Brookes Bell

Marine, Scientific and Technical Consultants and Surveyors

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Martin Jonas is a physicist and food scientist with a First Class Diplom degree from Cologne University and an MPhil and PhD from Cambridge University, having carried out academic research in the Departments of Physics and Plant Sciences. He is a chartered physicist and a Member of the Institute of Food Sciences and Technology. Having published prolifically during his time in academia, he has specialised full-time in investigating the cause and effect of marine cargo casualties since joining Jarrett Kirman & Partners in 1998. He has been a Partner in Brookes Bell since 2003.

His scientific and surveying expertise concerns the ocean carriage and storage of a wide variety of commodities; grain cargoes, whole oilseeds, derived agricultural products such as soya bean meal, raw and refined sugar, fertilisers, liquid cargoes such as edible oils and molasses, minerals, chemicals, fruit and vegetables, etc. In addition to his general casework, he has dealt extensively with problems arising from microbiological self-heating of grain and from the potential liquefaction of mineral ore concentrates and other mineral bulk cargoes such as nickel ore and fluorspar.

He has attended on board many ships to carry out investigations into the cause and extent of cargo deterioration, cargo heating and fire, and other marine claims and also provides technical and scientific advice based on documentary evidence. He regularly gives advice on the properties and carriage of hazardous cargoes and on insect infestation and fumigation.

Dr Jonas has acted as scientific expert witness in numerous LMAA and GAFTA arbitrations and in other court and arbitration proceedings in several international jurisdictions.

Academic Qualifications

Diplom degree ("s*ehr gut*" grade, equivalent of First Class Hons.) in Physics (course incorporating chemistry and mathematics), University of Cologne.

MPhil in Physics, Cambridge University.

PhD in Physics, Cambridge University.

Membership of Professional Bodies

Chartered Physicist, Member of the Institute of Physics, Member of the Institute of Food Sciences and Technology.

Surveying and Consultancy Employment

2003-present	Partner, Brookes Bell.
2000-2003	Associate (Scientist), Brookes Bell.
1998-2000	Consulting Scientist, Jarrett Kirman & Partners

Academic and Research Employment

1997-1998	Post-doctoral research at the Cavendish Laboratory, Department of Physics and Department of Plant Sciences, University of Cambridge.
1993-1997	Doctoral research at the Department of Physics and Department of Plant Sciences, University of Cambridge.
1990-1993	Research Assistant at the German National Agency for the Safety of Nuclear Reactors (GRS), working on mathematical modelling of fracture mechanics of engineering steel.

Publications

Dr Jonas has published extensively in scientific journals, with five first-author or single-author papers in peer-reviewed journals as well as further second-author and non-peer-reviewed publications. He has also published loss prevention articles for major P&I Clubs on the carriage of bulk and containerised cargoes, including several articles on liquefaction of nickel ore and other bulk cargoes.

Particular Scientific and Consultancy Expertise

Damage to the following commodities, among others:

- Bagged cargoes (rice, cocoa, coffee, refined sugar, etc.).
- Edible oils (crude and refined palm oil, etc.).
- Fertilisers (urea, ammonium nitrate, NPK, TSP, DAP, etc.)
- Frozen cargoes (fish, meat, etc.)
- Grain (maize/corn, wheat, barley, etc.)
- Minerals (liable to liquefy): copper concentrate, zinc concentrate, lead concentrate, chrome concentrate, fluorspar, iron ore fines, nickel ore and similar mining products.
- Minerals (not liable to liquefy): alumina, mineral sands, etc.
- Packaged general cargoes (bagged, palletised or containerised).
- Raw sugar.
- Refrigerated cargoes (fruit and vegetables such as bananas, potatoes, onions, kiwis, etc).
- Seedcake (palm kernel expellers, soya bean meal and other expelled/extracted cargoes).
- Whole oilseeds (soya beans, sunflower seeds, rapeseed, etc).

Safe carriage and storage of the above commodities.

Sampling procedures: statistical evaluation, recommendations, practical and theoretical limitations.

Laboratory analysis procedures: advice on methods, liaison with laboratories, interpretation of results.

IMO certification requirements for BC Code Hazard Group A cargoes (cargoes that may liquefy): sampling procedures, determinations of flow moisture point/transportable moisture limit, etc.

Radiation dosimetry/nuclear physics.

Cargo fires, self-heating and spontaneous combustion.

Infestation and fumigation of foodstuffs (effectiveness and hazards of fumigation, properties of fumigants, IMO regulations etc.)

Plant diseases and storage disorders in refrigerated fruit and vegetables.

Microbiological deterioration (moulds, fungi, yeasts, etc.) of foodstuffs through self-heating, water ingress, external heating, etc.