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Curriculum Vitae

Name: Ole Skovmand
 Born: Nov. 19th 1947
 Nationality: Danish
 Residence: 118 allée des Alouettes, 34170 Castelnau le lez, France
 Current Occupation: Director / Research
 Company: Intelligent Insect Control
 CV update on: August 27st 2012

Languages: Danish Expert
 English Expert
 French Good
 German Intermediate

Memberships

- Society for Vector Ecology
- American Chemical Society
- American Society of Tropical Medicine and Hygiene
- Entomological Society of America

Personal ambition: To promote and develop microbial control and other pesticide limiting methods wherever possible thus to obtain means of pest control without harming the environment and large-scale feasible.

Subject	Year	Institution
Education		
Degree – Marketing & Planning	1990	Copenhagen Business School
Ph.D in Neurobiology – Thesis: interpretation of sounds in grasshoppers.	1978	Copenhagen University
Master of Science in Biology – Thesis: Regulation of Insect Behavior	1975	Copenhagen University
Work Experience		
		Client or Partner
Organizing Malaria Conference	2009	MIM, Multilateral Initiative on Malaria
Product development Biopesticides	2007-2009	Milenia, Brazil, and Sopfim, Canada
Co-founder of company producing Long Lasting Insecticide treated Nets	2005	BestNet Ltd
Evaluation program for Bednets	2004-2007	NIH, US; KEMRI, Kenya co-operation
Setup venture, coordinating research effort of 4 Vietnamese institutes for the development of novel Bt – pesticides	2002 - 2005	DANIDA (IIC Fr)
Developed, patented and setup for production Pyrethroid impregnated PE tarpaulin (Zerofly) and tent	2001	Vestergaard-Frandsen A/S (IIC Fr)
Setup Bioassay Methods in Institute for the evaluation of mosquito control tools in Indonesia	2001	IIC Fr/Help to World Bank Project
Head of Project, use of West African plants in Malaria control	2000	IIC Fr/Danida
Evaluation of Water Hyacinth control research program for Lake Victoria	1999 - 2000	IIC Fr / DANIDA
Developed Permanet (concept, patent, production, product registration) – market leading long lasting	199(8)9 - 2005	Vestergaard-Frandsen A/S / IIC Fr



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Subject	Year	Institution
insecticide treated net, versions 1.0, 2.0, 2.5		
Head of Project and Concept; Project for Mosquito Control in Burkina Faso, Social engineering, City Engineering and use of Bacillus sphaericus	1997- 2002	DANIDA/ IIC Fr
Founded Intelligent Insect Control (France) – a research and consulting firm in the area of novel solutions in insect control and vector borne diseases	1999	Intelligent Insect Control sarl
Consultant on Microbial control of Mosquito – Various Project Programmes	1998	DANIDA / Centre Muraz and Center for Malaria Research and Education, Burkina
Consultant on Indian-Suisse Biopesticide development	1995-1997	The Indo-Suisse Co-operation, University of St Anne, Chennai
Head of Project "Microbial control of mosquitoes in and around African towns"	1994 - 1998	The Danish Bilharzias Laboratory and the French ORSTOM/ DANIDA
Head of Bioassay Group – Plant Protection Division (Entomology)	1987 – 1994	Novo Nordisk A/S
Head of Product Development and Clinical Evaluation – Skin Care Division	1984 – 1987	Alfred Benzon A/S
Head of Pesticide Evaluation Unit – Entomologist	1978 – 1984	Danish Pest Infestation Laboratory
Ph.D. Fellowship Programme	1975 – 1978	Copenhagen University
Assistant Professor	1974	Odense University
	Educational Courses	
GLP Certificate - Good Laboratory Practice	1992	Novo Nordisk A/S (ext consultancy)
Project Management – Group leadership, planning and budgeting	1988 -1989	Novo Nordisk A/S (ext consultancy)

Patents

Patent Headline	Authors	Date & Registration
Biopesticidal formulation	Skovmand, O	WO9716972 1998
Composition for Impregnation of fabrics and nettings.	Skovmand, O	WO 01/37662 24.11.2000
Agricultural fencing	B Bauer, Skovmand, O	WO03003827, 2001
Laminated Insecticide Dispenser	Skovmand, O and M Vestergaard-Frandsen ,	WO03063587 2002
Pesticidal blanket	Skovmand, O, M Vestergaard-Frandsen	WO03055307, 2004
Jarlid	Skovmand, O, and M and T Vestergaard Frandsen	EP20020009131, 2003
Compositions of impregnation of textiles such as nettings.	Skovmand , O.	WO 2007085640, 27.1.2007
Textile products for killing insects (insecticide combinations in textiles)	Skovmand, O.	WO 2010/046348, 19.10.2009
A textile product – e g an insecticidal net (controlled release patent)	Skovmand, O.	WO 2010/115709, 6.04.2009
A mosquito net with fixation points in a straight line attached to circular bodies	Skovmand, O	WO02011/054825 A1, 2.11.2010



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Scientific publications - Peer Reviewed

B. Dáder, S. Legarrea, O. Skovmand, R. Bosselmann, A. Moreno, C. M. Ambros, E. Viñuela and A. Fereres
Insecticide-treated Nets as a New Approach to Control Vegetable Pests in Protected Crops. **Acta Horticulturae**, 2012 (in print)

Skovmand, O, Bosselmann, R. Strength of bed nets as function of denier, knitting pattern, texturizing and polymer. **Malaria Journal**. 2011, 10:87

Skovmand, O, Ouedraogo TDA, Sanogo E², Samuelsen H, Toé LP, Bosselmann R, Tonny Czajkowski T and Baldet T. Cost of integrated vector control with improved sanitation and road infrastructure coupled with the use of slow-release *Bacillus sphaericus* granules in a tropical urban setting. **J Med Entomol**. 2011;48(4):813-21.

Toe, L, Skovmand, O, Dabire, KR;Diabate, A;Diallo Y;Guiguemde TR; Doannio, JMR;Akogbeto, M; Baldet, T; Gruenais M-E, Decreased motivation in the use of insecticide-treated nets in a malaria endemic area in Burkina Faso
Malaria Journal 2009, 8:175.

Skovmand, O, Ouedraogo, TDA, Sanogo, E, Samuelsen, H, Toe, L and Baldet, T: Impact of slow release *Bacillus sphaericus* granules on mosquito populations followed in tropical urban environment **J Med Entomol**, 2009, 46 (1):67-76

Skovmand, O, Bonnet, J and Corbel, V : Evaluation of median knock-down time as a method for evaluating impregnated textiles for mosquito control **J Malaria**, 2008.

O Skovmand Microbial Control in Southeast Asia **J Invertebrate Pathol**. 2007: 95 (3):168-175.

O. Skovmand, F. Amimo, N Walker, O Ojera, J Vulule and J Miller: How do Insecticide Treated Mosquito Nets really work ? **Trop Med International Health**, 5th European Congress, Amsterdam, May 24-28, 2007

R K Dabire, A Diabate, T Baldet, L Pare-Toe, R T Guiguemde, JB Ouedraogo and O Skovmand : Personal protection of long lasting insecticide-treated nets in areas of *Anopheles gambiae* s.s. resistance to pyrethroids **Malaria Journal** 2006, 5:12 (10 Feb 2006)

TDA Ouedraogo, T Baldet, O Skovmand, G Kabré and TR Guiguemde : Sensibilité de *Culex quinquefasciatus* aux insecticides à Bobo Dioulasso, Burkina Faso **Bull Soc Pathol Exot** 98,5,406-410, 2005

Samuelsen, H, Toe LP, Baldet T, and Skovmand O: Prevention of mosquito nuisance among urban populations in Burkina Faso **Journal of Tropical Medicine**. Vol 59, 2362 – 2371 , 2004.

Kroeger A, Skovmand, O, Phan QC, and Boewono DT : Combined field and laboratory evaluation of a long termed impregnated bednet, Permatet. **Transact Royal Soc Trop Med and Hyg** 98, 152-155, 2004.

Graham K, Mohammed N, Rehman H, Nazan A, Ahmad M, Kamal M, Skovmand O, Guillet P, Allan R, Zaim M, Yates A, Lines J, and M Rowland : Insecticide treated plastic tarpaulins for control of malaria vectors in refugee camps **Med Vet Entomol** 2002; 16(4):404-08

Skovmand, O., I. Larget-Thierry, and G. Benzon: Is *Bacillus thuringiensis* standardization possible ? Update and improvement of Bt titration over 20 years *Bacterie Entomopathogenie*, eds. Jef Charles, Armelle Delécluse & Christina Nielsen-leRoux, Kluwer Academic Publications, September 2000



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Skovmand, O, J. Kerwin and L. Lacey: Microbial Control of mosquitoes and blackflies, in Field Manual for the Application and Evaluation of Entomopathogens **ed L Lacey, Kluwer Academic Press, Dordrecht NL, 2000.**

Skovmand, O. and Becker, N: Bioassays of *Bacillus thuringiensis* subsp israelensis, in Bioassays of Entomopathogenic Microbes and Nematodes **eds Navon and Ascher, CABI Publishing, Oxon UK, 2000.**

Skovmand, O. and Guillet, P : Sedimentation of *Bacillus sphaericus* spores in clean and sewage water. **J Invert Pathol. 75 , 243-250, 2000**

Skovmand O. and. Sanogo, E: Comparision of experimental formulations of *Bacillus sphaericus* and *B. thuringiensis israelensis* against *Culex quinquefasciatus* and *Anopheles gambiae* in Burkina Faso **Journal of Med. Entomol. 36:62-67.**

Skovmand O., I. Thiery, G. Sinegre, N. Monteny, G. Benzon and N. Becker : Potency of products based on *Bacillus thuringiensis* var *israelensis* : inter laboratory variations, **Journal of Amer. Mosq. Contr. Ass., 14:298-304.**

Skovmand O. and Bauduin : Effect of granular formulation of *Bacillus sphaericus* against *Culex quinquefasciatus* and *Anopheles gambiae* in Vestafrican countries **Journal of Vector Ecology 22: 43-51**

Skovmand, O, D. Hoegh, H. S. Pedersen & T. Rasmussen: Parameters influencing the potency of products based on *Bacillus thuringiensis* var *israelensis* **Journal of Economic Entomology, 90: 361-369.**

Skovmand, O, Christoffersen, P B Gitterkammen-Schalen : zur Zucht und Unterzuchung von Lepidopterenlarven bei künstlicher Nahrung Anz Schädlinkkde, **Pflanzenschutz, Umweltschuts; 67:18-, 1994**

Skovmand, O: Field Trials of a Fizzy Tablet with *Bacillus thuringiensis* var *israelensis* in Forest Spring Ponds in Denmark **Bull. Soc Vector Ecol, 18: 160-163,1993**

Skovmand, O: Insektbekæmpelse med bakterier, virus og nematoder (Insect Control with bacteria, virus and nematodes), **Naturens Verden, 257-269, 1990.**

Skovmand, O: Addition of the Larvicide Cyromazine to Pigfeed to Control Breeding of Houseflies (*Musca domestica* L) **Int Pest Contr 30: (1), 10-13, 1988.**

Skovmand, O; Mourier, H: Electrocuting light traps evaluated for the control of houseflies, **Journal of Applied Entomology 102:446-55, 1986.**

Kristiansen, K; Skovmand, O: A method for the study of population size and survival rate of houseflies **Entomologia Exp Appl 38: 145-150, 1985.**

Keiding, J ; Skovmand, O : Insecticide Resistance in **Musca domestica 3:29-36, 1984**

Skovmand, O; Pedersen S B: Song recognition and song pattern in a shorthorned grasshopper **Journal of comp Physiol 153: 393-401, 1983**

Skovmand, O; Enghoff, H: Stridulation of *Alipes grandidieri* (Lucas), a scolopendromorph centipede. **Vidd Medd Dansk Natur Foren 142, 151- 60, 1980.**

Skovmand, O; Pedersen S B: Tooth impact rate in the song of a short horned grasshopper: A parameter carrying specific behavioural information. **J comp Physiol 124, 27-36, 1978.**



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Publications, non peer-reviewed & Articles

Skovmand, O: Malaria prevention by antivectorial fight **Developpement et Santé, 36-42, 2008**

Skovmand, O: Mikrobielle bekæmpelsesmidler for gartnerne (Microbial control in greenhouses) **Gartner Tidende, 266-267, 1991**

Skovmand, O: Mikrobielle bekæmpelsesmidler (Microbial pesticides) **Landbonyt, 4-6, 1991**

Andersen, K.E., Skovmand, O Barnets Hud : textbook for visiting nurses on skin biology and skin care for babies **Natusan, 1985.**

Keiding J; Skovmand, O; Nielsen, O H: Establishing a database for data on insecticide resistance in houseflies at **DPIL 1948-82, 1982, 1983**

Keiding J; Skovmand, O: Testing of Insecticides for Fly Control **Danish Pest Inf Lab, Ann Report 1981, 22-40, 1982.**

Skovmand, O; Keding J : Chemical control and resistance on farms in North Germany, **Danish Pest Inf Lab Annu Rep 1979, 39-40, 1980.**

Skovmand, O Biology of houseflies: Dispersal in a village **Danish Pest Inf Lab Ann Rep 1978, 60-61, 1979**

Skovmand, O: Danish Pest Inf Lab **Ann Rep 1978, 55-59, 1979.**

Skovmand, O: Markgræshoppernes sang **Naturens Verden, p 250-56, 1976**

SCIENTIFIC AND TECHNICAL ACTIVITIES:

→ Reviewer in scientific journals:

- The Journal of Invertebrate Pathology,
- J Biocontrol,
- J of Biotechnology,
- Malaria Journal,
- International Journal of Integrative Biology,
- J Medical Entomology,
- J Tropical Health and Hygiene – especially articles on mosquito control and on *Bacillus thuringiensis*,

→ Co-organizing a symposium on future microbial pesticides under the congress of Invertebrate Pathology, Quebec, 2007.

→ Scientific advisor on the International meeting on malaria under the MIM Initiative (the single, biggest congress on malaria) to be held in 2009.

→ Member of the French Research and Co-operation group Pole Fibre, 2008.

→ Advisor on use of *Bacillus thuringiensis* for the government in Quebec, Montreal, 2007.

→ Participation in the Sino-French co-operation program on bio-control, 2005.

→ Developing new insecticide incorporation yarn technology and testing the technology in various products, 2004-

→ Developing a new in-plastic impregnation technology for factory impregnation of fibers and laminates with insecticides protected against UV and other environmental degradation to give the treatments a residual activity as long as the carrying material (2001-2002).



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→ Organizing a co-operation between 4 Vietnamese research institutes in biotechnology and agriculture with the aim of developing new microbial products for the control of pest insects in Vietnam (2001-2003). New screening methods are developed, and the international network of IIC is used to back-up the 4 Vietnamese institutions. Targets included traditional targets for control with *Bacillus thuringiensis* as well as insects where such control has never been established.

The Vietnamese partners are:

Food and Industry Research Institute,
Hanoi University,
National Institute of Plant Protection
the Department of Agriculture, extension service.

The Danish embassy in Hanoi supports the project.

→ Developing a new impregnation technology for factory impregnation of mosquito bednets and curtains, and up-scaling this process to production, financed by the Danish company Vestergaard-Frandsen in co-operation with the factory 10-10 Textiles in Hanoi and the Danida private sector program (1999-2001). Ole Skovmand patents the process and product for Vestergaard-Frandsen.

→ Organizing a project on medical plants in co-operation with Centre Muraz (CM), the Danish Pharmaceutical University and the University Hospital Panum, financed by Danida (2000).

→ Consultant on microbial control and product development in co-operation with Institute of Biotechnology, University of Curitiba, Brazil, for the Brazilian-American company Urbana-Nitral (1998-2000).

→ Organizing a demo-project for integrated mosquito control with biopesticides and environmental engineering in urban environment in Ouagadougou and Bobo Dioulasso, Burkina Faso: participants include a local and a regional (CM) malaria control institutes, the Danish engineering company Ramboel, the Danish Health Institute at Panum (socio-anthropology), the local water supplying company, and IIC (1998-2001).

→ Consultant on Indian biotechnology development and especially biopesticide programs, Madras, India, March 1996 and 1998, organized by the Suisse-Indian Co-operation. Training staff from the Indian pesticide control institute (FIPAB) in bioassay technique and GLP, 1998.

→ Field experiments in Cameroon, Senegal and Burkina Faso with a new formulation of *Bacillus sphaericus* in co-operation with local and ORSTOM laboratories in 1995-1997. Ole Skovmand patents the product for the Danish Bilharzias Lab. and Orstom (now IRD).

→ Gouvernement du Québec, Ministère des Forêts, Direction de la Recherche, Laboratoire de Microbiologie, Dr Jean Cabana's laboratory, visits to learn and discuss methods for Quality Control tests on lepidopteran larvae, in 1989 and 1991.

→ The Ministry of Fishery and Food Laboratory in Slough, Rothamstedt Experimental Station and the Insect Control Department of the Military Hospital, London, 1983: learning and discussions of methods for pesticide resistance problems.

→ Adviser on the development of pest control equipment for poultry, and fur industry, cow and pig farming, 1981-83.

→ Adviser on the planning of a new agricultural research center (animal house hygiene), 1981-82.

→ Wellcome Research Laboratory, Berkhamstedt, Rothamstedt. Experimental Station, University of Birmingham, 1978: learning methods of physiological and genetically identifications of pesticide resistance in insects.

→ Study at Freiburg Universität summer 1976 - methods to study acoustic behaviour of grasshoppers.