15-11.30 **041-O NIR as a Multitasking Technique in the Pharmaceutical Field** 46
M. Sarraguça,* A. Cruz, P. Costa, H. Amaral and J. Lopes
(Universidade do Porto, Portugal)
- 11.30-11.45 **042-O Mixture Analysis in Hand-held NIR Instrumentation** 47
D. Day,* M. Butler and F. Haibach (Polychromix, USA)
- 11.45-12.00 **043-O Simultaneous Determination of Chlorogenic Acid and Baicalin in** 48
Heat-clearing and Detoxicating Orally Liquid by NIRS
Z.Y. Liu and J.D. Yang* (Southwest China University, China)
- 12.00-13.00 **Lunch (4F)**
-

Tuesday 10 November (cont)

SESSION 5: Medical and Life Science

Chair: Yiping Du (East China University of Science and Technology, China)

- 13.00-13.25 **044-I** Recent Advancement of NIR Technology in Biomedical Fields 49
Y. Ozaki (Kwansei Gakuin University, Japan)
- 13.25-13.40 **045-O** A Review of Indocyanine Green Contrast Agent in Surgery 50
J.T. Alander (University of Vaasa, Finland)
- 13.40-13.55 **046-O** Testing NIR Based Skin Spectra Analyzer System and Software with the 51
Simulated Data Generated by Genetic Algorithm
T. Mantere,* P. Välisuo and J.T. Alander (University of Vaasa, Finland)
- 13.55-14.10 **047-O** Using Self Modeling Curve Resolution for Quantification of NIR Spectra of 52
Biomedical Samples
D. Burns,* F. Esmonde-White and F. Pandozzi (McGill University, Canada)
- 14.10-14.25 **048-O** A Point-of-issue System for Detecting Platelet Components Contaminated 53
with Bacteria
S. Saranwong,* S. Ezuki, K. Kawabata, H. Ohto and S. Kawano
(National Food Research Institute, Japan)

SESSION 6: Biology and Environment

Chair: Diane Malley (PDK Projects, Canada)

- 14.25-14.50 **049-I** NIRS in Environmental Research - The Value of Monitoring Complexity 55
W.J. Foley (Australian National University, Australia)
- 14.50-15.05 **050-O** NIRS as a Tool in Cultural Heritage Conservation 56
M. Šala,* M. Strlič and J. Kolar (University of Ljubljana, Slovenia)
- 15.05-15.20 **051-O** Use of NIRS to Measure Leaf Water Potential 57
R. De Bei¹, W. Sullivan, W.U. Cynkar, D. Cozzolino,* R.G. Damberg, P. Smith and
S.D. Tyerman (The Australian Wine Research Institute, Australia)
- 15.20-15.45 **Coffee Break, Exhibition**

SESSION 6: Biology and Environment (continue)

Chair: James Reeves, III (USDA-Beltsville, USA)

- 15.45-16.00 **052-O** Feasibility of Predicting Several Forms of Phosphorus and Phosphorus 58
Retention Capacity in Canadian Prairie Soils by NIRS
D. Malley,* O.O. Akinremi and D. Ige (PDK Projects, Canada)
- 16.00-16.15 **053-O** Prediction of Biochemical Methane Potential of Municipal Solid Wastes and 59
Understanding of Their Biodegradability by NIRS
M. Lesteur,* J.M. Roger, E. Latrille, G. Junqua, J.P. Steyer, C. Gonzalez
and V. Bellon-Maurel (INRA, France)
- 16.15-16.30 **054-O** Rapid Determination of Methoxyl Groups in Plant Fibrous Material by NIRS 60
Y.M. Xie* and X.S. Wu
(Hubei University of Technology, China)
-

Tuesday 10 November (cont)

SESSION 6: Biology and Environment (*continue*)

Chair: Anupun Terdwongworakul (Kasetsart University, Thailand)

- 16.30-16.45 **055-O** Discrimination of Wood Origin with NIRS 61
A. Sandak,* J. Sandak and M. Negri
(Trees and Timber Institute Ivalsa/CNR, Italy)
- 16.45-17.00 **056-O** NIRS for Mechanical Stress Grading of Sawing Lumber 62
T. Fujimoto,* Y. Kurata, Q. Long, K. Matsumoto and S. Tsuchikawa
(Hokkaido Forest Products Research Institute, Japan)
- 17.00-17.15 **057-O** Determination of Moisture Content and Specific Gravity of *Pinus taeda* 63
Discs using NIR Hyperspectral Imaging System
L.R. Schimleck,* C.R. Mora, S.C. Yoon and C.N. Thai
(The University of Georgia, USA)
- 17.15-17.30 **058-O** Prediction of Kraft Pulp Yield in Eucalyptus: An Inter-lab Study 64
R. Meder,* G. Downes, N. Ebdon, T. Rodemann, T. Stanger and P. Ramadevi
(CSIRO Plant Industry, Australia)
- 17.30-18.15 **Poster C** (Room 7@B, 7@C) (Even numbers, Flash, P-002 ~ P-090)
- 18.15-19.00 **Poster D** (Room 7@B, 7@C) (Even numbers, P-092 ~ P-180)
- 19.00-22.00 **Buchi Evening (Garden Terrace, 8F)**
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Wednesday 11 November

- 08.30-08.40 **Award Ceremony: Tomas Hirschfeld Award (THA) and Buchi Award**
Chairs: Peter Flinn (Chairman, ICNIRS) and Jochen Khecht (Büchi Representative)
- 08.40-09.00 **059-A** How to Get Beautiful NIR Spectra? 65
S. Kawano (National Food Research Institute, Japan)
- 09.00-09.20 **060-A** Alternative Common Basis for Wavelet Compression of NIR Spectra and 67
Their Application to Food Samples
M. Casale* (*and P. Oliveri, N. Sinelli, M. Forina*)
(University of Genova, Italy)
- 09.20-09.45 **Coffee Break, Exhibitions**
- 09.45-12.15 **ICNIRS General Meeting**
(All participants are invited to attend)
Agenda
1. Chairman's Welcome and Report
 2. Proposed Amendments to ICNIRS Regulations
 3. Minutes of General Meeting held at the NIR-2007
 4. Treasurer's Report
 5. Chairman's Advisory Committee Report
 6. NIR Education Sub-Committee Report
 7. Publications Report
 8. Election of Council Management Committee
 9. Election of Chairman's Advisory Committee members
 10. Retiring Chairman steps down and is succeeded by New Chairman
 11. Host country for NIR-2013
 12. Brief update on NIR-2011
 13. Guidelines for future Conferences: Formation of sub-committee
 14. Review of ICNIRS Awards: Formation of sub-committee
 15. Any other business
- 12.15-12.20 **Group photo taking**
- 12.20-13.00 **Lunch (4F)**
- 13.00-17.30 **Mid-Conference tours**
Tour A: Temple of Emerald Buddha and Grand Palace
Gather at Hotel Lower Lobby at 13.00 sharp
- Tour B: Day-Cruising and Temple of the Dawn
Gather at Hotel Lower Lobby at 13.30 sharp
- 19.00-22.00 **Bruker Evening (Pool side, 8F)**
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Thursday 12 November

08.30-08.50	061-K NIR History: Progress in Processing and Evaluation of Spectral Data K. Kaffka (Corvinus University of Budapest, Hungary)	69
	SESSION 7: Chemometrics <i>Chair: David Hopkins (NIR Consultant, USA)</i>	
08.50-09.15	062-I A Bayesian Framework for NIR Calibration T. Fearn,* D. Pérez-Marín, A. Garrido-Varo and J. Guerrero-Ginel (University College London, UK)	71
09.15-09.30	063-O Two-Dimension Correlation Analysis of NIR Fractional Derivative Spectra: Correlation with Constituent Concentrations J. Uozumi* and Y. Kawakami (Hokkai-Gakuen University, Japan)	72
09.30-09.45	064-O CovSel: Variable Selection for Highly Multivariate and Multi-Response Calibration J.M. Roger,* B. Palagos and D. Bertrand (Cemagref-ITAP, France)	73
09.45-10.00	065-O Equivalent Separated Combination Moving Window MLR for Wavenumbers Selection of NIRS Analysis T. Pan,* J. Xie, H. Chen, H. Yin and X. Chen (Jinan University, China)	74
10.00-10.30	Coffee Break, Exhibition	
	SESSION 7: Chemometrics (continue) <i>Chair: Yukihiro Ozaki (Kwansei-Gakuin University, Japan)</i>	
10.30-10.45	066-O The PLS Database Optimization Concept J.S. Shenk,* P. Berzaghi and J.W. Shenk (Shenk Analytical International, USA)	75
10.45-11.00	067-O Methods based on Statistics for Quantitative Modeling of NIR Spectra X. Shao,* H. Xu, Z. Liu, W. Cai (Nankai University, China)	76
11.00-11.15	068-O Minimisation of Instrumental Noise in the Acquisition of FT-NIR Spectra by Means of Doehlert Design and Signal Processing Technique G. Foca,* C. Ferrari, N. Sinelli, M. Mariotti and A. Ulrici (University of Modena and Reggio Emilia, Italy)	77
	SESSION 7: Chemometrics (continue) <i>Chair: Thongchai Suwansichon (Kasetsart University, Thailand)</i>	
11.15-11.30	069-O Random Model Trees: A Competitive Off-the-shelf Technology for NIRS B. Pfahringer, D. Fletcher, R. Bouckaert* and G. Holmes (University of Waikato, New Zealand)	78
11.30-11.45	070-O Preventing Over-fitting in Hyperspectral Image Regression A. Gowen,* J. Burger, C. Esquerre, G. Downey and C. O'Donnell (University College Dublin, Ireland)	79
11.45-11.50	071-F A Comparison Study of Scattering Correction Methods (P) S. Ottestad* and J.P. Wold (Norwegian University of Life Science, Norway)	80
11.50-11.55	072-F Classification of Spectra through Data Compression and Spectral Mapping for Selected Consumer Plastics for On-line Sorting Process (P) V. Venkataraman,* K. Subrahmanyam, R. Govindaraj, M. Igbal and T. Chinnu (CEERI, India)	81
11.55-13.00	Lunch (4F)	

Thursday 12 November (cont)

SESSION 8: Chemometrics for Networking

Chair: Phil Williams (PDK Projects, Canada)

- 13.00-13.15 **073-O** Use of the CONDENSE Algorithm to Optimize Calibration Databases 83
P. Berzaghi,* J.S. Shenk and J.W. Shenk (University of Padua, Italy)
- 13.15-13.30 **074-O** NIR 3rd Party Instrument Networking 84
J.W. Shenk,* P. Berzaghi and J.S. Shenk (Unity Scientific, USA)

SESSION 9: Spectroscopy and Theory

Chair: Hoeil Chung (Hanyang University, Korea)

- 13.30-13.55 **075-I** A Major Issue in NIRS: How Does Water Interact with Organic Matter? 85
A. Ikehata,* K. Nakamura, Y. Ozaki and S. Kawano
(National Food Research Institute, Japan)
- 13.55-14.10 **076-O** Improvement of the Measurement Methodologies and Optical Property 86
Calculation for Double-Integrating-Spheres System
H. Zhao,* C. Li, Q. Wang and K. Xu (Tianjin University, China)
- 14.10-14.25 **077-O** Optical Characterization of Apple Tissue: A Multi-scale Approach 87
W. Saeys,* S.N. Thennadil, H. Ramon and B. Nicolai
(Katholieke Universiteit Leuven, Belgium)
- 14.25-14.40 **078-O** Determination of Trace Lead in Water by On-line Enrichment NIR Spectra 88
Y. Du,* G. Chen and W. Tao
(East China University of Science and Technology, China)

14.40-15.10 **Coffee Break, Exhibition**

SESSION 10: Chemistry and Polymer

Chair: Jochen Knecht (Buchi Labortechnik AG, Switzerland)

- 15.10-15.35 **079-I** Mid-IR versus NIR Spectroscopy: A Case Study of 89
the Quality Control of Bitumen
H.W. Siesler,* L. Thimm, T. Kratzke and L. Herberholz
(University of Duisburg-Essen, Germany)
- 15.35-15.50 **080-O** Nondestructive and Rapid Identification of Fabric Fibers using NIRS 90
H. Yuan,* R. Chang, L. Tian and X. Li
(Beijing University of Chemical Technology, China)
- 15.50-16.05 **081-O** Novel NIR Reflection Spectroscopic Methods for the Simultaneous 91
Determination of Nanomaterial's Properties
C.W. Huck (Leopold-Franzens University, Austria)
- 16.05-16.20 **082-O** Monitoring of the Thickness of Silica Layers in the Submicron Range by NIR 92
Reflection Spectroscopy
T. Scherzer,* K. Heymann, G. Mirschel, L. Prager and M.R. Buchmeiser
(Leibniz Institute of Surface Modification: IOM, Germany)
- 16.20-16.35 **083-O** Understanding the Molecular Interaction and Crystallization Behaviors in 93
Polymer Blends of Poly (3-hydroxybutyrate) and Cellulose Acetate Butyrate
N. Suttiwijitpukdee,* H. Sato and Y. Ozaki
(Kwansei-Gakuin University, Japan)

Thursday 12 November (cont)

SESSION 10: Chemistry and Polymer (continue)

Chair: Satoru Tsuchikawa (Nagoya University, Japan)

- 16.35-16.50 **084-O** Hyperspectral NIR Image Analysis of a Phenol Formaldehyde Adhesive Curing Process 94
T. Lillhonga,* J. Dahlbacka, D. Nilsson and P. Geladi
(Novia University of Applied Sciences, Finland)
- 16.50-17.05 **085-O** Frustated Paraffin Phase Transitions 95
F.G. Haibach* and S.K. Schreyer (Polychromix, USA)
- 17.05-17.20 **086-O** Determination of Quality Parameters of Insulating Oil by NIRS 96
C.F. Pereira,* A.M.J. Rocha and M.F. Pimentel
(Universidade Federal da Paraíba, Brazil)
- 17.20-17.25 **087-F** Determination of Properties of Lube Oil by NIRS and Optimization of Sample Temperature (NoP) 97
H. Chung,* S. Park, J. Kim and J. Ko (Hanyang University, Korea)
- 17.25-17.30 **088-F** Non-linear Absorbance Change in Dichloromethane and Alcohol (P) 98
H. Tanaka,* Y. Shimomura and T. Ohara (Yokogawa Electric Corp., Japan)

19.00-24.00 **Conference Banquet (6F)**

- Pre-event function at foyer during 19.00-19.30
 - Ballroom doors will be opened at 19.15
 - Welcome address at 19.30
 - Meal served at 20.00
 - Announcement and Poster awards at 21.00
 - Performance at 21.20
 - Officially closed at 22.00
 - Free time during 22.00 – 24.00
-

Friday 13 November

08.30-08.50	089-K NIR History: NIRS Instrumentation- The History and Lessons Learned F. Barton, II (Light Light Solutions, USA)	99
	SESSION 11: Instrumental/Imaging <i>Chair: David Wetzel (Kansas State University, USA)</i>	
08.50-09.15	090-I Science Based Spectral Imaging: Combining First Principles with New Technologies R.W. Kessler* and W. Kessler (Reutlingen University, Germany)	101
09.15-09.30	091-O Sampling Strategies for Hyperspectral Image Models J. Burger (BurgerMetrics SIA, Latvia)	102
09.30-09.45	092-O Chemometric Pre-treatments for Correcting Effect of Sample Morphology in NIR Hyperspectral Imaging C. Esquerre,* A.A. Gowen, C.P. O'Donnell, J. Burger and G. Downey (TEAGASC, Ireland)	103
09.45-10.00	093-O Hyperspectral Image Segmentation: The Butterfly Approach N. Gorretta,* J.M. Roger, V. Bellon-Maurel, G. Rabatel, C. Fiorio and C. Lelong (Cemagref-UMR ITAP, France)	104
	SESSION 11: Instrumental/Imaging (continue) <i>Chair: Gerry Downey (Teagasc, Ireland)</i>	
10.00-10.15	094-O Automatic Detection of Nematodes in Cod Fillets by Hyperspectral Imaging A. Sivertsen,* K. Heia, K. Hindberg and F. Godtliobsen (Nofima Marin, Norway)	105
10.15-10.30	095-O A New Cost-efficient High-speed VIS-NIR Spectral Imaging System for Online Sorting of Plastic Waste F. Hollstein,* A. Kulcke and G. Stanzel (RTT Systemtechnik GmbH, Germany)	106
10.30-10.45	096-O External Detection of Liquid Explosives in Bottles using NIRS H. Itozaki* and Y. Yamauchi (Osaka University, Japan)	107
10.45-11.10	Coffee Break	
	SESSION 11: Instrumental/Imaging (continue) <i>Chair: Ronnarit Rittiron (Kasetsart University, Thailand)</i>	
11.10-11.15	097-F Handheld Short Wavelength NIR Spectroscopy in Horticulture (P) K.B. Walsh, P.P. Subedi and P. Purdy* (Integrated Spectronics, Australia)	108
11.15-11.20	098-F On-line NIR Technique for Biorefinery Processes Monitoring (P) T.A. Lestander, R. Samuelsson, M. Finell, M. Arshadi ¹ * and B. Allvin (Swedish University of Agricultural Sciences, Sweden)	109
11.20-11.25	099-F High Resolution Absorption Spectroscopy of Carbon Dioxide by NIR Diode Laser Spectroscopy between 6320 and 6330 cm ⁻¹ (NoP) Z. Du,* J. Li, R. Qi and K. Xu (Tianjin University, China)	110
11.25-11.45	100-C Closing conclusion I. Murray (<i>Former</i> Scottish Agricultural College, UK)	
11.45-12.00	101-C Closing remark and future of NIRS and ICNIRS P. Dardenne (Chairman-Elected, ICNIRS; CRA-W, Belgium)	
12.00-12.10	Conference close	
12.10-13.30	Lunch (4F)	

Poster

P-001	NIR Reflectance Spectroscopy for Estimating Soil Characteristics Useful in the Diagnosis of Soil Fertility V. Genot, G. Colinet, L. Bock, D. Vanvyve, Y. Reusen and P. Dardenne* (Walloon Agricultural Research Centre, Belgium)	111
P-002	Measurement of Soil Vineyard Parameters by NIRS D. Cozzolino,* W. Cynkar, R.G. Damberg, N. Shah and P. Smith (The Australian Wine Research Institute, Australia)	112
P-003	Determination of Soluble Proteins and Photosynthetic Pigments of Cherry Tomato Leaves using NIRS X.B. Zou,* Y.X. Li, X.Y. Huang and J.W. Zhao (Jiangsu University, China)	113
P-004	NIRS for Discrimination of Huanglongbing-infected Citrus Leaves from Uninfected Leaves W. Windham,* G. Poole, B. Park, G. Heitschmidt, T. Gottwald and K. Lawrence (USDA ARS Russell Research Center, USA)	114
P-005	Monitoring of Second Overtone of Water Absorbance Bands Reveals Hypersensitive Response from Virus Infected Plants B.M. Jinendra, S. Kuroki* and R. Tsenkova (Kobe University, Japan)	115
P-006	Possibilities of NIRS for Nondestructive Determination of Some Technological Properties of <i>Bombyx mori</i> Cocoons S. Atanassova, M. Panayotov, R. Santo, S. Kuroki* and R. Tsenkova (Kobe University, Japan)	116
P-007	Classification of Brazilian Mate Tea using Linear Discriminant Analysis and Successive Projection Algorithm for Variable Selection S.S. Simões, T.C.B. Saldanha, F.A. Hansel, C. Pasquini* and K.M. dos Santos (Universidade Estadual de Campinas, Brazil)	117
P-008	NIR Monitoring of Water Status in the Resurrection Plant <i>Haberlea rhodopensis</i> during Desiccation and Subsequent Rehydration Processes S. Kuroki,* D. Djilianov, R. Santo, H. Morita and R. Tsenkova (Kobe University, Japan)	118
P-009	Wort Calibrations on Foss XDS Rapid Liquid Analyser S. Harasymow* and A. Tarr (Department of Agriculture and Food Western Australia, Australia)	119
P-010	High Resolution Diode Array Process Analysis in Flour Milling J. Persson (FOSS Analytical AB, Sweden)	120
P-011	Proof of Concept of Spectroscopic Markers for the Discrimination of Animal Meals in Feedingstuffs A. Boix, J.A. Fernandez Pierna, B. Slowikowski, C. von Holst and V. Baeten* (Walloon Agricultural Research Centre, Belgium)	121
P-012	Last Developments in an NIR Microscopic Method for the Detection of MBM in Feedingstuffs O. Abbas, J.A. Fernández Pierna, P. Dardenne and V. Baeten* (Walloon Agricultural Research Centre, Belgium)	122
P-013	Looking at Mixtures with NIR Microscopy V. Fernández-Ibáñez, T. Fearn, A. Soldado and B. de la Roza-Delgado* (Regional Institute for Research and Agro-Food Development: SERIDA, Spain)	123

Poster

P-014	Prediction of Enzyme Digestibility of Organic Matter (EDOM) using Spectroscopy and Chemometrics J.R. Jørgensen* and R. Gislum (Aarhus University, Denmark)	124
P-015	Use of NIRS for the Prediction of Nutrient Digestibility in Poultry D. Bastianelli, J. Gomez, L. Bonnal, B. Carré and J.M. Roger* (CEMAGREF, France)	125
P-016	Towards a Zero Toxin Vetch via NIRS C. Margach,* S. Roumeliotis, J. Eglinton and M. Tate (The University of Adelaide, Australia)	126
P-017	Improvement of NIR Calibrations for Estimating Feed Quality for Pigs G. Fox* and D. Hocroft (Queensland Primary Industries & Fisheries, Australia)	127
P-018	Development of a Calibration for Biogas Production Potential in Undried Forages using NIR-diode Array System C. Pfitzner,* G. Rühl and J.M. Greef (Federal Research Centre of Cultivated Plants, Germany)	128
P-019	Prediction of Nutrient Value on Forage Paddy Rice by NIRS M. Amari,* O. Enishi, I. Hattori, K. Higuchi and H. Katoh (National Institute of Livestock and Grassland Science, Japan)	129
P-020	In-field Pasture Quality Measurement using NIRS M. Challies,* K. Taukiri and R. Dynes (AgResearch Limited, New Zealand)	130
P-021	Effect of Sampling Strategy for In-field Pasture Quality Measurement M. Challies,* K. Taukiri, S. Leath and W. King (AgResearch Limited, New Zealand)	131
P-022	Determination of Arabinoxylans and Beta-glucans in Cereals and Their Fractions with NIR techniques S. Gergely, K. Gebruers, C.M. Courtin, J.A. Delcour and A. Salgó* (Budapest University of Technology and Economics, Hungary)	132
P-023	NIRS Prediction of Seed Cover in Intact Yellow (<i>Lupinus luteus</i>) and Narrow-leafed (<i>L. angustifolius</i>) Lupin Grains D. Alomar* and M. Mera (Universidad Austral de Chile, Chile)	133
P-024	NIRS Estimation of Pearl Millet Grain Composition S. Choudhary,* C.T. Hash, M. Blümmel and K. Prem Sagar (CSS Haryana Agricultural University, India)	134
P-025	Soybean [<i>Glycine max</i> (L.) Merr.] Seed Quality Determination for Small Sample Sizes Through the Use of a Parabolic Mirror Cup and Diode Array Spectrometer S. Naeve,* J. Orf, A. Killam, W. Shadow and D. Honigs (University of Minnesota, USA)	135
P-026	Application of NIR Reflectance Spectroscopy to Determine Moisture and Protein Contents in Soybean Seeds W. Maneewan,* S. Limpiti and P. Theanjumol (Chiang Mai University, Thailand)	136
P-027	A Method for Rapid Assessment of Oil and Protein Contents in Whole Rapeseed Kernels C. Petisco, B. García-Criado, B.R. Vázquez-de-Aldana and A. García-Ciudad* (Instituto de Recursos Naturales y Agrobiología, Spain)	137
P-028	Performance of Fourier Transform NIR Spectrophotometer for Determining Moisture and Protein Contents of Single Kernel Thai “KDML105” Brown Rices P. Supprung,* S. Saranwong and S. Kawano (Rajamangala University of Technology Isan, Thailand)	138

Poster

P-029	Evaluation of Aromatic Compound (2- Acetyl-1- Pyrroline: 2AP) by NIRS C. Bangwaek,* O. Jitham and J. Phumprasert (Department of Agriculture, Thailand)	139
P-030	Measuring Rancidity of Brown Rice Kernels by NIRS C. Bangwaek* and O. Jitham (Department of Agriculture, Thailand)	140
P-031	Evaluation of Amylose Content in Rough Rice, Brown Rice and Milled Rice by NIRS C. Bangwaek,* O. Jitham and O. Suwanachom (Department of Agriculture, Thailand)	141
P-032	Using NIRS to Detect the Adulteration of Milled Rice cv. Khao Dawk Mali 105 with cv. Chainat 1 S. Makmoon,* S. Limpiti and P. Theanjumpol (Chiang Mai University, Thailand)	142
P-033	Use of NIRS for Estimating Levels of Anthocyanin and DPPH Radical Scavenging Activity in Corn T. Sato,* K. Eguchi and A. Sawai (National Agricultural Research Center for Kyushu Okinawa Region, Japan)	143
P-034	Identification of Species and Varieties of Lupin Seeds by NIRS D. Alomar* and M. Mera (Universidad Austral de Chile, Chile)	144
P-035	Estimation of the Flavor of Green Soybean from Single Pod Measurement - Quality Changes during Storage M. Maebashi, M. Natsuga,* H. Egashira and N. Horinouchi (Yamagata University, Japan)	145
P-036	Determination of Total Oil Content in Corn Seeds using NIR and Moving Window Partial Least Squares Regression R. Kaewcheenchai,* S. Kasemsumran, V. Keeratinijakal and W. Thanapase (Kasetsart University, Thailand)	146
P-037	Application of NIRS Technology to Sugar Beet Breeding Programs for Energetic Uses C. Magaña, N. Núñez-Sánchez, P. García, A. Úbeda, A. Moyano, J.M. Pemán, D. Pérez-Marín,* V.M. Fernández-Cabanás, J. García-Olmo and E. Alcalde (University of Córdoba, Spain)	147
P-038	Nondestructive Measurement of Brix value and Total Acidity in Satsuma Mandarin by a Hand-held NIR instrument R.E. Masithoh, S. Saranwong and S. Kawano* (National Food Research Institute, Japan)	148
P-039	Multi-spectral Assessment of Physical Properties and Ingredients of Apricot F. Firtha,* Z. Gillay and J. Felföldi (Corvinus University of Budapest, Hungary)	149
P-040	QUALITEC: Traceability, Improvement and Protection of Agro-foods Quality by means Technological Instruments S. Barzaghi* (Research Centre for Fodder Crops and Dairy Production, Italy)	150
P-041	Kiwifruit Maturity Screening by NIRS: Dealing with Genotype Variation V.A. McGlone,* R. Seelye, E. Popowski, R. Lowe and L. Gea (Plant and Food Research, New Zealand)	151
P-042	NIRS for the Determination of Internal Quality of Entire Apples G. Sinnaeve, A. Pissard, J.A. Fernández Pierna, G. Lognay, A. Rondia, T. Donis, P. Dupont, V. Baeten,* A. Mouteau, J-M. Romnée and M. Lateur (Walloon Agricultural Research Centre, Belgium)	152
P-043	Prediction of Hass Avocado Maturity via Fourier Transform-NIRS B.B. Wedding,* C. Wright, S. Grauf, R.D. White, B. Tilse and P. Gadek (James Cook University, Australia)	153

Poster

P-044	Relations of Flavor and Quality of Keitt Mangoes K. Kikuchi, T. Nakamura and E. Taira* (University of the Ryukyus, Japan)	154
P-045	Nondestructive Detection of Watercore in Asian Pear by NIRS R. Rittiron,* S. Narongwongwattana, K. Pookpul, W. Choonui and U. Boonprakob (Kasetsart University, Thailand)	155
P-046	Influence of Harvesting Period on Mango Quality as determined by NIRS P. Rungpichayapichet and B. Mahayothee* (Silpakorn University, Thailand)	156
P-047	Quality Evaluation of Shonan Gold Citrus by NIRS M. Yoshida,* A. Soga and S. Asada (Kanagawa Agricultural Technology Center, Japan)	157
P-048	Prototype of Automatic Line Sorting of Mangoes R. Pornprasit, P. Theanjumpol, S. Pattana, W. Klongpanich and J. Natwichai* (Chiang Mai University, Thailand)	158
P-049	NIR Determination of Sugar Contents in Potato Tuber J.Y. Chen,* Y. Miao, H. Asakura and H. Zhang (Akita Prefectural University, Japan)	159
P-050	Changes of Chemical Composition Band in Mango Puree P. Theanjumpol,* V. Sardud and G. Self (Chiang Mai University, Thailand)	160
P-051	Prediction of Grape Compositional Parameters using a Fourier Transform NIR Instrument W. Cynkar, G. Grayston, D. Cozzolino,* R.G. Damberg, N. Shah and P. Smith (The Australian Wine Research Institute, Australia)	161
P-052	Rapid Discrimination and Determination of Curcuminoids Content in Turmeric Rhizome by NIRS S. Kasemsumran,* V. Keeratinijakal, W. Thanapase and Y. Ozaki (Kasetsart University, Thailand)	162
P-053	Screening for Novel Starch Traits using NIRS C. Margach,* S. Roumeliotis and A. Box (The University of Adelaide, Australia)	163
P-054	Prediction of Thai Coconut Milk Quality by NIRS S. Wattanapahu and T. Suwonsichon* (Kasetsart University, Thailand)	164
P-055	Process Monitoring in Sugar Mill by NIRS M. Ueno, E. Taira,* Y. Chinen and Y. Kawamitsu (University of the Ryukyus, Japan)	165
P-056	Identification and Quantification of Cyst Nematode in Sugar Beet Seeds by Hyperspectral NIR Imaging Ph. Vermeulen, J.A. Fernández Pierna, A. Tossens, O. Amand, P. Dardenne and V. Baeten*(Walloon Agricultural Research Centre, Belgium)	166
P-057	Mid-IR and NIR Spectroscopy to Analyse Surface Defectiveness in Bread G. Foca,* M. Li Vigni, A. Ulrici and M. Cocchi (University of Modena and Reggio Emilia, Italy)	167
P-058	Evaluated Viscosity of Cassava Flour by NIRS O. Suwanchom, C. Bangwaek* and O. Jitham (Department of Agriculture, Thailand)	168
P-059	Effect of Particle Sizes on NIR Amylose Determination of Rice Flour H. Zhang,* Y. Miao and J.Y. Chen (Akita Prefectural University, Japan)	169
P-060	Determination of Pasting and Thermal Properties of Mixed Flours Hom Mali rice and Glutinous rice by NIRS P. Chueamchaitrakun,* P. Chompreeda, V. Haruthaithanasan, T. Suwonsichon and S. Kasemsumran (Kasetsart University, Thailand)	170

Poster

P-061	Determination of Fat, Protein and Lactose in Raw Milk using Shortwave NIR Transmittance N. Cao,* D. Han and C.R. Hurburgh (China Agricultural University, China)	171
P-062	Color Analysis of Thai Honey using NIRS P. Ritthiruangdej,* T. Suwonsichon and Y. Ozaki (Mahidol University, Thailand)	172
P-063	NIR Scattering to Predict the Milk-Fat Creaming Dynamics for Standardization of Cream Yield and Butter Production Process: A New Project just Started T.M.P. Cattaneo* (Research Centre for Fodder Crops and Dairy Production, Italy)	173
P-064	NIRS applied to Sensory Analysis of Ragusano Cheese PDO F. La Terra,* P. Berzaghi, M. Manenti, S. Carpino and G. Licitra (CoRFiLaC, Italy)	174
P-065	NIR Transmission Spectroscopy of High Fat/Moisture Foods P.J. Clancy (NIR technology Systems, Australia)	175
P-066	Determination of Free Amino Acids in Bitto Cheese: A Preliminary Approach L. Marinoni,* F. Locci, S. Barzaghi and T.M.P. Cattaneo (Research Centre for Fodder Crops and Dairy Production, Italy)	176
P-067	Sensory Characteristics of the PDO Italian Cheese <i>Bitto</i> by NIRS L. Monti, L. Marinoni, S. Negri, C. Tornielli and T.M.P. Cattaneo* (Research Centre for Fodder Crops and Dairy Production, Italy)	177
P-068	Determination of Monosodium Glutamate of Thai Potato Snacks Food by NIRS N. Panyawatchilo,* T. Suwonsichon, W. Thanapase and S. Kasemsumran (Kasetsart University, Thailand)	178
P-069	Applications of NIRS for Wine Classification and Authentication D. Cozzolino,* W. Cynkar, R.G. Damberg, N. Shah and P. Smith (The Australian Wine Research Institute, Australia)	179
P-070	Measurement of Volatile Compounds in Wine by NIRS H.E. Smyth, D. Cozzolino,* W.U. Cynkar, R.G. Damberg and P. Smith (The Australian Wine Research Institute, Australia)	180
P-071	In Bottle Measurements: A Real Tool for the Wine Industry D. Cozzolino,* W. Cynkar, R.G. Damberg, N. Shah and P. Smith (The Australian Wine Research Institute, Australia)	181
P-072	Rapid Identification of Adulteration Milk by NIRS L.J. Ni,* S.X. Huang, L.M. Guo, X. Zhang, C. Zhang, L.G. Zhang, J. Chen and X. Wang (East China University of Science and Technology, China)	182
P-073	NIRS for Examining Environmental Parameters affecting Olive Oil Quality and for Quantifying Adulterations of extra Virgin Olive Oil with Low Grade Edible Oils N. Heigl, C. Petter, C. Krieg, G.K. Bonn and C.W. Huck* (Leopold-Franzens University, Austria)	183
P-074	Application of NIRS for Determining the Geographical Origin of Indonesian Nutmeg Oils Y. Le Dréau, F. Nanlohy, S. Amat,* J. Molinet, J. Kister and N. Dupuy (University Paul Cezanne, France)	184
P-075	Feasibility of Low Cost Non-Destructive Prediction of Free Fatty Acids Value of Sunflower Oil using NIRS V. Venkataraman,* R. Sridhar, C. Kumaravelu, P.K. Anil, T. Chinnu, A.G. Gopala Krishna, K.P. Chethan, S. Debnath and B.R. Lokesh (Central Electronics Engineering Research Institute, India)	185

Poster

P-076	Determination of Fish Oil Quality using NIRS J. Mookdasanit,* S. Boonchouy, S. Kasemesumran and W. Thanapase, W. Worawattanamateekul and S. Boonbumrung (Kasetsart University, Thailand)	186
P-077	Development of Quality Certification System of Domestic Sesame Oil using NIRS E.Y. Kim,* K.J. Sung, W.S. Kim, M.U. Kim, M. Sohn and R.K. Cho (Kyung-Pook National University, Korea)	187
P-078	Evaluation of “Ready-to-Eat” Lewiston Cornsalad (<i>Valerianella locusta</i>) during Shelf Life by FT-NIRS G. Cabassi, M. Facchetti, K. Cremonesi and T.M.P. Cattaneo* (Research Centre for Fodder Crops and Dairy Production, Italy)	188
P-079	Quality Control of Table Sauces by NIRS A. Serrano, A. Cáceres, D. Pérez-Marín,* J. García-Olmo, V.M. Fernández-Cabanás, J.E. Guerrero, A. Garrido and N. Núñez-Sánchez (University of Córdoba, Spain)	189
P-080	Prediction of Total Solids and Moisture Content of Oyster Sauces by NIRS N. Baitrakool,* T. Suwonsichon, S. Kasemsumran and W. Thanapase (Kasetsart University, Thailand)	190
P-081	NIRS Determination of Capsaicin and Scoville Heat Unit in Chili Sauces with PLS1 and PLS2 T. Sathorn,* T. Suwonsichon, W. Thanapase and S. Kasemsumran (Kasetsart University, Thailand)	191
P-082	Capsaicin and Scoville Heat Units (SHU) Determination on Thai Sweet Sauces by NIRS K. Wannagul,* T. Suwonsichon, S. Kasemsumran and W. Thanapase (Kasetsart University, Thailand)	192
P-083	Grape Tannin Measurement by NIRS D. Cozzolino,* W. Cynkar, R.G. Damberg, N. Shah, M. Mercurio and P. Smith (The Australian Wine Research Institute, Australia)	193
P-084	Monitoring of Alcoholic Fermentation using NIR and MIR Spectroscopy V. Di Egidio,* N. Sinelli, G. Giovanelli, A. Moles and E. Casiraghi (Universita degli Studi di Milano, Italy)	194
P-085	Modelling of Beef Meat Quality using NIRS M. Challies,* G.R. Burling-Claridge, K. Rosenvold and M. North (AgResearch Limited, New Zealand)	195
P-086	Application of NIRS for the Detection of Bacterial Contamination in Food S. Atanassova, H. Daskalov, T. Stoyanchev, R. Santo, S. Kuroki* and R. Tsenkova (Trakia University, Bulgaria)	196
P-087	Effect of Spectral Measuring Spots on the Precision of Moisture Calibrations of Minced Meats packed in Polyethylene Bags P. Kamnongphai,* P. Supprung, S. Saranwong, A. Ikehata and S. Kawano (Rajamangala University of Technology Thanyaburi, Thailand)	197
P-088	NIRS for Determining Soy Contents in Processed Meat Products M. Sohn,* H. Zhuang, K. Lawrence and J. de Haseth (The University of Georgia, USA)	198
P-089	NIRS to Predict Pale Broiler Breast Meat by Measuring Water Holding Capacity D. Samuel, B. Park,* M. Sohn and L. Wicker (USDA, ARS, Russell Research Center, USA)	199

Poster

P-090	Universal Calibration for Fat and Moisture Contents in Foods P.J. Clancy (NIR Technology Systems, Australia)	200
P-091	Non-destructive Classification between Unfrozen and Frozen-thawed Horse Mackerel using Visible/NIR Spectroscopy T. Kimiya,* E. Okazaki, H. Shinzawa, M. Kimura, Y. Omura and Y. Ozaki (National Research Institute of Fisheries Science, Japan)	201
P-092	NIR Technology to Support the Andalusian Olive Oil Industry N. Núñez-Sánchez, D. Pérez-Marín, V.M. Fernández-Cabanás, J. García-Olmo, A. Serrano, J. Salas, R. Suárez, F. Camacho, J.E. Guerrero and A. Garrido-Varo* (University of Córdoba, Spain)	202
P-093	A Novel Method to Determine Aminoglycosides in Pharmaceutical Solid Formulations M. Sarraguça* and J. Lopes (Universidade do Porto, Portugal)	203
P-094	Measurement of Fermentation Broths operated with <i>E. coli</i> cells - What is Measured by NIRS? S. Gergely and A. Salgó* (Budapest University of Technology and Economics, Hungary)	204
P-095	Discrimination of Cervi Parvum Cornu according to Geographical Origins by Fourier Transform NIRS J.H. Baek* and H.J. Kim (Dongduk Women's University, Korea)	205
P-096	Online Monitoring of the Extraction Process of <i>Qingkailing</i> Injection by NIRS H. Yang,* J. Zhao, X. Xiao, H. Hu, S. Liu, L. Li, X. Han, H. Ye, Q. Liang, Y. Wang and G. Luo (Guilin University of Electronic Technology, China)	206
P-097	Blending Uniformity Analysis of Pharmaceutical Powder by NIRS N. Sunsandee,* A. Somwangthanaroj and N. Navasearttavisootr (Chulalongkorn University, Thailand)	207
P-098	Qualitative Evaluation of Blend Homogeneity using NIRS T. Tarumi,* K. Iwamoto and T. Kejiro (Nihon Buchi KK, Japan)	208
P-099	Challenging of Microanalysis for Cephalexin Crystallinity in the Preparation by NIRS M. Otsuka* and Y. Fukui (Musashino University, Japan)	209
P-100	Rapid Analysis of Scrophulariae Radix using NIRS D.Y. Lee,* E.J. Choi, S.H. Kim, H.J. Kim, S.U. Yi, Y.C. Kim and S.H. Sung (Seoul National University, Korea)	210
P-101	The Modified Method based on Radial Reference Point in Non-invasive Blood Glucose Sensing by NIRS W. Chen, Y. Yang, Z. Shi and K. Xu* (Tianjin University, China)	211
P-102	NIRS to Monitor the Timing of Ovulation in Giant Panda (<i>Ailuropoda melanoleuca</i>) based on Urinary Steroid Hormones K. Kinoshita,* H. Morita, M. Miyazaki, N. Hama, O. Ishikawa, H. Kusunoki and R. Tsenkova (Kobe University, Japan)	212
P-103	Diagnosis of Physiological Abnormalities using Adaptive Milk Spectral Model of Individual Cows M. Miyazaki,* S. Kuroki, K. Ikuta and R. Tsenkova (Kobe University, Japan)	213
P-104	Determination of Constituents in the Mainstream Smoke Collected on Cambridge Filter Pads by Fourier Transform NIRS Z. Wang,* X. Qian, W. Du and J. Liu (Research Center of China Tobacco Hunan Industrial Co. Ltd, China)	214

Poster

P-105	Hydrocarbon Pollution Detection using Spectroscopic Technique T. Nguyen,* M. van der Meijde and M.F. Noomen (International Institute for Geo-Information Science and Earth Observation, Netherlands)	215
P-106	Analysis of Water Content in Biodiesel Palm Oil using NIRS N. Suttiwijitpukdee,* S. Kasemsumran, W. Thanapase and Y. Ozaki (Kwansei-Gakuin University, Japan)	216
P-107	Prediction of Methanol Content in the Compost of the Glycerol By-product from Biodiesel Fuel Production Y. Kojima, R. Toshimitsu, J. Kohda, Y. Nakano and T. Yano* (Hiroshima City University, Japan)	217
P-108	The Potentiality of NIRS to Monitor Ethanol Fermentation Process at a Laboratory Scale S. Gofflot, B. Lecler, V. Baeten, G. Sinnaeve and P. Dardenne* (Walloon Agricultural Research Centre, Belgium)	218
P-109	Exploring the Links between Vis-NIR Spectra and Bacterial Communities Structure of Soils by PLS2 Regression Models R. Joffre,* F. Gogé, S. Dequiedt, M. Lelievre and L. Ranjard (CEFE-CNRS, France)	219
P-110	Soil Properties Determinations by Vis-NIR Spectroscopy using Boosted Regression Trees R. Joffre,* F. Gogé, C. Jolivet and N. Saby (CEFE-CNRS, France)	220
P-111	Measurement of Sodium in Soils by NIRS D. Cozzolino* and A. Morón (Instituto Nacional de Investigación Agropecuaria, Uruguay)	221
P-112	Evaluation of PLS, LS-SVM and LWR for NIR and Mid-IR Quantitative Analysis of Dried and Field Moist Soils J.B. Reeves III,* B. Igne, G.W. McCarty, W.D. Hively, E. Lund and C.R. Hurburgh Jr. (United State Department of Agriculture, USA)	222
P-113	Contribution of NIRS to the Assessment of the Origin of Amazonian Leaves Rich in Bioactive Compounds V. Baeten,* E. Martins da Silva, Y. Larondelle, P. Dardenne and H. Rogez (Walloon Agricultural Research Centre, Belgium)	223
P-114	<i>Eucalyptus camaldulensis</i> Density and Fiber Length Estimated by NIRS T. Inagaki,* M. Schwanninger, R. Kato, Y. Kurata, W. Thanapase, P. Puthson and S. Tsuchikawa (Nagoya University, Japan)	224
P-115	Lignocellulosic Structural Changes after Physico-chemical Pretreatment monitored by NIRS C. Krongtaew,* K. Messner, B. Hinterstoisser and K. Fackler (Mahidol University, Thailand)	225
P-116	Determination of Holocellulose and Alpha-cellulose Contents in <i>Acacia</i> spp. using NIRS S. Yao* and J.W. Pu (Beijing Forestry University, China)	226
P-117	Using a Portable NIR for Qualitative Assessment of Eucalypts R. Meder,* J. Brawner, D. Boden, P. Macdonell, P. Warburton, M. Varghese, S. Dwivedi and P. Ramadevi (CSIRO, Australia)	227

Poster

P-118	NIRS Prediction of Diameter and Yield of Cashmere Fibres in Undehaired Raw Samples D. Alomar,* G. Vera and O. Romero (Universidad Austral de Chile, Chile)	228
P-119	Archaeological Waterlogged Oak Wood Characterization with NIRS J. Sandak,* A. Sandak, M. Zborowska and A. Spek-Dzwigala (IVALSA/CNR, Italy)	229
P-120	Grasping of Spectral Feature on MIR and NIR Regions for Analysis of Plant-cell Culture Broth K. Suehara* and A. Hashimoto (Mie University, Japan)	230
P-121	Rapid Mineralogic Analysis of Copper Ores D. Shiley,* B. Curtiss and A.F.H. Goetz (ASD, Inc.,USA)	231
P-122	Sino-Austrian Project: NIRS Supported by Multivariate Data Analysis and Gas Chromatography – Mass Spectrometry for Discrimination and Classification of Different Species in <i>Achillea</i> Genus and Quantification of Main Ingredients L.P. Guo, N. Heigl, C. Krieg, C.H. Petter, L.Q. Huang, B. Kopp, C. Wawrosch, G.K. Bonn and C.W. Huck* (Leopold-Franzens University, Austria)	232
P-123	Improving the Differentiation of Two Groups by Utilizing Scores from Different Spectral Ranges: Agricultural Application S. Lee* and H. Chung (Hanyang University, Korea)	233
P-124	Wavelengths Selection of NIR Diffuse Reflection Spectroscopy Analysis for Soil Organic Matter T. Pan,* H. Chen, J. Xie, H. Yin and X. Chen (Jinan University, China)	234
P-125	Multi-Layer PLS Modeling as a Method to Master Model Stiffness – Application to Moisture Measurement in Timber J. Dahlbacka* and T. Lillhonga (Novia University of Applied Sciences, Finland)	235
P-126	Prediction of the Nutritive Value of High Moisture Corn Samples using NIR and Jack-Knifing A. Fassio, E.G. Fernández, E.A. Restaino, A. La Manna and D. Cozzolino* (The Australian Wine Research Institute, Australia)	236
P-127	New Advantage of Moving Window Partial Least Squares Regression for Discrimination Analysis: MWPLS-DA S. Kasemsumran,* W. Thanapase and Y. Ozaki (Kasetsart University, Thailand)	237
P-128	Influence of X-leverage on Regression Result in Calibration Equation Development Y. Ootake (Laboratory Komasuya Ltd., Japan)	238
P-129	Impact of Factors of Influence on an Experimental Protocol Development and Data Collection Optimization S. Amat,* J. Kister and N. Dupuy (University Paul Cezanne, France)	239
P-130	Comparison of Various Chemometric Evaluation Approaches for NIR Spectroscopic Data of Feed and Feed Products J.A. Fernández-Pierna, B. Lecler, J.P. Conzen, A. Niemoeller, P. Dardenne* and V. Baeten (Walloon Agricultural Research Centre, Belgium)	240
P-131	The Importance of Determining Phase Changes when Developing NIR Calibrations D. Honigs* and R. Taylor (Pertten Instruments, USA)	241

Poster

P-132	Calibration Transfer from Dispersive Instrument to Handheld Polychromix Phazir 1624 Ph. Vermeulen, J.A. Fernández-Pierna, B. Lecler, P. Dardenne,* C. Piotrowski and V. Baeten (Walloon Agricultural Research Centre, Belgium)	242
P-133	A Comparison of Nine PLS1 Algorithms M. Andersson (FOSS Japan Ltd., Japan)	243
P-134	Identification of Water Matrix Coefficients in Mushrooms (<i>Agaricus bisporus</i>) using Robust Ensemble of Monte Carlo Uninformative Variable Elimination C. Esquerre,* A.A. Gowen, R. Tsenkova, C.P. O'Donnell and G. Downey (University College Dublin, Ireland)	244
P-135	Comparison of NIR Reflectance and Transmittance Spectroscopy to Select High Nutritional Value Naked Oats. S. Bellato, V. Del Frate, A. Conciatori, A. Cammerata, D. Sgrulletta, E. De Stefanis, A.D. Magri and F. Marini* (Sapienza University of Rome, Italy)	245
P-136	NIR Diffuse Reflection Spectroscopy and Multivariate Calibration for Quality Control and Simultaneous Quantification of Multiple Compounds in Washing Powders N. Heigl, G.K. Bonn and C.W. Huck* (Leopold-Franzens University, Austria)	246
P-137	Powder Characterization by NIRS Y. Kobayashi (Fuji Xerox Co., Ltd., Japan)	247
P-138	Simultaneous Measurement of Coating Thickness and Conversion of UV-Cured Acrylate Coatings by In-line NIRS G. Mirschel, K. Heymann, and T. Scherzer* (Leibniz Institute of Surface Modification: IOM, Germany)	248
P-139	Monitoring of the Development of Viscoelastic Parameters and Conversion during UV Curing of Acrylate-Nanoparticle Formulations by Hyphenated Photorheometry and NIRS M.W. Schröder, T. Scherzer,* K. Heymann and G. Mirschel (Leibniz Institute of Surface Modification: IOM, Germany)	249
P-140	An Innovation of Embedded Alumina/Acrylic Rubber Composite Materials N. Tangboriboon,* P.Wongpinthong, A. Sirivat and R. Kunanuruksapong (Kasetsart University, Thailand)	250
P-141	Analyses of Blended Fabrics by the NIRS: Fiber Identification and Determination of Blended Ratios A. Shigetani, N. Yoshimura and M. Takayanagi* (Tokyo University of Agriculture and Technology, Japan)	251
P-142	Prediction of Oil Content in the Compost of Glycerol By-product from Biodiesel Fuel Production R. Toshimitsu,* J. Kohda, Y. Nakano and T. Yano (Hiroshima City University, Japan)	252
P-143	A New Method for Determination of the Oxidative Stability of Biodiesel using NIR Emission Spectroscopy C. Pasquini* and F. Gonzaga (University of Campinas, Brazil)	253
P-144	Comparison of Diffuse Reflectance and Direct Transmission Measurement of Polymer Pellets J. Kim, J. Hwang* and H. Chung (Hanyang University, Korea)	254
P-145	Detection of Molecular Orientation by using Surface Plasmon Resonance in NIR Region A. Ikehata (National Food Research Institute, Japan)	255

Poster

P-146	Feasibility Study of Improving Accuracy of NIR Measurement for Highly Complex Mixture using Multiple Backgrounds K.Y. Shin,* J. Kim and H. Chung (Hanyang University, Korea)	256
P-147	Observation of Water in Reverse Micelles of Ionic and Nonionic Surfactants by using NIRS K. Nakamura,* A. Ikehata, H. Sato, and Y. Ozaki (Kwansei Gakuin University, Japan)	257
P-148	Pork Fat Evaluation System by NIRS T. Okura,* S. Park, T. Nishioka and M. Irie (Soma Optics, Ltd., Japan)	258
P-149	Development of a Prototype Instrument for Minced Meat S. Park,* K. Sashida, T. Okura, G. Noguchi, S. Saranwong, A. Ikehata and S. Kawano (Soma Optics, Ltd., Japan)	259
P-150	Influence of the Instrument Setting Parameters on the Repeatability of NIR Spectra of Intact Pork Loins Analyzed with a Handheld Spectrometer E. Zamora-Rojas,* A. Garrido-Varo, D.C. Pérez-Marín, E. De Pedro-Sanz, J.E. Guerrero-Ginel and F.G. Haibach (University of Córdoba, Spain)	260
P-151	Development of a Process NIR Analyzer for Petroleum Products C. Pasquini,* A. Bueno, J.J.R. Rohwedder and E.A. Giachero (Universidade Estadual de Campinas, Brazil)	261
P-152	Feasibility Study for Non-invasive Detection of Fruit Fly Eggs and Larvae in Intact Mangoes using a Hand-held NIR instrument W. Thanapase,* A. Janhiran, N. Suttiwijitpukdee, R. Kaewcheenchai, S. Kasemsumran, S. Saranwong and S. Kawano (Kasetsart University, Thailand)	262
P-153	NIR Imaging Technology for Detecting Fruit Fly Eggs and Larvae in Intact Mangoes S. Saranwong,* W. Thanapase, J. Anusornwongchai, A. Janhiran, S. Kasemsumran and S. Kawano (National Food Research Institute, Japan)	263
P-154	Development of Standard Spectral Generator for Spectrophotometer H. Aoki* and S. Kawano (The Graduate School for the Creation of New Photonics Industries, Japan)	264
P-155	NIR-Chemical Imaging Study of Aspirin Commercial Tablets J. Cruz and M. Blanco* (Universitat Autònoma de Barcelona, Spain)	265
P-156	Estimation of Chemical Resolution in NIR-Chemical Imaging C. Cairós, J. Coello and S. MasPOCH* (Universitat Autònoma de Barcelona, Spain)	266
P-157	Monitoring Bread Staling by NIR Hyperspectral Imaging N. Sinelli, C. Esquerre,* V. Di Egidio, E. Casiraghi, C.P. O'Donnell, and G. Downey (Teagasc, Ashtown Food Research Centre, Ireland)	267
P-158	Automated Quality Control of Salmon Fillets K. Heia,* A.H. Sivertsen and S. Birkeland (Nofima Marin, Norway)	268
P-159	Vis/NIR Imaging Analysis for Monitoring Water Condition in Plant Leaves H. Kobori* and S. Tsuchikawa (Nagoya University, Japan)	269
P-160	Hyperspectral Image Analysis of Grain Kernels M. Arngren (DTU Informatics / FOSS Analytical A/S, Denmark)	270
P-161	Detection of Ergot Bodies in Cereals by NIRS and Hyperspectral NIR Imaging Ph. Vermeulen, J.A. Fernández-Pierna, P. Dardenne and V. Baeten* (Walloon Agricultural Research Centre, Belgium)	271

Poster

P-162	Pre-germination in Barley using NIR Hyperspectral Imaging P. Engelbrecht, M. Manley,* P.J. Williams, G. du Toit and P. Geladi (Stellenbosch University, South Africa)	272
P-163	NIR Chemical Imaging Applied to Discrimination of Conventional and Genetically Modified Soybeans L. Esteve-Agelet, A. Gowen,* R.P. Cogdill, C. O'Donnell and C.R. Hurburgh (University College of Dublin, Ireland)	273
P-164	Characterization of Fonio Millet Varieties by NIR Hyperspectral Imaging J.A. Fernández Pierna, Ph. Vermeulen, D. Stimant, B. Dupuis, P. Dardenne and V. Baeten* (Walloon Agricultural Research Centre, Belgium)	274
P-165	Real-time Detection of Feces on Poultry Carcasses by an In-line Hyperspectral Image Camera S.C. Yoon, B. Park,* K.C. Lawrence, W.R. Windham and G.W. Heitschmidt (United State Department of Agriculture, USA)	275
P-166	Detection of Buckwheat Adulterant in Black Pepper by NIRS and NIR Imaging D.J.F. September, P. Geladi, D. Nilsson and M. Manley* (Stellenbosch University, South Africa)	276
P-167	Global Calibrations for Estimating Wood Properties of Pine Species L.R. Schimleck,* G.R. Hodge and W. Woodbridge (The University of Georgia, USA)	277
P-168	Transfer of Diffuse Reflectance Spectral Libraries F.G. Haibach (Polychromix, USA)	278
P-169	Gaussian Processes on Graphics Cards for NIRS R. Bouckaert,* G. Holmes, B. Pfahringer and D. Fletcher (University of Waikato, New Zealand)	279
P-170	Numerical Differentiation of Noisy NIR Spectra A. Autere, T. Mantere and J. Alander* (University of Vaasa, Finland)	280
P-171	Improved Direct Calibration J.C. Boulet and J.M. Roger* (Cemagref-UMR ITAP, France)	281
P-172	The Research and Applications of On-line NIRS technology in Chinese Petrochemical Industries X. Chu,* Y. Xu, Y. Sun and W. Lu (Research Institute of Petroleum Processing, China)	282
P-173	What is the Type of Water You Use? R. Giangiacomo,* L. Marinoni and T.M.P. Cattaneo	283
P-174	Robust Spectral Model for Low Metal Concentration Measurement in Aqueous Solution Reveals the Importance of Water Absorbance Bands A.Putra, R. Santo, S. Kuroki* and R. Tsenkova (Kobe University, Japan)	284
P-175	NIRS for the Quantitative Determination of Mass Transfer Kinetic during Water Vapour Absorption by a Polymer Solution W. Werapun,* C. Pochat-Bohatier, D. Bouyer and J.P. Desfours (Prince of Songkla University Surathani Campus, Thailand)	285
P-176	Grade Identification of Essential Oil T. Amano* and F. Hiwatashi (Systems Engineering Inc., Japan)	286

Poster

P-177	From Model Building to Routine Analyses – A New Approach to Calibration Transfer E. Hilscher,* S. Busche and J. Nolte (KWS SAAT AG, Germany)	287
P-178	Detection of Aliment Adulteration by Means of NIRS – Feasible Study based on Open-source R Project Gy. Bázár,* Gy. Kövér, L. Locsmándi, A. Szabó and R. Romvári (Kaposvár University, Hungary)	288
