# Call for Abstracts

We are pleased to announce the Call for Abstracts for the 11th International Oat Conference (OAT2022) are open until 31st March 2022. All abstracts submitted will be reviewed by the OAT2022 Science Review Panel.

## Abstract Submission

To submit an abstract for an oral presentation or poster, please complete the Abstract Application below and submit by emailing to [admin@giwa.org.au](mailto:admin@giwa.org.au). Note, abstracts need to align with one of the OAT2022 themes listed below.

* Health trends, oat products, processing and innovation
* Oat genomics and bioinformatics
* Oat breeding and genetics
* Global oat markets – production, trade and consumption
* Oat agronomy and global farming systems
* Crop protection in oats – meeting weed, disease and pest challenges head on
* Crop physiology and stress tolerance – pushing the boundaries of oats for yield and quality

All abstracts must be submitted in English and presenters can submit a maximum of three abstracts. Abstracts should be not more than 250 words and be submitted in Arial 12 font on the template below.

If you need to amend or withdraw your abstract prior to the closing date (31st March 2022) please email [admin@giwa.org.au](mailto:admin@giwa.org.au). Abstracts from contributors will be included in the proceedings and made available during the Conference.

## Confirmation of receipt and notification of decision

You will receive confirmation by email that your abstract has been received, showing an allocated abstract number. Please refer to this abstract number in all further correspondence regarding the abstract. The submitter will receive all information concerning the abstract and will be responsible for informing the other authors of the status of the abstract. After the review by the Scientific Committee, authors will be notified of the outcome. If an abstract is accepted, the presenting author must register and pay the registration fee in order to be included in the program and to have the abstract published in the online “Book of Abstracts”.

## Copyright & Legal Obligation

All information in the abstract submission, including authors’ names, affiliations, authors order of listing, and the content of abstract, will be used in the conference publications. The contributor carries legal obligations of the abstract; any violation to a third party’s right will be the responsibility of the contributor him/herself. Oat2022 has the copyright to use the abstract in the conference for scientific purposes without any prior notice to the contributor/authors.

# Abstracts for Presentation or Poster

Please return this form by Thursday, 31st March 2022 by email - however, the earlier the better.

Please use a separate form if nominating for more than one presentation or paper.

* To minimise multiple abstract’s (and to avoid confusion) for the same topic or project, if your research or advice is of a collaborative nature, please consult your project partners, nominate a lead author, and submit a single abstract for each presentation or poster.

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🞏 **I am interested in delivering an Oral presentation**

🞏 **I am interested in providing a poster (display space and poster sessions at OAT2022)**

**ABSTRACT TITLE**

Author/s

Insert Abstract text here (limit of 250 words).

*Examples of Abstracts for illustration purposes are shown on the following two pages.*

# Abstract Examples

**OAT STARCH QUALITY AND RELATIONSHIPS TO OTHER QUALITY TRAITS**

M.B. Hall and A.W. Tarr

Crop Improvement Institute, Agriculture Western Australia, South Perth, Western Australia, 6151.

Varietal variation in oat starch quality can greatly influence processing and food product performance. In this study, Rapid Viscosity Analysis (RVA) and Flour Swelling Volume (FSV) tests were used to reflect the starch properties of oat flour. The FSV technique is particularly useful for application in the selection of early generation lines from an oat breeding program. Results obtained showed a significant positive correlation between; RVA peak viscosity, final viscosity and measured FSV. Correlations of lesser magnitude were observed between groat oil, ß-glucan contents and flour pasting characteristics. High relative mean values for RVA peak viscosity, final viscosity and flour swelling volume, with low pasting temperatures and short times to peak viscosity were observed in an oat cultivar currently accepted by Australian consumers.

**AMINO ACID AND PROTEIN ANALYSES IN THE KERNEL OF NAKED OAT CULTIVARS**

Nadezhda Antonova1, Petar Ivanov2, Ivan Lozanov1, Ginka Rachovska1

1 Institute for Introduction and Plant Genetic Resources "K. Malkov", Sadovo 4122, Bulgaria

2 Institute of Wheat and Sunflower "Dobroudja", General Toshevo 9520, Bulgaria

A study was made on the protein- and amino acid contents and their relationships in oat cvs Obraztsov chiflik-4 (hulled and kernel), Mina, Adam, Rhiannon, Tibor, Caesar, 83106110 and 83106111 (locals from VIR) and 89106245 (a local from Austria). The protein was correlated only with cystine - r=0,57\*. Around 40 significant correlation coefficients among the amino acids were established. A correlation with only one amino acid was found for lysine - with glycine and isoleucine - with histidine. The multiple linear correlation analysis showed that arginine was the most powerful, participating in 6 equations. Although the year differences in the protein content among cultivars were great, they equalized when considered over a long period (8 years) of cultivation. The amino acid distribution remained stable. The environmental conditions proved to have less influence on cvs Mina, Rhiannon and the two locals from VIR. High-yielding mutant lines, containing up to 25% protein and 7% lysine, were identified.

**QUANTITATIVE TRAIT LOCI (QTLS) FOR PARTIAL RESISTANCE TO CROWN RUST IN OATS**

G. Chen1, V.A. Portyanko1, H.W. Rines1,2, R.L. Phillips1,

K.J. Leonard3, G.E. Ochocki3, and D.D. Stuthman1

1Department of Agronomy and Plant Genetics, University of Minnesota;

2Plant Science Research, USDA-ARS;

3Cereal Disease Laboratory, USDA-ARS; St. Paul, MN 55108, USA

To identify QTLs in oat (Avena sativa) associated with adult-plant partial resistance to the crown rust pathogen (Puccinia coronata f. sp. avenae), a population of 158 F6-derived recombinant inbreds from a cross of an identified partial-resistance line MN841801-1 by a susceptible cultivar selection Noble-2 was mapped with 112 RFLP loci. A linkage map was constructed into 17 linkage groups and 23 unlinked loci. Three partial resistance QTLs were identified in field tests and explained about 27% of phenotypic variance. Two of these QTLs were also identified in greenhouse tests. The consistency of identification of these QTLs across three field environments and two greenhouse environments suggests that markers associated with them may be useful in marker-assisted selection for partial resistance to crown rust in oat breeding.

**PSYCHOLOGICAL FUNCTIONALITY OF FOOD CARBOHYDRATES: OATS AS FOOD FOR THOUGHT**

John A Monro and Ravishankar Cumarasamy

Food Industry Science Centre, New Zealand Institute for Crop & Food Research, Private Bag 11 600, Palmerston North, New Zealand

The brain depends almost exclusively on blood glucose for its energy. Although only 2 % of body weight, it uses 25 % of body glucose, is extremely vascular in taking 16 % of the blood supply of the body, and there is no barrier to glucose entry into the brain from the blood, all of which suggests that foods affecting blood glucose levels might also influence brain function. It has now been shown that despite homeostatic systems for keeping blood glucose levels within physiological bounds, normal variations in blood glucose levels can affect performances on tests of a number of psychological processes, such as abstract reasoning and memory.

The task of matching the glycaemic properties of foods with mental demands has barely begun. However, oats are likely to be a good material on which to base prototype products for enhanced psychological function because they have a relatively moderate effect on blood glucose, and the carbohydrate availability from them can be easily altered through food processing to furnish a range of products differing in glycaemic impact, and therefore probably in psychological impact. Testing the effects of oat products on psychological functions is possible under well controlled experimental conditions, but laboratory tests need to be validated as predictors of the effects of foods on the complex behaviours and under the conditions that are typical of the workplace.