



**FOOD RISK ANALYSIS:**  
An integrated approach combining insights from the natural and social sciences

*PhD-course, Mansholt Graduate School*

**WAGENINGEN UNIVERSITY**

**By Prof dr Lynn J Frewer; Dr Arnout R H Fischer; Dr Janneke de Jonge**

**2-6 November**

**2009**

**Introduction:**

Eat as much fish as possible; it's full of  $\Omega$ -3 fatty acids  
Avoid heavy metals, don't consume too much fish

Both messages make sense from a natural science point of view. But communicating both messages to consumers may result in confusion and distrust. Effective communication about food risks needs to take account of consumer concerns and beliefs, as well as technical risk and benefit estimates resulting from risk assessment.

Risk analysis (including that directed towards food safety issues) has traditionally focused on three distinct components – **risk assessment** which deals with technical risks, **risk management**, which focuses on policy decisions, and **risk communication** with the public and other key stakeholders. But the occurrence of recent food safety incidents (for example, dioxin contamination of the food chain, BSE, consumer reactions to genetically modified foods, and deliberate fraud, such as the melamine contamination of milk powder in China or the salmonella contamination of peanuts in the US) has reduced consumer confidence and trust in risk assessment, management and communication. In order to regain consumer confidence in food safety, it is important to develop an interdisciplinary approach to food risk analysis combining insights from both the natural and social sciences, as well as the humanities. It is also important to recognise that consumer decision-making is also based on perceptions of benefit – and it is increasingly argued that both risk and benefit must be addressed in governance practices.

The aim of this course is to provide participants with understanding of recent theoretical and practical advances in the area of **interdisciplinary** food risk analysis.

This integrated approach means that – to achieve successful co-operation between different relevant disciplines – there should be continuous multidisciplinary exchange of ideas, opinions and research agendas. Priorities in risk assessment and risk management need to align with consumer and stakeholder values, concerns and preferences.

**Intended results**

At the end of this course, the participants will have the knowledge and skills to develop and contribute to interdisciplinary research in the food risk analysis domain. In particular, participants will be able to understand how activities in risk assessment, risk management, and risk communication and stakeholder involvement can be effectively integrated in order to meet the needs of all interested stakeholders.

**Lecturers:**

Prof dr. Lynn J. Frewer; Social Sciences Group, Marketing and Consumer Behaviour, Wageningen University, Wageningen, the Netherlands

Dr. Arnout R. H. Fischer; Social Sciences Group, Marketing and Consumer Behaviour, Wageningen University, Wageningen, the Netherlands

Dr Janneke de Jonge; Social Sciences Group, Marketing and Consumer Behaviour, Wageningen University, Wageningen, the Netherlands

**Target Group:**

This course is useful for all academics in a multidisciplinary working environment. As we will be focussing on the risk analysis framework, and on food related issues, participants from risk analysis backgrounds in food are especially welcomed to participate.

Registration for the course is open for

- PhD students of relevant research schools in the Netherlands (e.g., Mansholt, VLAG, CERES, WIMEK/SENSE or PE&RC)
- Ph.D. student from other European countries or International audiences
- Academic participants
- Professional participants

## Brochure Food Risk Analysis course – 10/22/2009

### Course duration:

One full week, with preparation by participants prior to course, and practical assignment during the week.

**Group size:** minimum 10 participants, maximum 30 participants.

(the organisers may cancel the course 2 weeks in advance in case the number of registrations did not reach the minimum).

**Language:** English

**Location:** Wageningen University, Leeuwenborch:

The lectures of day 1, 2nd November 2009, will be held in room **C84** of De Leeuwenborch. On all other days the lectures will be held in room **V80**.

### Programme

Day 1 - 2 <sup>nd</sup> November 2009	What	Who	Literature <sup>1</sup>
<b>MORNING PROGRAM Introduction of the Relevant Issues</b>			
9.30-10.00	<i>Opening of the course</i>		
10.00-11.00	<b>Lecture:</b> Historical perspective of Food Risk Analysis, the rationale behind the three parts (Risk Assessment-Risk Management –Risk Communication).	<b>Professor Lynn Frewer</b>	<b>Hansen et al, 2003</b>
11.00-11.15	<b>Discussion</b>		
11.15-11.40	<i>Coffee break</i>		
11.40-12:00	Science and society – introduction to governance and transparency	<b>Professor Lynn Frewer</b>	<b>Houghton et al, 2008</b>
12.00-13.00	<i>Lunch</i>		
<b>AFTERNOON PROGRAM Risk Assessment</b>			
13.00-14.00	<b>Guest Lecture</b> Research Ethics and Risk – emerging issues and problems	<b>Dr David Coles</b>	Paper tba
14.00-14.30	<b>Discussion</b>		
14.30-15.00	<i>Coffee break</i>		
15.00-16.00	Practical-ethical dilemmas in risk research	<b>Dr David Coles / Professor Lynn Frewer</b>	
16.00-17.00	Presentation of practical examples of ethical dilemmas ethical issues	<b>Participants</b>	
<b>Day 2 3<sup>rd</sup> November 2009</b>			
<b>MORNING PROGRAM Public participation in Risk Analysis</b>			
9.30-10.30	<b>Guest Lecture</b> <i>Risk communication</i>	<b>Dr Jan Gutteling University of Twente</b>	paper to be announced
10.30-10.45	<b>Discussion</b>		
10.45-11.00	<i>Coffee break</i>		
11.00-12.00	<b>Guest Lecture</b> <i>Public participation in risk governance. The case of GM nation.</i>	<b>Dr Gene Rowe</b>	Rowe, 2007
12.00-12.30	<b>Discussion</b>		
12.30-13.30	<i>Lunch</i>		
<b>AFTERNOON PROGRAM Introduction of group work (poster presentations)</b>			
13.30-14.40	Participant introductions research interests and PhD work	Participants	
13.50-15.20	Informal discussions, coffee		

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15.20-16.00	Introduction of the practical assignments	<b>Professor Lynn Frewer /Dr Janneke de Jonge</b>	
16.00-17.00	Start discussion practical assignment		
<b>Day 3 4<sup>th</sup> November 2009</b>			
<b>MORNING PROGRAM Risk Management</b>			
9.00-10.00	<i>Current issues in risk management. Managing food crises</i>	<b>Professor Lynn Frewer</b>	<b>Johnson and Peppas, 2003</b>
10.00-10.30	<i>Discussion</i>		
10.30-11.00	<i>Coffee break</i>		
11.00-12.00	<i>Developing consumer confidence in food safety</i>	<b>Dr Janneke de Jonge</b>	<b>De Jonge et al. 2008</b>
12.00-12.30	<i>Discussion- is trust and confidence an issue?</i>	<b>Dr Janneke de Jonge</b>	
12.30-13.30	<i>Lunch</i>		
<b>AFTERNOON PROGRAM Emerging issues</b>			
13.00-14.00	Developing confidence in food risk management in Europe	<b>Professor Lynn Frewer</b>	<b>Kleef et al, press</b>
14.00-15.00	<i>The need for interdisciplinarity: A case study in domestic food preparation practices</i>	<b>Dr Arnout Fischer</b>	<b>Fischer et al, 2005</b>
15.00-15.30	<i>Coffee break</i>		
15.30-17.00	<i>Preparation of practical assignment in groups</i>	Participants	
Course dinner	At a venue in Wageningen to be arranged.		
<b>Day 4 5<sup>th</sup> November 2009</b>			
<b>MORNING PROGRAM Focus on risk perception and communication</b>			
10.00 -11.00	<b>Guest Lecture</b> <i>The psychology of trust</i>	<b>Professor Cees Midden University of Eindhoven</b>	<b>Midden and Huijts, 2009</b>
11.00-11.30	<b>Discussion</b>		
10.30-11.00	<i>Coffee break</i>		
11.00-12.00			
12.00-12.30	<b>Discussion</b>		
12.30-13.30	<i>Lunch</i>		
<b>AFTERNOON PROGRAM Practical Assignment</b>			
13.30-16.00	<b>Presentations of practical assignments</b>	Participants	
16.00-	<i>Informal drinks</i>		
<b>Day 5 - 6<sup>th</sup> November 2009</b>			
<b>Food Risk Analysis. Bringing together the perspectives</b>			
9.30 -10.30	<b>Guest Lecture</b> Introducing the risk analysis approach to the practices of food industry	<b>Professor Leon Gorris (Unilever/ Wageningen University)</b>	<b>No readings required</b>
10.30-11.00	<i>Coffee break</i>		
11.00-12.00	<b>Discussion</b> pragmatic solutions to problems facing the food industry	<b>Professor Leon Gorris</b>	
12.00-13.00	<i>Lunch</i>		
13.00-14.00	<b>Guest Lecture</b> Risk governance and emerging risk identification	<b>Dr Hans Marvin, RIKILT</b>	<b>Koenig et al. in press.</b>
14.00-15.00	<b>Discussion</b> how will emerging threats (for example, climate change, fraud, increased globalisation) influence food risk	<b>Dr Hans Marvin, Dr Arnout Fischer</b>	

15.00-15.30 analysis in the future.  
Closing remarks

Professor Lynn  
Frewer

<sup>1</sup> **bold** printed literature is required to read prior to the course. Other papers are background papers

**Prerequisite courses:** Besides an academic or Ph.D. level of thought, there are no strictly defined prerequisites for this course since in a multidisciplinary research environment it is necessary to be able to communicate beyond strict scientific boundaries. However participants should be able to appreciate view points that may deviate well from those established in their own discipline.

#### Required readings:

1. Hansen, J., Holm, L., Frewer, L. J., Robinson, P., & Sandoe, P. (2003). Beyond the knowledge deficit: Recent research into lay and expert attitudes to food risks. *Appetite*, 41(2), 111-121.
2. Slovic, P. (1999). Trust, emotion, sex, politics, and science: Surveying the risk-assessment battlefield. *Risk Analysis*, 19(4), 689-701.
3. Houghton, J.R, Van Kleef, E., Frewer, L.J., Chryssochoidis, Korzen-Bohr, S., Krystallis, T., Lassen, J., Pfenning, U., Rowe, G. and Strada, A. (2008) The Quality of Food Risk Management in Europe: Perspectives and Priorities. *Journal of Food Policy* 33 13–26
4. Van Kleef, E., Ueland, Ø, Theodoridis, G., Rowe, G., Pfenning, U, Houghton, J, van Dijk, H, Chryssochoidis, G, and Frewer L.J (2009). Food risk management quality: consumer evaluations of past and emerging food safety incidents. *Health, Risk and Society*, 11, 2, 1–27
5. Johnson, V. and Peppas, S.C. (2003) Crisis management in Belgium: The case of Coca-Cola. *Corporate communications: an international journal*, 8, 1, 18-22.
6. Fischer, A.R.H.; Jong, A.E.I. de; Jonge, R. de; Frewer, L.J.; Nauta, M.J. (2005) [Improving Food Safety in the Domestic Environment: The Need for a Transdisciplinary Approach](#). *Risk Analysis* 25 (3). 503 - 517.
7. Koenig, A.; Kuiper, H. J.P. Marvin; H.J. Boon, P.E. Busk, L. Cnudde. F.C. Cope; C. Davies; H.V., Dreyer; M. Frewer, L.J., Kaiser, M., Kleter, G.A., Knudsen, I., Pascal, G., Prandini, A., Renn, O., Smith, M., Traill, B., Van Der Voet, H., van Trijp, H., Vos, E. Wentholt. M.T. (in press). The SAFE FOODS framework for improved risk analysis of foods. *Food Control*.
8. Rowe, G. (200). 'Public engagement in food policy', in: L.J. Frewer and J.C.M. Van Trijp (eds) *Understanding Consumers of Food Products*. Cambridge: Woodhead Publishing L.T.D., pp. 592-609.
9. De Jonge, J., Van Trijp, J.C.M., Van Der Lans, I.A., Renes, R.J. and Frewer, L.J. (2008). How trust in institutions and organizations builds general consumer confidence in the safety of food: A decomposition of effects. *Appetite* 51(2), pp. 311-317.
10. General Principles for FP7: <ftp://ftp.cordis.europa.eu/pub/fp7/docs/ethics-for-researchers.pdf>, [http://cordis.europa.eu/fp7/ethics\\_en.html](http://cordis.europa.eu/fp7/ethics_en.html)

#### Background reading:

1. Marvin, H.J.P, Kleter, G.A., Frewer, L, Cope, S. Wentholt, M. and Rowe G. (2009). A working procedure for identifying emerging risk at an early stage, *Food Control*, 20, 345-356.
2. Rowe, G. and Frewer, L.J. (2005). A typology of public engagement mechanisms. *Science, Technology & Human Values*, 30 (2), 251-290.
3. Horlick-Jones, T., Walls, J., Rowe, G., Pidgeon, N., Poortinga, W. and O'Riordan, T. (2006) On evaluating the GM Nation? Public debate about the commercialization of transgenic crops in Britain. *New Genetics and Society*, 25 (3), 265-288.
4. Cross-border transfer of personal data: [http://ec.europa.eu/justice\\_home/fsj/privacy/docs/international\\_transfers\\_faq/international\\_transfers\\_faq.pdf](http://ec.europa.eu/justice_home/fsj/privacy/docs/international_transfers_faq/international_transfers_faq.pdf)
5. Council of Europe Convention on Human Rights and Biomedicine: <http://conventions.coe.int/treaty/EN/Treaties/Html/164.htm>
6. Additional Protocol [http://www.coe.int/t/dg3/healthbioethic/Activities/01\\_Oviedo%20Convention/195%20Protocole%20recherche%20biomedicale%20e43.pdf](http://www.coe.int/t/dg3/healthbioethic/Activities/01_Oviedo%20Convention/195%20Protocole%20recherche%20biomedicale%20e43.pdf)

7. EC Directive on Animal Research – proposals for revision  
[http://scienceandresearch.homeoffice.gov.uk/animal-research/legislation/Revision\\_of\\_EC\\_86-609.pdf?view=Binary](http://scienceandresearch.homeoffice.gov.uk/animal-research/legislation/Revision_of_EC_86-609.pdf?view=Binary)
8. UK – Economic and Social Research Council Ethics Guidelines for Social Research  
[http://www.esrc.ac.uk/ESRCInfoCentre/Images/ESRC\\_Re\\_Ethics\\_Frame\\_tcm6-11291.pdf](http://www.esrc.ac.uk/ESRCInfoCentre/Images/ESRC_Re_Ethics_Frame_tcm6-11291.pdf)
9. Midden, Cees J.H., Huijts, Nicole M.A. (2009). The role of trust in the affective evaluation of novel risks: the case of CO2 storage. Risk Analysis, 29.5. pp. 743.

### Practical assignment

In the practical assignment, participants will be asked to develop an integrated approach to food-safety issues. The emphasis in determining the quality of these approaches will be on representation of all stakeholder issues; i.e. management organisations; technological assessment groups and consumers, communication, Ethical issues and NGO's in the presented solution to the problem. On the 4<sup>th</sup> afternoon of the course the solutions of different groups will be presented and discussed. A "reality check" will be provided by the last day, where perspectives from industry and research aimed at optimising research governance will be developed.

### Credits and Examination:

This will be a 3-ECTS credit course. **As preparation for the course participants are asked to make a simple poster (about A1 format, or similar, full colour or other expensive printing techniques not required), to present their current research in relation to the aims of the course; this poster will be presented during the course.** Participants will be provided with some articles on the topics treated in the course, which has to be read before the course starts.

Grades will depend for 50% on the quality of prepared poster and 50% of the outcome of the practical assignment group work conducted during the course. Part of the grade depends on participation during the lectures and discussions over the week.

### Course fee:

- 250 Euros: PhD students of Mansholt Graduate School and Sense
- 500 Euros: all other participants

The fees cover the course materials, lunches and coffee, dinner on day 2 and social drinks on day 4.

### Registration Procedure:

Register via the website



<http://www.mansholt.wur.nl/UK/education/courses/registration/>

Please make sure you provide the most recent contact details so that in case of any changes you will be notified promptly.

After your internet registration you will receive a short notification that your name has been registered. At least 2 weeks before the course you will receive a confirmation about the location and the schedule. MG3S will also send a bill to your address indicated in the registration form.

Please e-mail to [Marcella.haan@wur.nl](mailto:Marcella.haan@wur.nl) in case you have not received the second confirmation two weeks before the course.

### Cancellations:

The participants can cancel their registration without any fee 4 weeks before the course starts. Cancellation fee of 100% applies if participant cancels the course less than 3 weeks prior to a course.

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The organisers have a right to cancel the course not later than 4 weeks before the course starts in case the number of registrations did not reach the minimum.

The participants will be notified of any changes at their e-mail addresses.

### Further Information

For further information about the content of the course please contact the organisers:

Address, telephone, e-mail of the organiser

For details about the logistics, accommodation, registration, fees, study materials, etc. please contact  
Marcella Haan  
Tel +31 317 484126  
[Marcella.haan@wur.nl](mailto:Marcella.haan@wur.nl)

Further information on Mansholt Graduate School and its educational activities:

<http://www.mansholt.wur.nl/NR/exeres/B23BF4CF-7D01-4931-9664-52A902502117.htm>

### Useful information for participants from outside Wageningen

#### Hotels:

Wageningen International Centre (Hof van Wageningen): 75 euro for 1 persons room, 98.50 euros for 2 persons room, both prices are including breakfast. Details:

<http://www.hofvanwageningen.nl/>

Hotel de Wageningseberg: 62.50 euro 1 person room, 97.50 euro for 2 persons room, also including breakfast; [www.wageningseberg.com](http://www.wageningseberg.com)

Hotel Nol in 't Bosch: 83,50 euro for 1 person room, 110 euro for 2 persons room, also including breakfast; <http://www.nolintbosch.nl/>

Hotel de Nieuwe Wereld (Hotel School): 50-60 euro for a 1 person room.

<http://www.denieuwewereld.nl> (only in Dutch)

#### Bed&Breakfast:

B& B De Heksenspeeltuin: 25 euro for a 1 person room

Address: Einthovenstraat 15, 6706JA Wageningen

Phone: +31 317-418161

E-mail: [callyd@zonnet.nl](mailto:callyd@zonnet.nl)

Website: [www.heksenspeeltuin.nl](http://www.heksenspeeltuin.nl) (only in Dutch)

Villaria Bed en Breakfast: 32-38 euro for a 1 person room

Address: Nassauweg 21, 6703CG Wageningen

Phone: +31 317-419636

Emai: [villaria@hari.demon.nl](mailto:villaria@hari.demon.nl)

Ons Bakhuus Bed & Breakfast: 25 euro for a 1 person room

Address: Dolderstraat 64, 6706 JG Wageningen

Phone.:+31 317-411994

E-mail: [janny.wijbo@chello.nl](mailto:janny.wijbo@chello.nl)

Knollywood Bed & Breakfast: 35 euro for a 1 person room

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Address: L. Roggeveenstraat 39, 6708 SL Wageningen

Phone: +31 317-420970

E-mail: [Knollywood@hetnet.nl](mailto:Knollywood@hetnet.nl)

De Herbergh Bed & Breakfast: 45 euro for a 1 person room

Address: Generaal Foulkesweg 8, 6703 BR Wageningen

Phone: +31 317-410747

E-mail: [glindenbergh@wanadoo.nl](mailto:glindenbergh@wanadoo.nl)

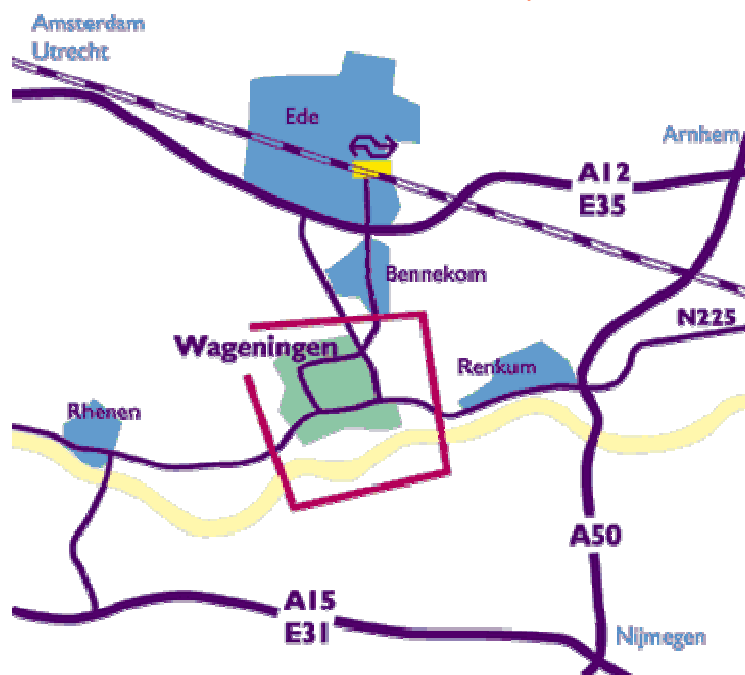
### From Schiphol Airport Amsterdam to Wageningen

At the Airport you can buy a train ticket in the 'arrivals' area. You will see the sign "Train tickets" near the exit. Then follow the signs 'Nederlandse Spoorwegen' ([www.ns.nl](http://www.ns.nl)) or 'Trains and busses' to the railway station.

Purchase a one-way ticket to the Ede-Wageningen train station, this will cost € 13,40 (plus € 0,50 service charge if you buy the ticket at the ticket counter). It is also possible to buy the ticket from the ticket vending machines in the station.

There will be a train leaving every 15 minutes from Schiphol. Every there are direct connections to Ede-Wageningen, usually leaving from platform 3 (twice an hour). Also, twice an hour there is a connection via Utrecht (where you have to change trains). At Schiphol, the train usually departs from platform 1-2. At Utrecht, you have to change trains from platform 15 to 14. On the platform, you will see signs hanging from the ceiling with all names of the different stations where the train will stop. Check for the names Ede Wageningen or Utrecht and board the train. The trip from Schiphol to Ede-Wageningen takes you a bit more than one hour.

For Dutch train connections use [www.ns.nl](http://www.ns.nl), [www.thalys.com](http://www.thalys.com), [www.db.de](http://www.db.de)



Wageningen has no railway station. This lack is fully compensated by accurate means of buses and taxis, as described next.

For information about tickets to some 1400 European destinations and to order them, call Teleservice NS Internationaal: +31 (0)900 92 96 (0.35 euro per minute). You can pay by credit card (EuroCard, MasterCard, VISA or American Express), or by remittance. [On-line booking](#) for NS trains (choose station Ede-Wageningen): pre-registration with NS electronic system is required. Prices are mentioned there as well.

From railway station Ede-Wageningen you can take a taxi (approx. 15 min.) Taxis leave at the north side of the station. You can also come by bus (bus 86 (direction Arnhem) or bus 88 (Valleilijn, direction Wageningen). Bus 86 leaves at the north side of the station, bus 88 leaves at the South side of the station. You have to purchase a bus "strippenkaart" at the Kiosk (in the bus itself the "strippenkaart" is more expensive). Those coming to the Wageningen International Centre have to get off the bus at the bus stop "Busstation". The WIR hotel is situated next to the bus terminal and the WICC hotel approximately 250 meters to the west.