

**Paper Number:** ICR0095

**Title of Paper:** Application of Multi-Objective Optimization in Food Refrigeration Processes

**Presenter:** T. T. H. Luong, F. Trujillo, Q. T. Pham, University of South Wales, Australia

**Session:** C2-4

**Person Contributing Discussion or Question:** Da-Wen Sun, National University of Ireland

**Comment or Question:** First, I would like to congratulate you on your excellent work on multi-objective optimisation. The success of the modelling depends on very much on the accuracy of those basic equations used – for example, the prediction of tenderness and we still have problems in accurately predicting these parameters such as tenderness, so please comment on that; do you have experimental results to back up your optimisation?

**Presenter's Reply:** You are correct in saying that data on tenderness is still very sparse. As engineers we have to use what we have. I believe that the results are qualitatively correct. We have not checked the results experimentally.

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**Person Contributing Discussion or Question:** Dr. Alvarez Graciela, Cernagref UR GPAN BP44 Par de Tourvoie 92160

**Comment or Question:** You are using microbiological models but they are established for simple culture media. How can you apply them for complex surface such a carcass which has differences on composition?

**Presenter's Reply:** Our model does take into account the influence of temperature and water activity on microbial growth. We assumed a mean value for pH. We did not take into account variations in composition.

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**Paper Number:** ICR0232

**Title of Paper:** Three-Phase Model for Simulating Freezing Process of Aqueous Solutions

**Presenter:** K. Kaminishi, T. Araki, R. Shirakashi, Y. Sagara, The University of Tokyo, Japan

**Session:** C2-4

**Person Contributing Discussion or Question:** Da-Wen Sun, National University of Ireland

**Comment or Question:** In your freezing curves for coffee solution, they show that freezing takes place at the temperature higher than the corresponding initial freezing points. I suggest you check your thermocouples accuracy.

**Presenter's Reply:** I'll follow your advice. And I'd like to know your opinion about the way to determine the point when freezing begins from the freezing curve. Please give me more advice (aa26280@mail.ecc.u-tokyo.ac.jp).

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**Paper Number:** ICR0232

**Title of Paper:** Three-Phase Model for Simulating Freezing Process of Aqueous Solutions

**Presenter:** K. Kaminishi, T. Araki, R. Shirakashi, Y. Sagara, The University of Tokyo, Japan

**Session:** C2-4

**Person Contributing Discussion or Question:** T. Pham, University of New South Wales, Sydney 2052, Australia, Att: School of Chemical Engineering

**Comment or Question:** Why did you use a cellular model to model a homogeneous solution?

**Presenter's Reply**: The validity of shirakashi model has been tested for food materials and solutions. And then, it contains some complicated models and parameters. In order to be applied in the practical food industry, it should be simplified and validated. Thus, we applied it to simple solution materials to validate the applicability.