

Curriculum Vitae

María Guðjónsdóttir

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Menntun / Education

Ph.D. in Biotechnology at Norwegian University of Science and Technology, NTNU in Trondheim, Norway in collaboration with Mátis, Icelandic food and biotech R&D in Reykjavík, April 2011.

M.Sc. in Chemical engineering with Engineering physics from Chalmers University of Technology in Göteborg, Sweden, March 2006.

B.Sc. in Chemical Engineering from the University of Iceland in collaboration with the University of California, Santa Barbara, June 2004.

Doktorsritgerð / Ph.D. thesis

Guðjónsdóttir, María. 2011. *Quality changes during seafood processing as studied with NMR and NIR spectroscopy*. Thesis for the degree of philosophiae doctor. Norwegian University of Science and Technology, Faculty of Natural Sciences and Technology, Department of Biotechnology.

Meistararitgerð / Diploma thesis

Guðjónsdóttir, María. 2006. *Low field NMR study on the state of water at superchilling and freezing temperatures and the effect of salt on freezing processes of cod mince*. Diploma Thesis. Chalmers University of Technology, Department of Chemical Engineering, Division of Organic Chemistry, Göteborg, Sweden.

Atvinnureynsla / Work experience

2011- present INRA-Theix, Saint-Genes-Champanelle, France. Post-doc at the RMN platform, focusing on ^{23}Na NMR and MRI in bread. Participant in the *NutriPan* project.

2007- present Mátis ohf., Icelandic food and biotechnology R&D, Reykjavík, Iceland. Process and value chain department. Project manager. Specializes in fast quality measurement techniques, superchilling, freezing and salting.

2007 Mátis ohf., Icelandic food and biotechnology R&D, Reykjavík, Iceland. Process and value chain department. Specialist in fast quality measurement techniques, superchilling, freezing and salting.

- 2006-2007 Icelandic Fisheries Laboratories, Reykjavík, Iceland. Research Department, Process and Development. Project manager and specialist in fast quality measuring techniques, superchilling, freezing and salting.
- 2005-2006 Icelandic Fisheries Laboratories, Reykjavík, Iceland. Research Department, Environment and Quality. Master student.
- 2003-2004 Icelandic Fisheries Laboratories, Reykjavík, Iceland. Summer employee on the chemical lab, measuring water, fat, salt, protein, ash, ammonia, TVN, TMA, TMAO and FFA in fish, fish oil and fish meal.

Ráð og nefndir / Councils

- 2007 - present Participant in the Market Salary council of the Icelandic Engineering Union (Markaðslaunaráð Stéttafélags Verkfræðinga). Does Market Salary checks and publishes reference salaries annually.
- 2006-2008 Chairman of the Conference Committee for The 9th *International Conference on The Application of Magnetic Resonance in Food Science* which was held in Reykjavík, Iceland during September 15th-17th 2008 in the Nordic house. www.matis.is/mrinfood2008
- 2006-2011 Member of the Mátis sensory panel, trained in using Quantitative Descriptive Analysis (QDA), Quality Index Method (QIM) and Torry scale for freshness and quality of fish.

Kennsla / Teaching experience

- 2010-2011 United Nations University, Fisheries Training Program. Supervisor for student Eis Teguh P. from Indonesia.
- 2005- 2010 Assistant teacher at the University of Iceland in the courses Food Engineering 1 (fluid mechanics) and 2 (practical exercises) at the Food Science department and the course Fish Industry Technology in the Engineering department.
- 2006-2009 Assistant supervisor for the M.Sc. students Ragnhildur Einarsdóttir and Magnea Guðrún Karlsdóttir in Food Science at the University of Iceland.

Verðlaun / Prices and Awards

- Guðjónsdóttir M, Gunnlaugsdóttir H, Arason S. 2006. *Low field NMR study on the state of water at superchilling and freezing temperatures and the effect of salt on freezing processes of water in cod mince*. The 8th International Conference on The Application of Magnetic Resonance in Food Science, July 16th -19th 2006, Nottingham, UK. Chosen one of the most interesting posters of the conference.

Ritryndar greinar og bókakaflar / Peer reviewed articles in scientific journals and book chapters

2011

Gudjónsdóttir M, Lauzon HL, Magnússon H, Sveinsdóttir K, Arason S, Martinsdóttir E, Rustad T. 2011. Low field Nuclear Magnetic Resonance study on the effect of salt and modified atmosphere packaging on cod (*Gadus morhua*) during superchilled storage. *Food Research International* 44, 241-249.

Gudjónsdóttir M, Arason S, Rustad T. 2011. The effects of pre salting methods on water distribution and protein denaturation of dry salted and rehydrated cod – A low field NMR study. *Journal of Food Engineering* 104, 23-29.

Gudjónsdóttir M, Karlsdóttir MG, Arason S, Rustad T. 2010. Injection of fish protein solutions to fresh saithe (*Pollachius virens*) fillets studied by low field Nuclear Magnetic Resonance and physicochemical measurements. *Journal of Food Science and Technology*. Published online in April 2011. DOI 10.1007/s13197-011-0348-6

Gudjónsdóttir M, Jónsson Á, Bergsson AB, Arason S, Margeirsson S, Rustad T. 2010. Shrimp processing assessed by low field Nuclear Magnetic Resonance, Near Infrared spectroscopy and physicochemical measurements – The effect of polyphosphate content and length of pre-brining on shrimp muscle. *Journal of Food Science* 76(4), E357-367.

Nga T.T. Mai, María Gudjónsdóttir, Hélène L. Lauzon, Kolbrún Sveinsdóttir, Emilía Martinsdóttir, Hubert Audorff, Werner Reichstein, Dietrich Haarer, Sigurdur G. Bogason, Sigurjón Arason. Continuous quality and shelf life monitoring of retail-packed fresh cod loins in comparison with conventional methods. *Food Control* 22 (6), 1000-1007.

2010

Gudjónsdóttir M, Gunnlaugsson VN, Finnbogadóttir GA, Sveinsdóttir K, Magnússon H, Arason S, Rustad T. 2010. Process Control of Lightly Salted Wild and Farmed Atlantic Cod (*Gadus morhua*) by Brine Injection, Brining and Freezing—A Low Field NMR Study. *Journal of Food Science* 75 (8): E527-E536.

2009

Guðjónsdóttir M, Gunnlaugsson VN, Finnbogadóttir GA, Sveinsdóttir K, Magnússon H, Arason S. Low field NMR Study on Wild and Farmed Cod (*Gadus morhua*). 2009. In: Guðjónsdóttir M, Belton PS, Webb GA. (eds.) *Magnetic Resonance in Food Science: Challenges in a changing world*. Royal Society of Chemistry, 231-240.

Lauzon HL, Magnússon H, Sveinsdóttir K, Guðjónsdóttir M, Martinsdóttir E. 2009. The effect of brining, modified atmosphere packaging and superchilling on the shelf life of cod (*Gadus morhua*) loins. *Journal of Food Science*. 74 (6) M258-M267.

Aðrar greinar / Other articles

Guðjónsdóttir M, Nguyen vM, Jónsson Á, Bergsson AB, Arason S. 2011. Near infrared spectroscopy for seafood process optimisation and monitoring- A shrimp case study. *NIR news* 22 (5), 12-14.

Veggspjöld á alþjóðlegum ráðstefnum / Posters at international conferences **2010**

Guðjónsdóttir M, Karlsdóttir MG, Arason S, Rustad T. 2010. *Injection of Fish Protein Solutions to Fresh Saithe (Pollachius virens) Fillets Studied by Low Field NMR and Physicochemical Measurements*. 10th Internatinal Conference on the Applications of Magnetic Resonance in Food Science, September 12th-15th 2010, Clermont-Ferrand, France.

2006

Guðjónsdóttir M, Gunnlaugsdóttir H, Arason S. 2006. *Low field NMR study on the state of water at superchilling and freezing temperatures and the effect of salt on freezing processes of water in cod mince*. Raunvísindaping Háskóla Íslands, March 3-5 2006, Reykjavík, Iceland.

Guðjónsdóttir M, Gunnlaugsdóttir H, Arason S. 2006. *Low field NMR study on the state of water at superchilling and freezing temperatures and the effect of salt on freezing processes of water in cod mince*. The 8th International Conference on The Application of Magnetic Resonance in Food Science, July 16th -19th 2006, Nottingham, UK.

Guðjónsdóttir M, Þórarinsdóttir KA, Valsdóttir Þ, Arason S. 2006. *Low field NMR study on seven dry salting methods of cod (Gadus morhua)*. The 8th International Conference on The Application of Magnetic Resonance in Food Science, July 16th -19th 2006, Nottingham, UK.

Erindi á alþjóðlegum ráðstefnum og fundum / Lectures at international conferences and meetings

2010

Guðjónsdóttir M, Lauzon HL, Magnússon H, Sveinsdóttir K, Arason S, Martinsdóttir E, Rustad T. 2010. *LF-NMR on the Quality of Atlantic Cod (Gadus morhua) during Superchilling and Freezing and the effect of Salt and Modified Atmosphere Packaging on Cod Muscle during Superchilling*. 40th WEFTA meeting, October 4th-7th 2010, Cesme, Turkey.

Guðjónsdóttir M, Jónsson Á, Bergsson AB, Arason S, Rustad T. 2010. *Process control during cold water shrimp processing by LF-NMR and NIR*. 10th International Conference on the Applications of Magnetic Resonance in Food Science, September 12th-15th 2010, Clermont-Ferrand, France.

2008

Guðjónsdóttir M, Gunnlaugsson VN, Finnbogadóttir GA, Sveinsdóttir K, Magnússon H, Arason S. 2008. *Low field NMR Study on Wild and Farmed Cod (Gadus morhua)*. 9th Internatinal Conference on the Applications of Magnetic Resonance in Food Science, September 15th-17th 2008, Reykjavík, Iceland. Invited lecture.

Guðjónsdóttir M, Martinsdóttir E, Lauzon HL, Margeirsson B, Arason S. 2008. *Protocols for performing shelf life studies in cooling experiments*. 3rd International Workshop “Cold-Chain-Management”, June 3rd – 4th 2008, Bonn, Germany.

2007

Guðjónsdóttir M, Jónsson Á, Gunnlaugsson VN, Hafsteinsson H. 2007. *Frozen Storage of Herring from different Stocks and Catching Seasons – Effects on Microstructure*. 37th WEFTA Annual Meeting, October 24th – 27th 2007, Lisbon, Portugal.

Guðjónsdóttir M, Jónsdóttir R, Ólafsdóttir G, Bragadóttir M. 2007. *The effect of thermal treatment on oxidation in cod model system*. Seafood Plus Lipidtext meeting, October 23rd 2007, Lisbon, Portugal.

2006

Guðjónsdóttir M. 2006. *Low field NMR study on the state of water at superchilling and freezing temperatures and the effect of salt on freezing processes of water in cod mince*. The 8th International Conference on The Application of Magnetic Resonance in Food Science, July 16th -19th 2006, Nottingham, UK. Invited short lecture.

Matís skýrslur / Matís reports

2010

Lauzon HL, Margeirsson B, Sveinsdóttir K, Guðjónsdóttir M, Karlsdóttir MG, Martinsdóttir E. 2010. Overview on fish quality research – Impact of fish handling, processing, storage and logistics on fish quality deterioration. Matísskýrsla 39-10, 70 p.

Lauzon HL, Margeirsson B, Sveinsdóttir K, Reynisson E, Guðjónsdóttir M, Martinsdóttir E, Gospavic R, Hague N, Popov V, Ólafsdóttir G, Hafliðasson T, Guðlaugsson E, Bogason S. 2010. Functionality testing of selected Chill-on technologies during a transport-simulation study of palletized cod boxes: qPCR for fish spoilage bacteria, SLP model and QMRA to evaluate pathogen growth in spiked cod. Matísskýrsla 35-10, 31 p.

Magnússon H, Sveinsdóttir K, Þorvaldsson L, Guðjónsdóttir M, Lauzon HL, Reynisson E, Rúnarsson ÁR, Magnússon SH, Viðarsson JR, Arason S, Martinsdóttir E. 2010. The effect of different cooling techniques on the quality changes and shelf life of whole cod (*Gadus morhua*). Matísskýrsla 28-10, 25 p.

2009

Magnússon H, Lauzon HL, Sveinsdóttir K, Margeirsson B, Reynisson E, Rúnarsson ÁR, Guðjónsdóttir M, Þórarindóttir KA, Arason S, Martinsdóttir E. 2009. The effect of different cooling techniques and temperature fluctuations on the storage life of cod fillets (*Gadus morhua*). Matísskýrsla 23-09, Ágúst 2009.

2008

Einarsdóttir R, Guðjónsdóttir M, Arason S. 2008. Áhrif undirkælingar á saltupptöku við þæklun þorskhnakkastykkja (*Gadus morhua*). Matísskýrsla 15-08, Júní 2008.

Guðjónsdóttir M, Magnússon H, Sveinsdóttir K, Margeirsson B, Lauzon HL, Reynisson E, Martinsdóttir E. 2008. Effect of modified atmosphere packaging (MAP) and

superchilling on the shelf life of fresh cod (*Gadus morhua*) loins of different degrees of freshness at packaging. Matísskýrsla 22-08. September 2008.

Gunnlaugsson VN, Finnbogadóttir GA, Guðjónsdóttir M, Sveinsdóttir K, Magnússon H, Jóakimsson K, Þórarinsdóttir KA, Arason S. 2008. Samanburður á eiginleikum aleldisþorsks og villts þorsks. Matísskýrsla 33-08, Desember 2008. (Lokuð)

Gunnlaugsson VN, Finnbogadóttir GA, Guðjónsdóttir M, Sveinsdóttir K, Jóakimsson K, Arason S. 2008. Samanburður á léttisöltuðum aleldisþorski og villtum þorski. Matísskýrsla 34-08, Desember 2008. (Lokuð)

Gunnlaugsson VN, Guðjónsdóttir M, Finnbogadóttir GA, Jóakimsson K, Arason S. 2008. Samanburður á eiginleikum aleldisþorsks og villts þorsks í lausfrystingu. Matísskýrsla 35-08, Desember 2008. (Lokuð)

2007

Guðjónsdóttir M, Magnússon H, Arason S, Ólafsdóttir G, Bogason S. 2007. Geymsluþolstilraunir á þorskbitum. Áhrif ofurkælingar, pæklunar og gasþökkunar á eðlis- og efnaeiginleika þorskvöðva. Matísskýrsla 50-07, Desember 2007.

Guðjónsdóttir M, Sveinsdóttir K, Magnússon H, Arason S, Ólafsdóttir G, Bogason S. 2007. Geymsluþolstilraunir á þorskbitum. Áhrif ofurkælingar á salt- og próteinsprautaðan þorskvöðva. Matísskýrsla 49-07, Desember 2007.

Gunnlaugsson VN, Guðjónsdóttir M, Einarsdóttir R, Þórarinsdóttir KA. 2007. Notkun fiskpróteina í flakavinnslu - Áhrif sprautunar og kælingar á vöðvabyggingu þorskbita. Sjúkýrsla Matís 33-07, 15 bls. Lokuð skýrsla.

Þórarinsdóttir KA, Sveinsdóttir K, Valsdóttir Þ, Guðjónsdóttir M, Einarsdóttir R, Arason S. 2007. Notkun fiskpróteina í flakavinnslu. Kældar og frystar þorskafurðir. Skýrsla Matís 25-07, 67 bls.

Þórarinsdóttir KA, Sveinsdóttir K, Valsdóttir Þ, Guðjónsdóttir M, Arason S. 2007. Ferlastýring við veiði, vinnslu og verkun saltfisks. Áhrif mismunandi söltunaraðferða við verkun á flöttum fiski. Skýrsla Matís 22-07.

Guðjónsdóttir M, Valsdóttir Þ, Þorkeldsdóttir Á, Sveinsdóttir K, Magnússon H, Arason S, Þórarinsdóttir KA. 2007. Ferlastýring við veiði, vinnslu og verkun saltfisks. Áhrif mismunandi söltunaraðferða á verkun þorskflaka. Skýrsla Matís 20-07.

Magnússon H, Lauzon HL, Þorkeldsdóttir Á, Guðbjörnsdóttir B, Martinsdóttir E, Ólafsdóttir G, Guðjónsdóttir M, Bogason S, Arason S. 2007. Geymsluþolstilraunir á þorskbitum: Áhrif ofurkælingar, pæklunar og gasþökkunar á gæðabreytingar og geymsluþol. Matísskýrsla 12-07, Maí 2007.