Journal of Spectroscopy

Special Issue on

Application of Infrared and Raman Spectroscopies to the Analysis of Oilseeds and Related Products

CALL FOR PAPERS

Infrared and Raman spectroscopies are complimentary physical techniques probing molecular vibrations of functional groups. Oilseeds such as soybeans, canola, sunflower, flax, and cottonseeds are important sources of food and energy. Oilseeds contain many important fatty acids, proteins, fiber, and several other nutrients including vitamin E, folate, and sterols. Oilseeds oils are mainly used for cooking and in the production of biodiesel. Protein rich chow from oilseeds is used in animal feed stock addressing numerous nutritional needs. Quality control of oilseed products involves a multitude of chemical and physical methods including gas chromatography, high pressure liquid chromatography, combustion analysis, near infrared spectroscopy, and nuclear magnetic resonance spectroscopy. All of these methods (except near infrared) are relatively time-consuming compared with the infrared and Raman spectroscopies.

Regarding the spectroscopic techniques, most previous work addressing oilseeds has focused on near infrared spectroscopy (NIR) and relatively less attention has been paid to the application of infrared and Raman spectroscopies, although these techniques offer substantial advantage in terms of spectral resolution compared with NIR. In this special issue, we invite research papers dealing with the application of infrared and Raman spectroscopies to all areas of oilseeds analysis. Other papers in the general area of spectroscopy (e.g., UV-VIS, mass spectrometry, and GC-MS) will also be entertained.

Potential topics include, but are not limited to:

- Total fatty acids and free fatty acids analysis
- Saturation-unsaturation
- Oil adulteration/authenticity
- Oil oxidation/thermal stress
- Cis/trans isomer ratios of fatty acids
- Analysis of trace components in vegetable oils
- Fiber, vitamin E, and sterols
- Biodiesel and blended biodiesel quality control
- New technological advancements related to oilseed analysis (e.g., special accessories and sampling techniques in both infrared and Raman spectroscopy)
- Advances in chemometrics and multivariate analysis
- Novel computation techniques applied to infrared and Raman spectroscopy of oilseeds
- Single seed analysis
- Quality control applications of infrared and Raman spectroscopies in the international trade of oilseeds

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/jspec/aisao/.

Lead Guest Editor
Khalique Ahmed, Lynn University, Boca Raton, USA
kahmed@lynn.edu

Guest Editors
Muhammad Tahir, DOW AgroSciences, Saskatchewan, Canada
mtahir@dow.com

Abdul Rohman, Gadjah Mada University, Yogyakarta, Indonesia
abdul_kimfar@ugm.ac.id

Manuscript Due
Friday, 12 February 2016

First Round of Reviews
Friday, 6 May 2016

Publication Date
Friday, 1 July 2016