Research output

Permuted KPCA and SMOTE to Guide GAN-Based Oversampling for Imbalanced HSI Classification

Segmentation of Weeds and Crops Using Multispectral Imaging and CRF-enhanced U-Net

Electrospinning polyethylene terephthalate glycol

Smart nanostructured materials for tissue engineering: Smart biomaterials and constructs for Bone tissue regeneration

Multi-layer Biosensor for Pre-symptomatic Detection of Puccinia striiformis, the Causal Agent of Yellow Rust

Early detection of plant virus infection using multispectral imaging and spatial-spectral machine learning

Ensemble Synthetic Oversampling with Manhattan Distance for Unbalanced Hyperspectral Data

Recent Advances in Enzymatic and Non-Enzymatic Electrochemical Glucose Sensing
Fabrication and electrochemical response of pristine graphene ultramicroelectrodes

The Potential of Polyethylene Terephthalate Glycol as Biomaterial for Bone Tissue Engineering

Development of a Passive Spore Sampler for Capture Enhancement of Airborne Crop Pathogens
Blackhall, J., Wang, J., Nabawy BSc, MSc, PhD, MRAeS, SMAAA, FHEA, M., Quinn, M. & Grieve, B., 18 Jun 2020, In: Fluids. 5, 97, 14 p.

High Speed Crop and Weed Identification in Lettuce Fields for Precision Weeding

Automatic Multispectral Image Classification of Plant Virus from Leaf Samples

The challenges posed by global broadacre crops in delivering smart agri-robotic solutions: A fundamental rethink is required

Electrical impedance tomography as a tool for phenotyping plant roots

Multispectral imaging for presymptomatic analysis of light leaf spot in oilseed rape

A method for real-time classification of insect vectors of mosaic and brown streak disease in cassava plants for future implementation within a low-cost, handheld, in-field multispectral imaging sensor

Combining Spectral and Texture Features in Hyperspectral Image Analysis for Plant Monitoring

Agricultural Robotics: The Future of Robotic Agriculture

Low-cost Turbidity Sensor for Low-power Wireless Monitoring of Fresh-Water Courses

Photometric stereo for three-dimensional leaf venation extraction

Towards on-farm pig face recognition using convolutional neural networks
Towards Phosphate Detection in Hydroponics Using Molecularly Imprinted Polymer Sensors

Feature-Ensemble Based Novelty Detection for Analysing Plant Hyperspectral Datasets

An Ultra-Low-Cost Active Multispectral Crop Diagnostics Device

Floor Sensors of Animal Weight and Gait for Precision Livestock Farming

Portable, In-field, Multispectral Imaging Sensor for Real-time Detection of Insect Viral-Vectors

Unsupervised Learning for Spectral Data Analysis as a Novel Sensor for Identifying Rodent Infestation in Urban Environments

Spectral-texture approach to hyperspectral image analysis for plant classification with SVMs

‘IoT-ready’ Sensor Technology for Connected Farms

Active, Close-Proximity, Multispectral Imaging (MSI) for Agriculture
Grieve, B., 2017

Towards Spectral-Texture Approach to Hyperspectral Image Analysis for Plant Classification

Hyperspectral Selection Based Algorithm for Plant Classification

Hyperspectral Feature Selection Ensemble for Plant Classification

Supplemental Blue LED Lighting Array to Improve the Signal Quality in Hyperspectral Imaging of Plants

Sensor

Localized Multispectral Crop Imaging Sensors Engineering & Validation of a Cost Effective Plant Stress and Disease Sensor
Handheld multispectral imager for crop disease sensing
Grieve, B., 2015

Process compliant electrical impedance instrumentation for wide scale exploitation on industrial vessels

Minimizing flight time and fuel consumption for airborne crop spraying

Electrical impedance imaging of water distribution in the root zone

Plant Characteristic Measurement System
Grieve, B. D. & Hammersley, S., 13 Dec 2013, Patent No. PM332340GB

Modelling of Likely Sclerotinia Disease Incidence in Oilseed rape Fields in the United Kingdom

Processing online crop disease warning information via sensor networks using ISA ontologies

POF based moisture and pH sensor in soils for e-Agriculture applications.

Capacitively-coupled impedance measurements for ERT

Capillary zone electrophoresis for the analysis of glycoforms of cellobiohydrolase

Sensing Method and Apparatus for Detecting Plant Nodes

A specific, robust, and automated method for routine at-line monitoring of the concentration of cellulases in genetically modified sugarcane plants

Developing new technology platforms for new business models: Syngenta's partnership with the University of Manchester

Distributed polymer optical fibre sensing of moisture and pH in soils: Feasibility for e-agriculture
Isotachophoresis-based sample preparation of cellulases in sugarcane juice using bovine serum albumin as a model protein

Distributed Polymer Optical Fibre Sensing of Moisture and pH in soils: Feasibility for e-Agriculture

Exploiting Sensors & ICT to "Change the Rules of the Game" for Global Agriculture and Food Security
Grieve, B. D., 1 Jul 2010.

An accessible electrical impedance tomograph for 3D imaging

An investigation into the use of a mixture model for simulating the electrical properties of soil with varying effective saturation levels for sub-soil imaging using ECT

Investigation of PCB microstrip patch receiving antenna for outdoor RF energy harvesting in wireless sensor networks

Toward a microfluidic-based rapid amylase assay system

Affordable sensors to support food provision

Changing the rules of the game for future agriculture, the university innovation centre (UIC) model

Methods and Systems for Ad-hoc Sensor Network
Grieve, B. D., Wright, P. & Green, P. R., 18 Sept 2008, Patent No. WO2008063939
System for Distributing Perishable Goods

Plant Images

Pest Detector

Regression analysis for supply chain logged data: A simulated case study on shelf life prediction

Towards process tomography for monitoring pressure filtration

Three-dimensional electrical impedance tomography applied to a metal-walled filtration test platform

Integration and Exploitation of Microsystems (MEMS) Sensor Technologies
Crookel, A., Kemp, M., Burgess, A., Deacon, J., Grieve, B. D., Hazelden, R., Hoyle, C., Lawes, R., Qader, W. A. & Wittamore, K., 2004, Department of Trade and Industry . (,, London)

On-line Electrical Impedance Tomography for Industrial Batch Processing
Grieve, B., May 2002, University of Manchester Institute of Science and Technology. 172 p.

Foresight Sensors Task Force; A strategic framework for 2015

Method for Monitoring Chemical Processes

Detecting filter-cake pathologies in solid-liquid filtration: Semi-tech scale demonstrations using electrical resistance tomography (ERT)

Electrochemical issues in impedance tomography

Monitoring System

Fluid Transfer Apparatus