

行政院所屬各機關因公出國人員出國報告書  
(出國類別：其他)

## 參加第4屆國際動物疫苗及診斷試劑研討 會議報告

服務機關：行政院農業委員會動植物防疫檢疫局  
姓名職稱：劉雅方技正  
派赴國家：挪威奧斯陸  
出國期間：自 95 年 6 月 23 日至 95 年 7 月 2 日  
報告日期：中華民國 95 年 9 月

## 行政院及所屬各機關出國報告提要

出國報告名稱：參加第 4 屆國際動物疫苗及診斷試劑研討會議報告

頁數 11 含附件：是

出國計畫主辦機關/聯絡人/電話

農委會動植物防疫檢疫局/陸怡芬/02-3343-2052

出國人員姓名/服務機關/單位/職稱/電話

劉雅方/農委會動植物防疫檢疫局/劉雅方/02-2343-4234

出國類別：1 考察 2 進修 3 研究 4 實習 5 其他

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報告日期：95 年 9 月

分類號/目：F7/農產品檢疫及家畜保健 F7/農產品檢疫及家畜保健

關鍵詞：動物疫苗、世界動物衛生組織、

內容摘要：

國際動物疫苗及診斷試劑研討會議 (International Veterinary Vaccines and Diagnostics Conference) 為動物疾病防治技術領域新近成立之科學性組織，今(95)年於挪威奧斯陸召開，會期自 6 月 25 日起至 30 日止共計 6 日，研討會包括專題演講、論文口頭報告、海報參展，及參展廠商之儀器設備與診斷試劑展示會。本屆主題除了跨國境動物疾病 (transboundary animal diseases) 之防治，並對於魚類疾病之防治、生物科技產製之疫苗技術及其管理等，邀請相關領域菁英分享經驗、參與研討。此次派員參加，希望從參加會議中取得動物疾病防治新知，及時了解國際法規與管理之趨勢，提供本局動物疾病防治策略、生技製備疫苗管理政策之參考。

# 參加第 4 屆國際動物疫苗及診斷試劑研討會議報告

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## 摘 要

國際動物疫苗及診斷試劑研討會議（International Veterinary Vaccines and Diagnostics Conference）為動物疾病防治技術領域新近成立之科學性組織，今（95）年於挪威奧斯陸召開，會期自 6 月 25 日起至 30 日止共計 6 日，研討會包括專題演講、論文口頭報告、海報參展，及參展廠商之儀器設備與診斷試劑展示會。本屆主題除了跨國境動物疾病（transboundary animal diseases）之防治，並對於魚類疾病之防治、生物科技產製之疫苗技術及其管理等，邀請相關領域菁英分享經驗、參與研討。此次派員參加，希望從參加會議中取得動物疾病防治新知，及時了解國際法規與管理之趨勢，提供本局動物疾病防治策略、生技製備疫苗管理政策之參考。

## 第一章 前言及目的

二十一世紀獸醫學面臨諸多新挑戰，其中備受矚目者，應屬與公共衛生相關之人畜共通傳染病議題。許多的研究投注與法規制定，其最終目的皆為預防動物疾病之發生，而倘若不幸一旦發生，也期望能藉由早期診斷及防治，初期即可控制疾病傳播。因此，診斷技術及動物用生物製劑之研發與應用，尤其是針對人畜共通傳染病，遂為重點發展之科技與輔導產業。

本局為因應「農業生物技術國家型科技計畫」中有關「動物用生物製劑」政策之推動實施，瞭解動物疫苗及診斷方法之最新發展趨勢，以研擬有效管理及監督措施，因而奉派於 95 年 6 月 25 日至 30 日參加於挪威奧斯陸舉行之第 4 屆國際動物疫苗及診斷試劑研討會議（International Veterinary Vaccines and Diagnostics Conference；以下簡稱 IVVDC）。IVVDC 之前身為美國獸醫免疫學家學會（American Association of Veterinary Immunologists），該學會係由動物傳染病學、獸醫微生物學、病理學等專家、研究者、及相關製劑製造業者共同組成，以支持協助動物疾病之預防及診斷、監督製劑品質並推動相關法規之設立為成立宗旨。鑑於本領域涉及之科技技術進展日新月異，而相關之公共衛生與安全規範亦應有各國交流之需求，乃擴編為國際性會議，逐年輪流在歐美各國召開。本局為首次派代表參加 IVVDC，希望從參加會議中取得動物用疫苗發展技術與新興浮現人畜共通傳染病之安全監測新知，並及時了解國際法規與管理趨勢變化，以提供我國對於重要動物疾病防疫政策之參考。此外，並與各國管理單位相關領域專家保持長久深遠之關係，將有助於隨時瞭解各國該領域管理現況，進而尋求進行國際合作之可行性，期與世界接軌。

## 第二章 議程

本次研討會議程如下，詳如附件 1：

日期：95 年 6 月 25 日（日）

時 間	議 程 內 容
13:30	報到
18:00-21:30	開幕大會

日期：95 年 6 月 26 日（一）

時 間	議 程 內 容
08:30-12:10	分子生物學診斷
13:10-16:50	免疫記憶

日期：95 年 6 月 27 日（二）

時 間	議 程 內 容	備 註
08:30-12:00	反芻動物相關部分	第 1 禮堂
13:00-16:30	伴侶動物相關部分	
08:30-12:00	魚類相關部分	第 2 禮堂
13:00-16:35	豬相關部分	

日期：95 年 6 月 28 日（三）

時 間	議 程 內 容	備 註
08:30-12:00	禽類相關部分	第 1 禮堂
13:00-15:10	使用基因改造生物產製動物疫苗之相關法規	
15:40-17:45	傳染性海綿狀腦病	
08:30-12:00	馬相關部分	第 2 禮堂
08:30-12:00	熱帶地區家畜疾病之控制	第 1 講堂

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日期：95年6月29日（四）

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時 間	議 程 內 容	備 註
08:30-12:00	家禽流行性感冒	第1禮堂
13:00-14:50	商用疫苗及診斷試劑之發展－生物科技之衝擊	
15:30-17:15	跨國境動物疾病	

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日期：95年6月30日（五）

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時 間	議 程 內 容	備 註
09:00-10:30	圓桌討論會議：IVVDC 未來方向	

### 第三章 參加第 4 屆國際動物疫苗及診斷試劑研討會議內容記要

#### 一、開幕

本屆 IVVDC 研討會於挪威奧斯陸大學 Blindern 校區舉行，會期自 95 年 6 月 25 日至 30 日，本次大會主席由挪威「國家獸醫研究所 (National Veterinary Institute; NVI)」Arve Lund 博士擔任，開幕大會介紹歡迎與會佳賓並感謝廠商之支持贊助後，安排挪威農業及食品部首長 Ola Heggem 及世界動物衛生組織(以下簡稱 OIE) 家禽流行性感冒 (avian influenza; 以下簡稱 AI) 專責小組專家 Christianne Brusckke 致詞，強調疫苗控制動物疾病對於相關產業永續經營之重要性，並指出現今疫苗配合疾病診斷試劑共同研發之成果，已突破 OIE 控制甲類動物傳染病必須採取撲殺策略之想法，進而保障動物健康、動物福祉及國際貿易。

#### 二、研討會內容

此次研討會分為專題演講、論文口頭報告及海報參展等部分，在首場演講中，由瑞典獸醫研究所 Dr. Sandor Belak 針對具高傳染性之跨國境動物疾病 (transboundary animal diseases)，例如口蹄疫、豬瘟、非洲豬瘟、高病原性家禽流行性感冒 (highly pathogenic avian influenza; 以下簡稱 HPAI) 等，綜觀介紹現今已發展之各種自動化、高效能診斷方法，逐一說明各方法特點並予以比較，此外，強調診斷分析方法國際標準化及調和之重要性，OIE 對於陸生及水生動物疾病皆訂有診斷測試方法手冊，並設有合作協調中心 (Collaborating Centre) 規劃制定動物病毒性疾病之 PCR 診斷標準方法申請。

由於會議主要依動物種類區隔各節研討會而同步進行，有 2 天之議程僅能擇一參加，經取捨後，決定參與我們較不熟悉之非陸生動物—魚類相關疾病診斷及疫苗會議。在疫苗的發展歷程中，傳統疫苗主要包括抗原及佐劑二部分，由目前所知的抗原及佐劑所產生的免疫反應，限制了其應用，因此現今疫苗的發展趨勢主要是結合基因療法、免疫蛋白、基因重組抗體的技術，以克服此一問題，其中 DNA 疫苗特點為具有強的細胞性免疫反應與抗體反應，可有效預防或控制許多病原體、癌症細胞、與系統性疾病。雖然魚類免疫學尚有許多待研究瞭解之機制，



在發展DNA疫苗預防傳染性造血組織壞死症（Infectious Haematopoietic Necrosis；以下簡稱IHN）方面，卻比其他領域有更傑出的成果，目前由諾華動物用藥廠（Novartis Animal Health）研製之Apex-IHN<sup>®</sup>產品已經加拿大政府主管機關（Canadian Food Inspection Agency, Veterinary Biologics and Biotechnology Division）核准應用於養殖大西洋鮭魚，為現今唯一獲准之商用DNA疫苗。本節研討會由諾華動物用藥廠Nathalie C. Simard及Dr. Kira Salonius分別介紹該DNA疫苗研發過程之相關試驗，並說明產品化過程必須投資眾多智慧財產權、如何在送交文件前就積極與主管機關溝通討論審查準則、在進入臨床試驗評估前就與產業界及獸醫團體就技術面交流等關鍵議題，讓聽眾瞭解先趨科技應用於動物疫苗實際所面臨之各層面挑戰。

因緣於人畜共通疾病之重要性，AI 之防治是本次研討會另一重點。荷蘭 Wageningen 大學及研究組織（Wageningen University and Research Organization, Netherlands）Dr. Guus Koch 首先介紹現有之 AI 疫苗：目前在某些國家為緊急防疫核准使用之商業產品僅有傳統方法製造之不活化油性乳化疫苗，其種毒株選用與野外株相同之 HA 及 NA 血清型，或選用與野外株相異之 NA 血清型以區分感染及接種動物。這些不活化疫苗可保護雞隻免於感染，並減少群體內發生傳播，但整體而言，要改善群體內及群體間傳播發生情形，使用新一代活毒或次單位疫苗以產生較長效之免疫保護、並應用噴霧或飲水劑型群體投予實有迫切需求。此外，並檢視新近研發 AI 疫苗之試驗資料，分析不同型態疫苗的預防控制計畫。另一方面，OIE AI 參考實驗室主持人 Dr. Ilaria Capua 亦指出，在歐亞大陸及非洲相繼爆發 HPAI 之後，選擇使用疫苗對抗 H5 及 H7 亞型病毒，不僅使正發生感染國家採行其他控制措施之效果更有助益，也可降低高風險感染區域之風險產生，而藉由 OIE 參與協助一些開發中國家管控 HPAI 發生之經驗瞭解，採行 AI 疫苗計畫必須要業者實際配合管理、嚴格落實牧場衛生措施方能撲滅，而不致成為地方性疾病。因此，OIE/FAO 聯合高峰會近來建議，當 AI 發生傳播風險而撲殺政策因經濟因素等無法實施時，採行使用疫苗之 DIVA (Differentiating Infected

from Vaccinated Animals) 策略。她在會中以義大利及泰國等控制 AI 的經驗為例，重複強調採用疫苗策略必須同時配合諸如執行生物安全、監視疫苗效力、監測動物感染情形、管制感染動物移動之措施具體落實，否則難以成功撲滅。

由於製備疫苗及其他生技藥品之科技早已凌駕傳統技術，在管理上亦無法再以原有之定義予以規範，本屆研討會另一重點即探討制度面管理之相關議題。瑞士伯恩大學 (University of Bern, Switzerland) Dr. Joachim Frey 及挪威基因生態研究所 (Genok-Norwegian Institute of Gene Ecology) Dr. Terje Traavik 分別由細菌及病毒製備之減毒菌 (疫) 苗觀點，說明生物安全可能產生之風險，例如減毒過程發生毒力回復、重組過程中傳遞了其他基因等，並引用研發至申請核准之實際案例強調，本類產品必須逐案審查、評估其安全之重要性。此外，挪威生物科技諮詢委員會 (The Norwegian Biotechnology Advisory Board) Dr. Grethe S. Foss 提出對於 DNA 疫苗或基因治療使用於動物管理規範的看法，首先涉及的是對於「基因改造 (genetic modification)」與「基因治療 (gene medication)」的定義，依據不同國家 (會中以英國、挪威及美國為例) 兩者函概之範圍不同，這將導致接種 DNA 疫苗或經基因治療之經濟動物後續供食用，以及影響相關生技產品開發政策訂定等問題，甚至有可能是一種技術性貿易障礙，因此不同層面之間之意見仍有極大之紛歧。

### 三、閉幕

大會議程於 6 月 29 日下午 5 時 30 分閉幕，隨即舉行閉幕式。會中除了感謝各講師及與會者的參與外，並利用問卷調查方式蒐集來年議題及意見。

## 第四章 心得建議與誌謝

首先感謝本局經費支持出席本次會議之出國旅費，本次派員參加第四屆IVVDC研討會議之心得與建議繼續努力之方向如下：

### 一、為掌握相關科技資訊之最新發展動向，積極參加國際性會議，以促進國際合作與交流

IVVDC 雖才成立第四屆，但與會者跨及獸醫、生物科技等領域，並來自世界各地，由於動物疫苗及疾病診斷方面之最新發展都將透過此盛會發表，而全球相關領域之學者專家、業界、政府管理部門及提供有關檢測研究軟硬體廠商也會齊聚一堂，因此參與本研討會將可瞭解防治診斷動物疾病科技及管理層面之重大趨勢。此外，參加國際性研討會和與會者進行面對面交流溝通，確實是促進資訊交流及提昇專業知識之捷徑，而針對特定議題和同領域與會者建立聯絡管道，更可拓展國際交流機會，例如本次研討會休息時段，職與挪威生物科技諮詢委員會（The Norwegian Biotechnology Advisory Board）Dr. Grethe S. Foss 就管理 DNA 疫苗議題交換意見，返國後並以電子郵件通訊得贈「Regulation of DNA vaccines and gene therapy on animals」討論資料（附件 2），收穫甚多。

### 二、繼續加強防治動物疾病技術與策略等相關研究，密切注意國際規範管理趨勢

本局向來至為重視高傳染性跨國境動物疾病之防治，以防治AI為例，不僅持續進行候鳥、雞、水禽及豬之監測工作，並補助養禽場、豬場設置防鳥圍網設施。本次研討會探討與分享之經驗得知，OIE專家推薦使用疫苗DIVA策略來控制AI，但是前提為仍應嚴格進行監測及落實牧場衛生管理等相關配套措施，方能奏效。我國雖屬HPAI非疫區，是否考量經濟及食品供銷等因素採用DIVA策略，以及一旦採用疫苗時，應及早評估規劃詳細配套措施及標準作業流程等，以符實際需求。

另一方面，我國對於動物疾病診斷防治研究成果實不遜他國，應系統性彙整執行成果，並儘量發表，此外，是否重點輔導已具診檢規模實力之實驗室爭取成為OIE參考實驗室，或培養有協調整合能力學者專家爭取設置OIE合作協調中心，以增加我國相關領域之國際能見度。

本局對於生技藥品之管理亦積極搜集各國資料，以期審查評估機制能與世界接軌，確保動物用藥品安全及品質，並增進動物福祉。此行出國前即與同仁討論所需，以便會議期間迅速掌握重點截取帶回，使此次參與會議雖只有一人，但能和同仁分享與會資訊，獲得最大效益。

### 三、培養動物用疫苗科技產業人才，提升管理相關科技產業能力

動物用生物製劑之研發係為國家型科技計畫所支持，雖然學術界投入研發，但是倘若中間及後端缺乏科技智慧財產權管理及實際製造檢驗管制的人才，將使日後量化生產之成果受到極大限制。由本次研討會動物用疫苗製造廠專家提出分享，DNA 疫苗上市前與各層面溝通之種種規劃整合工作經驗，應值得我國相關產業發展策略借鏡。

# 附件一

**Sunday, June 25, 2006**

18:00 – 21:30 Opening Ceremony

Auditorium 1

Welcome address: Arve Lund, Norway and Liisa Sihvonen, Finland, Scientific committee

Opening of the conference: Ola Heggem, Norwegian Ministry of Agriculture and Food

Opening lecture: Christianne Brusckhe, World Organisation for Animal Health

Get together buffet

**Monday, June 26, 2006**

08:30 – 12:10 Molecular Diagnostics

Auditorium 1

Chairpersons: Sandor Belak, Sweden & Linda Saif, USA

- |               |   | Abs No |
|---------------|---|--------|
| 08:30         | <b>Molecular diagnosis of viral diseases, present trends and future views</b><br><u>Belak, Sandor</u><br>The National Veterinary Institute & The Swedish University of Agricultural Sciences, Sweden                  | IS001  |
| 09:15         | <b>Molecular diagnosis of infectious diseases in companion animals: added values</b><br><u>Lutz, Hans</u> ; Meli, M; Gomes Keller, A; Willi, B; Tandon, R;<br>Hofmann-Lehmann, R<br>University of Zurich, Switzerland | IS002  |
| 10:00 – 10:40 | Break, coffee/tea and poster viewing  |        |
| 10:40         | <b>Molecular diagnosis and genetic and antigenic relatedness of animal Noroviruses and Sapoviruses</b><br><u>Saif, Linda</u> ; Wang, Q.; Costantini, V.; Han, M.G.<br>The Ohio State University, United States        | IS003  |
| 11:25         | <b>The impact of early and late diagnosis of emerging and re-emerging transboundary animal diseases</b><br><u>Sanchez-Vizcaino, Jose</u><br>Universidad Complutense of Madrid, Spain                                  | IS004  |
| 12:10 – 13:10 | Lunch   |        |

13:10 – 16:50 Immunological Memory

Auditorium 1

Chairpersons: Wayne R. Hein, New Zealand & Lorne A. Babiuk, Canada

- |       |  | Abs No |
|-------|--|--------|
| 13:10 | <b>Viral vaccines and CD8 T Cell memory</b><br><u>Ahmed, Rafi</u><br>Emory Vaccine Center and Department of Microbiology & Immunology, United States | IS005  |

13:55	<b>Induction of immunity and memory at mucosal surfaces</b> <u>Brandtzaeg, Per</u> Faculty Division Rikshospitalet University Hospital, Norway	IS006
14:40 – 15:20	Break, coffee/tea and poster viewing	
15:20	<b>Induction of immune memory by DNA immunization</b> <u>Griebel, Philip</u> <sup>1</sup> ; Tsang, C <sup>1</sup> ; Babiuk, S <sup>2</sup> ; van Drunen Littell-vanden Hurk, S <sup>1</sup> ; Babiuk, LA <sup>1</sup> <sup>1</sup> Vaccine and Infectious Disease Organization, Canada; <sup>2</sup> CFIA/NCFAD, Canada	IS007
16:05	<b>Strategies in veterinary vaccine development to improve immunological memory</b> <u>Wood, Paul</u> ; Ruby, Janet; Elhay, Martin; Walker, John Pfizer Animal Health, Australia	IS008
16:50 – 18:00	<b>Poster viewing</b>	

**Tuesday, June 27, 2006**

**08:30 – 12:00 Concurrent session. Ruminants**

Auditorium 1

Chairpersons: Elisabeth Innes, United Kingdom & Ingrid Olsen, Norway

		Abs No
08:30	<b>The host-parasite relationship in Toxoplasmosis and Neosporosis and strategies for vaccination.</b> <u>Innes, Elisabeth A</u> ; Bartley, PM; Maley, SW; Wright, SE; Buxton, D Moredun Research Institute, United Kingdom	IS009
09:10	<b>Immune responses in bovine tuberculosis: progress towards improved disease control strategies</b> <u>McNair, J.</u> ; Welsh, M.D.; Pollock, J.M. Veterinary Sciences Division, Agri-Food and Biosciences Institute, Stormont, Belfast, Northern Ireland, United Kingdom	IS010
09:50	<b>Vaccines to protect the unborn foetus – the control of bovine pestiviruses</b> <u>Brownlie, Joe</u> ; Thomas, C.; Collins, M. Royal Veterinary College, United Kingdom	IS011
10:30 – 11:10	Break, coffee/tea and poster viewing	

Concurrent session. Ruminants - oral presentation of posters

		Abs No
11:10	<p><b><i>Fasciola hepatica</i> – new diagnosis tools</b>  <u>Conceição, Maria Antónia</u><sup>1</sup>; Castro, A.<sup>2</sup>; Silva, E.<sup>2</sup>; Correia da Costa, J.M.<sup>2</sup>; Costa, I.<sup>3</sup>; Viana, A.B.<sup>3</sup>; Senos, J.C.<sup>4</sup>; Jorge, R.<sup>4</sup>  <sup>1</sup>Escola Superior Agrária de Coimbra, Portugal; <sup>2</sup>Instituto Nacional de Saúde Dr. Ricardo Jorge.CIBP- Laboratório de Parasitologia, Portugal; <sup>3</sup>Escola Superior Agrária de Coimbra, Instituto Politécnico de Coimbra, Portugal; <sup>4</sup>Organização de Produtores Pecuários de Aveiro Ílhavo e Vagos, Portugal</p>	P036
11:20	<p><b>Amended recombinant cells (ARC<sup>TM</sup>): An efficient production and delivery vehicle for bovine IFN-<math>\gamma</math> has significant adjuvant activity</b>  <u>Griebel, Philip J.</u><sup>1</sup>; Gaertner, F.H.<sup>2</sup>; Babiuk, LA<sup>1</sup>; Lee, SL<sup>3</sup>; Shutter, RW<sup>4</sup>; Armstrong, JM<sup>3</sup>  <sup>1</sup>Vaccine and Infectious Disease Organization, Canada; <sup>2</sup>Consultant, United States; <sup>3</sup>The Dow Chemical Company, United States; <sup>4</sup>The Dow Chemical Company, United States</p>	P037
11:30	<p><b>In vitro production of Interferon-gamma from whole blood of Foot-and-Mouth Disease (FMD) vaccinated and infected cattle after re-stimulation with vaccine antigen correlates well with clinical protection</b>  <u>Oh, Y</u><sup>1</sup>; Charleston, B<sup>1</sup>; Paton, D<sup>1</sup>; Park, J<sup>2</sup>; Barnett, P<sup>1</sup>; Joo, Y<sup>2</sup>; Parida, S<sup>1</sup>  <sup>1</sup>Pirbright Laboratory, Institute for Animal Health, United Kingdom; <sup>2</sup>FMD Research Laboratory, NVRQS, Republic of Korea</p>	P038
11:40	<p><b>Development of a real-time PCR for detection of <i>Mycoplasma bovis</i> in bovine milk and lung samples</b>  <u>Cai, H Y</u><sup>1</sup>; <u>Prescott, J F</u><sup>2</sup>; Bell-Rogers, P<sup>1</sup>; Parker, L<sup>1</sup>  <sup>1</sup>University of Guelph, Animal Health Laboratory, Canada; <sup>2</sup>University of Guelph, Department of Pathobiology, Canada</p>	P039
11:50	<p><b>DNA immunization against bovine herpesvirus 1: heterologous prime-boost strategies change the rule</b>  <u>Toussaint, Jean-François</u>; Dispas, M; Dubois, A; Letellier, C; Kerkhofs, P                      Veterinary and Agrochemical Research Center, Belgium</p>	P040

**08:30 - 12:00 Concurrent session. Fish**

Auditorium 2

Chairpersons: Øystein Evensen, Norway & Eggert Gunnarsson, Iceland

		Abs No
08:30	<p><b>Research to market: Meeting safety and efficacy requirements for a DNA vaccine used in Atlantic salmon</b>  <u>Simard, Nathalie C.</u><sup>1</sup>; Lyngøy, C.<sup>2</sup>; Funk, V.<sup>2</sup>; Traxler, G.<sup>3</sup>; LaPatra, S.<sup>4</sup>; Salonijs, K.<sup>1</sup>  <sup>1</sup>Novartis Animal Health Canada Inc, Canada; <sup>2</sup>Pan Fish Canada Ltd., Canada; <sup>3</sup>Pacific Biological Station, Canada; <sup>4</sup>Clear Springs Foods Inc., United States</p>	IS012
09:10	<p><b>Vaccination against atypical furunculosis and winter ulcers of fish</b>  <u>Gudmundsdóttir, Bjarnheidur Kristín</u>                      Institute for Experimental Pathology, Iceland</p>	IS013



09:50	<p><b>Novel strategies to control infectious pancreatic necrosis disease</b>  <u>Vakharia, Vikram</u><sup>1</sup>; Santi, N<sup>2</sup>; Shivappa, R<sup>3</sup>; Song, H<sup>3</sup>; Evensen, O<sup>2</sup>  <sup>1</sup>University of Maryland Biotechnology Institute, United States; <sup>2</sup>Norwegian School of Veterinary Science, Norway; <sup>3</sup>University of Maryland, United States</p>	IS014
10:30 - 11:10	<p>Break, coffee/tea and poster viewing</p> <p>Concurrent session. Fish - oral presentation of posters</p>	
11:10	<p><b>Vaccine-induced abdominal lesions and deformed vertebral column in harvest-size Atlantic salmon (<i>Salmo salar</i> L.), and estimation of associated economic losses</b>  <u>Midtlyng, Paul J</u><sup>1</sup>; Aunsmo, A<sup>2</sup>; Guttvik, A<sup>1</sup>; Østvik, A<sup>3</sup>; Bjerke Larssen, R<sup>2</sup>  <sup>1</sup>VESO, Norway; <sup>2</sup>Norwegian School of Veterinary Science, Norway; <sup>3</sup>Havbrukstjenesten Frøya, Norway</p>	<p>Abs No P089</p>
11:20	<p><b>Screening for concealed antigens in the salmon louse (<i>Crustacea, Copopoda</i>), using microarrays and systemic RNA-interference</b>  <u>Frost, Petter</u><sup>1</sup>; Moros, C<sup>1</sup>; Biering, E<sup>1</sup>; Hamre, L<sup>1</sup>; Dybsvik, B<sup>2</sup>; Kristiansen, B<sup>3</sup>; Nilsen, F<sup>1</sup>  <sup>1</sup>Institute of Marine Research, Norway; <sup>2</sup>Department of informatics, University of Bergen, Norway; <sup>3</sup>The Norwegian microarray consortium, The Norwegian Radium Hospital, Norway</p>	P090
11:35	<p><b><i>Moritella viscosa</i> in Atlantic salmon (<i>Salmo salar</i>) - evaluation of experimental models to discriminate between specific and non specific protection after vaccination</b>  <u>Maira, C.</u><sup>1</sup>; Wallace, C.<sup>2</sup>; Guttvik, A.<sup>2</sup>; Gravningen, K.<sup>1</sup>  <sup>1</sup>PHARMAQ AS, Norway; <sup>2</sup>VESO Vikan, Norway</p>	P091
11:45	<p><b>Protection and humoral immune responses of rainbow trout (<i>Oncorhynchus mykiss</i>) following bath immunization with an <i>A. hydrophila</i> <i>aroA</i> live vaccine</b>  Vivas, J.<sup>1</sup>; Lopez-Fierro, P.<sup>2</sup>; Razquin, B.E.<sup>2</sup>; Naharro, G.<sup>2</sup>; <u>Villena, A.J.</u><sup>2</sup>  <sup>1</sup>Institut Pasteur, France; <sup>2</sup>University of Leon, Spain</p>	P092
12:00 - 13:00	Lunch	

**13:00 - 16:35 Concurrent session. Swine**

Auditorium 2

Chairpersons: Volker Moennig, Germany & Lars Ole Andresen, Denmark

		Abs No
13:00	<p><b>Porcine Reproductive and Respiratory Virus, vaccines and disease from an immunologists view</b>  <u>Thacker, Eileen</u>                      Iowa State University, United States</p>	IS015
13:40	<p><b>Lawsonia Intracellularis infection in pigs: diagnostics, vaccination and eradication</b>  <u>Jensen, Tim Kåre</u>                      Danish Institute for Food and Veterinary Research, Denmark</p>	IS016
14:20 - 15:00	Break, coffee/tea and poster viewing	
15:00	<p><b>Diagnostic methods for detection of Classical Swine Fever Virus - status quo and new developments</b>  <u>Greiser-Wilke, Irene</u>; Moennig, Volker                      University of Veterinary Medicine Hannover, Germany</p>	IS017
15:25	<p><b>Novel marker vaccines against Classical Swine Fever</b>  <u>Beer, Martin</u>                      Institute of Diagnostic Virology, Friedrich-Loeffler-Institut, Germany</p>	IS018
15:50	<p><b>Comments on possible impediments for the introduction of new marker vaccines against classical swine fever</b>  <u>Moennig, Volker</u>; Greiser-Wilke, Irene                      University of Veterinary Medicine Hannover, Germany</p>	IS019
	Concurrent session. Swine - oral presentation of posters	
16:05	<p><b>Induction of 'Peyer's patch independent' immune responses against <i>E. coli</i> F4 fimbriae in the small intestine of pigs</b>  <u>Salles, Monica</u>; Danabassis, M.; Buchanan, R.; Whale, J.; Strom, S.; Thompson, D.; Gerds, V.                      VIDO, Canada</p>	Abs No P106
16:20	<p><b>Understanding swine immunity to Porcine Reproductive and Respiratory Syndrome virus (PRRSV) infection - informing future vaccine design</b>  <u>Lunney, Joan</u><sup>1</sup>; Petry, D.<sup>2</sup>; Johnson, R.<sup>3</sup>; Zuckermann, F.<sup>4</sup>; Zimmerman, J.<sup>5</sup>; Rowland, R.R.<sup>6</sup>  <sup>1</sup>USDA, ARS, BARC, United States; <sup>2</sup>Univ. of Nebraska, Lincoln, NE; Monsanto, St. Louis MO, United States; <sup>3</sup>Univ. of Nebraska, Lincoln, NE, United States; <sup>4</sup>Univ. Illinois-Urbana, IL, United States; <sup>5</sup>Iowa State University, Ames IA, United States; <sup>6</sup>Kansas State University, Manhattan, KS, United States</p>	P107

**13:00 - 16:30 Concurrent session, Companion animals**

Auditorium 1

Chairpersons: Hans Lutz, Switzerland & Niels C. Pedersen, USA

		Abs No
13:00	<p><b>Clinical forms of feline calicivirus infection and their implications to vaccination regimens</b>  <u>Pedersen, N. C.</u><sup>1</sup>; <u>Pesavento, P.A.</u><sup>2</sup>; <u>Hurley, K.</u><sup>3</sup>  <sup>1</sup>School of Veterinary Medicine, United States; <sup>2</sup>University of California, Davis, United States; <sup>3</sup>University of California, United States</p>	IS020
13:40	<p><b>Vaccination programs for animal shelters: unique challenges and opportunities</b>  <u>Hurley, Kate</u>                      UC Davis School of Veterinary Medicine, United States</p>	IS021
14:20 - 15:00	Break, coffee/tea and poster viewing	
15:00	<p><b>Vaccination against FeLV infection: new aspects</b>  <u>Hofmann-Lehmann, Regina</u><sup>1</sup>; <u>Cattori, Valentino</u><sup>1</sup>; <u>Pepin, Andrea</u><sup>1</sup>; <u>Gomes-Keller, Maria Alice</u><sup>1</sup>; <u>Boretti, Felicitas S.</u><sup>2</sup>; <u>Lutz, Hans</u><sup>1</sup>  <sup>1</sup>Clinical Laboratory, Vetsuisse Faculty, University of Zurich, Switzerland; <sup>2</sup>Clinic for Small Animal Internal Medicine, University of Zurich, Switzerland</p>	IS022
	Concurrent session. Companion animals - oral presentation of posters	
		Abs No
15:40	<p><b>Determination of serum antibody titres against Canine Distemper and Parvovirus in dogs (Portugal): results and questions regarding primo and revaccination protocols.</b>  <u>Almeida, C.</u><sup>1</sup>; <u>Carmichael, L.</u><sup>2</sup>; <u>Tavares, L.</u><sup>1</sup>  <sup>1</sup>Centro de Investigação Interdisciplinar em Sanidade Animal (CIISA)/F.M.V.-U.T.L, Portugal; <sup>2</sup>NYSCVM, Cornell University, Ithaca, NY, United States</p>	P121
15:45	<p><b>Crossreactivity of antibodies to canine and equine influenza H3N8 virus in naturally infected and vaccinated dogs</b>  <u>Crawford, PC</u><sup>1</sup>; <u>Katz, JM</u><sup>2</sup>; <u>Pompey, J</u><sup>2</sup>; <u>Anderson, TC</u><sup>1</sup>; <u>Donis, RO</u><sup>2</sup>; <u>Scott, KC</u><sup>1</sup>; <u>Gibbs, EP</u><sup>1</sup>  <sup>1</sup>University of Florida College of Veterinary Medicine, United States; <sup>2</sup>Centers for Disease Control and Prevention, United States</p>	P122
15:50	<p><b>Syndromic surveillance for canine influenza virus infection in pet dogs in the U.S.</b>  <u>Crawford, PC</u><sup>1</sup>; <u>Dubovi, EJ</u><sup>2</sup>; <u>Zylich, NC</u><sup>2</sup>; <u>Katz, JM</u><sup>3</sup>; <u>Pompey, J</u><sup>3</sup>; <u>Anderson, TC</u><sup>1</sup>; <u>Donis, RO</u><sup>3</sup>; <u>Gibbs, EP</u><sup>1</sup>  <sup>1</sup>University of Florida College of Veterinary Medicine, United States; <sup>2</sup>Cornell University College of Veterinary Medicine, United States; <sup>3</sup>Centers for Disease Control and Prevention, United States</p>	P123
15:55	<p><b>Comparative studies on live and inactivated viral vaccines against canine parvovirus (CPV) and Hungarian CPV field isolates using nucleic acid amplification based techniques.</b>  <u>Farsang, Attila</u>; <u>Kulcsár, Gábor</u>                      Institute for Veterinary Medicinal Products, Hungary</p>	P124

- 16:00            **Efficacy of an inactivated influenza vaccine in dogs**            P125  
Lakshmanan, Nallakannu<sup>1</sup>; Lum, M.A.<sup>2</sup>; Tarbet, E.B.<sup>2</sup>;  
Mellencamp, M.W.<sup>2</sup>; Duncan, K.L.<sup>2</sup>; Coyne, M.J.<sup>2</sup>; Sterner,  
F.J.<sup>2</sup>  
<sup>1</sup>United States; <sup>2</sup>Intervet Inc, United States
- 16:05            **Four-year rabies DOI provided by an inactivated rabies & modified live feline herpesvirus, feline calicivirus, feline parvovirus, & Chlamydia felis vaccine**            P126  
Lakshmanan, Nallakannu; Gore, T.C.; Williams, J.R.;  
Duncan, K.L.; Coyne, M.J.; Lum, M.A.; Sterner, F.J.  
Intervet Inc, United States
- 16:10            **Serological responses of feral cats to vaccination in trap-neuter-return programs**            P127  
Levy, Julie<sup>1</sup>; Fisher, SM<sup>2</sup>; Quest, CM<sup>2</sup>; Tucker, SJ<sup>2</sup>  
<sup>1</sup>College of Veterinary Medicine, United States; <sup>2</sup>University of  
Florida College of Veterinary Medicine, United States
- 16:15            **Growth characteristics of canine and feline pathogenic viruses in MDCK and fcwf-4 cells cultured by universal basic media without animal protein**            P128  
Mochizuki, Masami  
Kyoritsu Seiyaku Corporation, Japan
- 16:20            **Persistence of Rabbit Haemorrhagic Disease Virus genome in rabbits monitored by real-time RT-PCR**            P129  
Gall, A.<sup>1</sup>; Hoffmann, B.<sup>1</sup>; Teifke, J. P.<sup>2</sup>; Lange, B.<sup>3</sup>;  
Schirrmeyer, H.<sup>1</sup>  
<sup>1</sup>Friedrich-Loeffler-Institut, Institute of Diagnostic Virology,  
Greifswald – Insel Riems, Germany; <sup>2</sup>Friedrich-Loeffler-  
Institut, Institute of Infectology, Greifswald – Insel Riems,  
Germany; <sup>3</sup>Riemser Arzneimittel AG, Greifswald – Insel  
Riems, Germany
- 16:25            **Vaccination of dogs against South-African *Babesia rossi* infection**            P130  
Sutton, David<sup>1</sup>; Strydom, T<sup>2</sup>; Matjila, T<sup>3</sup>; Penzhorn, B<sup>3</sup>;  
Schetters, Th<sup>1</sup>  
<sup>1</sup>Intervet International BV, Netherlands; <sup>2</sup>Intervet Malelane  
Research Unit, South Africa; <sup>3</sup>Faculty of Veterinary Science,  
University of Pretoria, South Africa
- 16:30 – 18:00            **Poster viewing**

Wednesday, June 28, 2006

**08:30 - 12:00 Concurrent session. Avian**

Auditorium 1

Chairpersons: Bjørn Engstrøm, Sweden & Harry P. Flore, The Netherlands

		Abs No
08:30	<b>Challenges in the successful control of the avian coccidia</b> <u>Shirley, MW</u> Institute for Animal Health, United Kingdom	IS023
09:10	<b>How to fight <i>Campylobacter</i> infections in poultry: vaccination, treatment or diagnostics?</b> <u>Wagenaar, Jaap A</u> <sup>1</sup> ; De Zoete, Marcel <sup>1</sup> ; Van der Wal, Fimme Jan <sup>2</sup> ; Van Bergen, Marcel <sup>2</sup> ; Jacobs-Reitsma, Wilma <sup>3</sup> ; Van Putten, Jos <sup>1</sup> <sup>1</sup> Faculty of Veterinary Medicine, Netherlands; <sup>2</sup> Animal Sciences Group, Netherlands; <sup>3</sup> RIKILT Institute of Food Safety, Netherlands	IS024
09:50	<b>Manipulation of the infectious bronchitis coronavirus genome for vaccine development and analysis of the accessory proteins</b> <u>Cavanagh, Dave</u> <sup>1</sup> ; Casais, R <sup>1</sup> ; Hodgson, T <sup>1</sup> ; Armesto, Maria <sup>1</sup> ; Izadkhasti, Sousean <sup>1</sup> ; Davies, Marc <sup>1</sup> ; Lin, Fengsheng <sup>2</sup> ; Tarpey, Ian <sup>2</sup> ; Britton, P <sup>1</sup> <sup>1</sup> Institute for Animal Health, United Kingdom; <sup>2</sup> Intervet International, United Kingdom	IS025
10:30 - 11:10	Break, coffee/tea and poster viewing	
	Concurrent session. Avian - oral presentation of posters	
11:10	<b>Evaluation of egg propagated <i>Eimeria tenella</i> (local isolates) gametocytes vaccine(s) against coccidiosis in chickens</b> Hafeez, M. A. <sup>1</sup> ; <u>Akhtar, M.</u> <sup>2</sup> ; Hussain, I. <sup>1</sup> <sup>1</sup> University of Agriculture, Faisalabad, Pakistan; <sup>2</sup> University of Agriculture, Faisalabad, Pakistan	Abs No P140
11:25	<b>Immunological approach to identify and control the poultry red mite (<i>Dermanyssus gallinae</i>)</b> Arkle, S; Guy, J; <u>Sparagano, O</u> University of Newcastle upon Tyne, United Kingdom	P141
11:40	<b>Immunogenic <i>Clostridium perfringens</i> proteins recognized by broiler chickens immune to necrotic enteritis</b> Kulkarni, R. R. <sup>1</sup> ; <u>Prescott, J. F.</u> <sup>2</sup> ; Sharif, S. <sup>1</sup> ; Parreira, V. <sup>1</sup> <sup>1</sup> University of Guelph, Department of Pathobiology, Canada; <sup>2</sup> University of Guelph, Department of pathobiology, Canada	P142

**08:30 - 12:00 Concurrent session. Equine**

Auditorium 2

Chairpersons: Berndt Klingeborn, Sweden & Jim MacLachlan, USA

		Abs No
08:30	<p><b>West Nile: recent trends in diagnosis and vaccine development</b>  <u>Dauphin, Gwenaëlle</u>; Zientara, Stéphan                      UMR de virologie (INRA/AFSSA/ENVA), France</p>	ISO26
09:10	<p><b>Experiences with equine vaccines new and old</b>  <u>MacLachlan, N. James</u><sup>1</sup>; Balasuriya, U.B.<sup>2</sup>; Davis, N.<sup>3</sup>;                      Johnston, R.E.<sup>3</sup>; Guthrie, A.<sup>4</sup>; Ferraro, G.L.<sup>1</sup>  <sup>1</sup>University of California, United States; <sup>2</sup>University of Kentucky, United States; <sup>3</sup>University of North Carolina, United States; <sup>4</sup>University of Pretoria, South Africa</p>	ISO27
09:50	<p><b>Equine immune response to proteins of <i>Streptococcus equi</i> and zoonotic <i>Streptococcus equi</i></b>  <u>Timoney, John F.</u>                      Gluck Equine Research Center, University of Kentucky, United States</p>	ISO28
10:30 - 11:10	<p>Break, coffee/tea and poster viewing                       Concurrent session. Equine - oral presentation of posters</p>	
11:10	<p><b>Protection against strangles by vaccination of horses using recombinant antigens from <i>Streptococcus equi</i> susp. <i>equi</i></b>  <u>Flock, Jan-Ingmar</u><sup>1</sup>; Waller, Andrew<sup>2</sup>; Flock, Margareta<sup>1</sup>;                      Smith, Ken<sup>2</sup>; Robinson, Carl<sup>2</sup>; Mitchel, Zoe<sup>2</sup>; Karlström, Åsa<sup>3</sup>;                      Lannergård, Jonas<sup>3</sup>; Guss, Bengt<sup>3</sup>; Bergman, Rune<sup>4</sup>  <sup>1</sup>Karolinska Institutet, Sweden; <sup>2</sup>Animal Health Trust, United Kingdom;  <sup>3</sup>Swedish University of Agricultural Sciences, Sweden; <sup>4</sup>Nordvacc Läkemedel, Sweden</p>	Abs No P156
11:20	<p><b>Development of a novel immunization vehicle for horses which can reduce IgG production to less than ten days</b>                      Licea, Alexei<sup>1</sup>; <u>Beltran, A.</u><sup>1</sup>; Nuttall, S<sup>2</sup>; Navarro, M<sup>1</sup>;                      Becerril, B<sup>3</sup>; Renteria, T.<sup>4</sup>; Moreno, F.<sup>4</sup>; Muñoz, M.<sup>4</sup>;                      Bermudez, R.<sup>4</sup>; Lopez, E.<sup>3</sup>  <sup>1</sup>Marine Biotechnology Department. CICESE, Mexico; <sup>2</sup>CRC for Diagnostics at CSIRO Molecular and Health Technologies, Australia; <sup>3</sup>National Autonomous University of Mexico, Mexico; <sup>4</sup>Research Institute in Veterinary Sciences UABC, Mexico</p>	P157
11:35	<p><b>Safety and efficacy of a live West Nile Virus chimera vaccine using a model of induced West Nile Virus clinical disease</b>  <u>Mellencamp, M.W.</u><sup>1</sup>; Long, M.T.L<sup>2</sup>; Gibbs, P.E.G<sup>2</sup>; Seino, K.S.S<sup>2</sup>;                      Beachboard, S.E.B<sup>2</sup>; Zhang, S.<sup>1</sup>  <sup>1</sup>Intervet, Inc, United States; <sup>2</sup>Intervet Inc, United States</p>	P158
11:45	<p><b>Expression and purification of proteins from <i>Culicoides</i> spp. as potential allergens in summer eczema</b>  <u>Biörnsdóttir, Þórunn Sóley</u><sup>1</sup>; Svansson, V<sup>1</sup>; Ólafsdóttir, G<sup>1</sup>;                      Harwood, L<sup>2</sup>; Marti, E<sup>2</sup>; Þorsteinsdóttir, S<sup>1</sup>  <sup>1</sup>Institute for Experimental Pathology at Keldur, University of Iceland, Iceland; <sup>2</sup>Division of Clinical Research, Dept. of Clinical Veterinary Medicine, University of Berne, Switzerland</p>	P159

**08:30 - 12:00 Conc. session, Control of livestock diseases in the Tropics**

Lecture room 1

Chairpersons: Gerrit Viljoen, Austria & Edith Authié, France

		Abs No
08:30	<b>The threat of Peste des Petits Ruminants to Africa: progress in vaccine development</b> <u>Diallo, A.</u> Animal Production Unit, FAO/IAEA Agricuklture and Biotechnology Laboratory, IAEA, Austria	IS029
09:10	<b>Recent achievements in vaccine development for the control of East Coast fever in cattle</b> <u>Taracha, Evans L.N.</u> <sup>1</sup> ; Graham, S. <sup>1</sup> ; Pelle, R. <sup>1</sup> ; Honda, Y. <sup>1</sup> ; de Villers, E. <sup>1</sup> ; Nene, W. <sup>2</sup> ; Gardner, M. <sup>3</sup> ; der van Bruggen, P. <sup>4</sup> ; Gilbert, S. <sup>5</sup> ; Audonnet, J.C. <sup>6</sup> <sup>1</sup> International Livestock Research Institute, Kenya; <sup>2</sup> The Institute for Genomic Research, United States; <sup>3</sup> Seattle Biomedical Research Institute, United States; <sup>4</sup> Ludwig Institute for Cancer Research, Belgium; <sup>5</sup> Wellcome Trust Centre for Human Genetics, United States; <sup>6</sup> Discovery Research, Meril SAS, France	IS030
09:50	<b>The control of contagious bovine pleuropneumonia: diagnosis and vaccination</b> <u>Thiaucourt, Francois</u> CIRAD, France	IS031
10:30 - 11:10	Break, coffee/tea and poster viewing	
	Concurrent session. Control of livestock diseases in the Tropics - oral presentation of posters	
11:10	<b>Development and evaluation of an inhibition ELISA based on recombinant hsp70 (BiP) for the diagnostics of animal trypanosomiasis</b> Bossard, Geraldine <sup>1</sup> ; Boulangé, A <sup>1</sup> ; Thévenon, S <sup>1</sup> ; Enwezor, F <sup>2</sup> ; <u>Authié, E</u> <sup>3</sup> <sup>1</sup> CIRAD,EMVT,UMR17, France; <sup>2</sup> NITOR, Nigeria; <sup>3</sup> INRA, France	P166
11:20	<b>Annotated catalogs of transcripts from salivary glands of the cattle tick, <i>Rhipicephalus (Boophilus) microplus</i>, assist in antigen discovery for development of vaccines</b> <u>De Miranda Santos, Isabel K. F.</u> <sup>1</sup> ; Giampietro Brandão, L. <sup>2</sup> ; Maruyama Costa, S. <sup>2</sup> ; Anderson, J. <sup>3</sup> ; Valenzuela, J. G. <sup>4</sup> ; Ribeiro, J. M. C. <sup>4</sup> ; Rossetti Ferreira, B. <sup>2</sup> ; Silva, J. S. <sup>2</sup> <sup>1</sup> Faculdade de Medicina de Ribeirão Preto, Brazil; <sup>2</sup> Dept. Biochemistry and Immunology, Faculdade de Medicina de Ribeirão Preto, Universidade de São Paul, Brazil; <sup>3</sup> Vector Molecular Biology Unit, National Institute of Allergy and Infectious Disease - NIH, United States; <sup>4</sup> Vector Molecular Biology Unit, National Institute of Allergy and Infectious Disease - NIH, United States	P167

11:35	<p><b>Development of two inactivated vaccines containing one Brazilian isolate of Bovine Viral Diarrhea Virus (BVDV)</b>  <u>Okuda, L.H.</u><sup>1</sup>; Jordão, R.S.<sup>1</sup>; Ribeiro, C.P.<sup>1</sup>; Alessi, L.M.<sup>2</sup>; Marchiori Filho, M.<sup>2</sup>; Stefano De, E.<sup>1</sup>; Del Fava, C.<sup>1</sup>; Pituco, E.M.<sup>1</sup>; Mehnert, D.U.<sup>3</sup>  <sup>1</sup>Instituto Biológico, Brazil; <sup>2</sup>Vallée S.A., Brazil;  <sup>3</sup>Departamento de Microbiologia do Instituto de Ciências Biomédicas da Universidade de São Paulo, Brazil</p>	P168
11:45	<p><b>Evaluation of vaccine efficacy in cattle against Hemorrhagic septicemia with live attenuated aroA mutant of <i>Pasteurella multocida</i> B: 2 strain</b>  <u>Tabatabaei, M.</u>                      Urmia University, Iran</p>	P169
12:00 - 13:00	Lunch	

**13:00 - 15:10 Regulatory aspects regarding use of genetically modified organisms in veterinary vaccines**

Auditorium 1

Chairpersons: Ivo Claassen, The Netherlands & Nikolaus G. Kriz, United Kingdom

		Abs No
13:00	<p><b>Opportunities and risks from GM vaccines</b>  <u>Traavik, Terje</u>                      GenÖk-Norwegian Institute of Gene Ecology, Norway</p>	IS032
13:30	<p><b>Biological safety concepts of genetically modified live vaccines</b>  <u>FREY, Joachim</u>                      University of Bern, Switzerland</p>	IS033
14:00	<p><b>Development and registration of recombinant veterinary vaccines. The example of the canarypox vector platform</b>  <u>Poulet, Hervé</u><sup>1</sup>; Minke, J.M.<sup>2</sup>; Pardo, M.C.<sup>3</sup>; Audonnet, J.C.<sup>2</sup>  <sup>1</sup>Meriel, France; <sup>2</sup>Meriel SAS, France; <sup>3</sup>Meriel Ltd, United States</p>	IS034
14:30	<p><b>Gene medication or genetic modification? The devil is in the details</b>  <u>Foss, Grethe S.</u>; Rogne, Sissel                      The Norwegian Biotechnology Advisory Board, Norway</p>	IS035
14:40 - 15:10	<b>Panel discussion</b>	
15:10 - 15:40	Break, coffee/tea and poster viewing	



**15:40 - 17:45 Special topic: Transmissible Spongiform Encephalopathies**

Auditorium 1

Chairpersons: Martin Groschup, Germany & Sylvie Lafond Benestad, Norway

		Abs No
15:40	<b>The epidemiology of transmissible spongiform encephalopathies</b> <u>Doherr, Marcus G.</u> University of Bern, Switzerland	IS036
16:10	<b>Atypical TSEs in ruminants</b> <u>Baron, Thierry</u> <sup>1</sup> ; Biacabe, A-G. <sup>1</sup> ; Arsac, J.N. <sup>1</sup> ; Benestad, S. <sup>2</sup> ; Groschup, M. <sup>3</sup> <sup>1</sup> AFSSA-Lyon, France; <sup>2</sup> National Veterinary Institute, Oslo, Norway; <sup>3</sup> Friedrich-Loeffler Institute, Insel Riems, Germany	IS037
16:40	<b>New insights in molecular mechanisms of human prion diseases</b> <u>Glatzel, Markus</u> Institute of Neuropathology, University Hospital, Germany	IS038
17:05	<b>Detection and inactivation of BSE and scrapie prions from animal and human sources</b> <u>Comoy, Emmanuel</u> ; Deslys, JP CEA/DSV/DRM/GIDTIP, France	IS039
17:20 - 17:45	<b>Panel discussion</b>	

**Thursday, June 29, 2006**

**08:30 - 12:00 Special topic: Avian Influenza**

Auditorium 1

Chairpersons: Ilaria Capua, Italy & Liisa Sihvonen, Finland

		Abs No
08:30	<b>An overview of the epidemiology of avian influenza (AI)</b> <u>Alexander, Dennis</u> United Kingdom	IS040
09:15	<b>Currently available vaccines for Avian Influenza</b> <u>Koch, Guus</u> Wageningen University and Research Organisation, Netherlands	IS041
10:00 - 10:45	Break, coffee/tea and poster viewing	
10:45	<b>Control and prevention of Avian Influenza infections in poultry in an evolving scenario</b> <u>Capua, I</u> ; Marangon, S Istituto Zooprofilattico Sperimentale delle Venezie, Italy	IS042
11:30 - 12:00	<b>Panel discussion</b>	
12:00 - 13:00	Lunch	

**13:00 - 14:50 Commercial Vaccine and Diagnostics Development - impact of biotechnology**

Auditorium 1

Chairpersons: Steve Houghton, United Kingdom & Keith Page, United Kingdom

		Abs No
13:00	<b>Biotechnology and vaccines: when will the promise be delivered?</b> <u>Peters, Andrew (Andy)</u> ARPEXAS Ltd., United Kingdom	IS043
13:30	<b>Commercialization of DNA vaccines – practical experience</b> <u>Salonius, K.</u> Novartis Animal Health, Aqua Health Business, Canada	IS044
14:10	<b>Trends in diagnostic developments</b> <u>Hiscox, Julian A.</u> Faculty of Biological Sciences, University of Leeds, United Kingdom	IS045
14:50 – 15:30	Break, coffee/tea	

**15:30 - 17:15 Special topic session: Transboundary Animal Diseases**

Auditorium 1

Chairpersons: Paul Kitching, Canada & Tore Tollersrud, Norway

		Abs No
15:30	<b>Rinderpest eradication – is it feasible?</b> <u>Roeder, Peter</u> Food and Agriculture Organization of the United Nations, Italy	IS046
16:00	<b>Global Foot and Mouth Disease control: is it an option?</b> <u>Kitching, Richard Paul</u> Canadian Food Inspection Agency, Canada	IS047
16:30	<b>Nipah, Hendra and Crimean-Congo-Hemorrhagic-fever viruses: re-emerging, virulent and zoonotic pathogens</b> <u>Czub, Markus</u> Public Health Agency of Canada, Canada	IS048
17:15 – 17:30	<b>Closing of the conference</b> Roar Gudding, National Veterinary Institute, Norway	

**Friday, June 30, 2006**

**09:00 - 12:00 Optional programme**

Delegates staying until Friday 30 June are invited to attend an optional programme free of charge.

**09.00 – 10.30 Roundtable discussion: Future direction of IVVDC**

The roundtable is open to all for sharing of experience and viewpoints in order to develop and secure the future of this conference.

**Agenda**

- Summary of experiences from 1st to 4th IVVDC
- Scope, should both vaccinology and diagnostics be included and moreover, both regulatory authorities, pharma companies and academia be represented?
- Sessions, should all animal species be included?
- IVVDC vs related conferences, are there options for satellite collaboration?
- Interval and conference host, should countries in other continents be considered?
- Sponsorship constraints, should economical compensation to invited speakers and chairs be reemphasized?
- Publication of proceedings, what journal is most appropriate and should the same journal be used?
- Support from international organisations and societies, should others be approached?
- AOB

**10.30 - 12:00**

Visit the campus of the Norwegian School of Veterinary Science and the National Veterinary Institute.

**12:00 Lunch**

## 附件二

Discussion paper



The Norwegian Biotechnology  
Advisory Board

# Regulation of DNA vaccines and gene therapy on animals

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Layout: The Norwegian Biotechnology Advisory Board

The Norwegian Biotechnology Advisory Board is an independent body appointed by the Norwegian government and was established in 1991. The Board is founded in the Act relating to the application of biotechnology in medicine and the Act relating to the production and use of genetically modified organisms.

The main tasks of the Norwegian Biotechnology Advisory Board are to identify and examine the ethical questions raised by applications of modern biotechnology on humans, animals, plants and microorganisms, provide advice that can assist policy-making and stimulate public debates on the issues.

The Board consists of 24 members and has observers from six ministries. The Board's secretariat has five to eight employees. For 2003 the budget of the Biotechnology Advisory Board is 6.3 million NOK (appr. 750.000 €).

## Preface

At present the Norwegian Gene Technology Act provides no clear answer as to how animals receiving DNA vaccines and gene therapy are to be regulated and whether or not they are to be termed as genetically modified.

The Norwegian Biotechnology Advisory Board raised this problem for the first time at an internal seminar in Namsos on 5 September 2001. In the light of the seminar, the Ministry of the Environment asked the Biotechnology Advisory Board to discuss how DNA vaccines and gene therapy on animals should be regulated and what status should be given to DNA-treated animals.

Since the problem is highly complex, the Biotechnology Advisory Board's secretariat has drafted this discussion paper setting out the various aspects of the issue.

The Biotechnology Advisory Board has discussed regulatory alternatives for DNA vaccines and gene therapy on animals in the light of the internal seminar and the discussion paper. The Biotechnology Advisory Board's recommendations are set out in its reply letter to the Ministry of the Environment dated 26 February 2003, which is an enclosure to this discussion paper.

Dr Grethe S. Foss from the Biotechnology Advisory Board's secretariat has been responsible for preparing the discussion paper, and members of the Biotechnology Advisory Board and the secretariat, specialists and others have provided valuable contributions and comments.

The discussion paper has been translated with the assistance of Ms Anne Bryn and Dr Graham Harrod.

*Werner Christie*  
Chairman

*Sissel Rogne*  
Director

