



## MED • VET • NET NEWS

Volume 1, Issue 2

December 2004

Hello, and welcome to the second edition of Med-Vet-Net News.

This month we focus on the project that is encompassed by Workpackage 4 - PulseNet Europe. Each following month, we will examine a different workpackage, looking at its aims and objectives and reporting on some of the scientific progress that has been achieved.



On behalf of the Communications Unit of Med-Vet-Net, I would like to take this opportunity to wish you and your families a very Merry Christmas and best wishes for the New Year.

*Teresa Belcher*  
Med-Vet-Net Communications Director

### Status and Vision: PulseNet Europe

by Peter Gerner-Smidt, resigning Project Leader, Susanna Lukinmaa, Project Leader, and the PulseNet Europe Steering Committee

#### Introduction

PulseNet Europe is the molecular surveillance network for foodborne infections in Europe covering the whole food-chain from farm to fork. It has been established as Workpackage 4 (WP4) in Med-Vet-Net. PulseNet Europe builds on the experience of PulseNet USA (<http://www.cdc.gov/pulsenet/>), which was established in 1996 and three European public health networks or projects, the EnterNet ([http://www.hpa.org.uk/hpa/inter/enter-net\\_menu.htm](http://www.hpa.org.uk/hpa/inter/enter-net_menu.htm)), SalmGene (<http://www.salmgene.net>) and ListerNet (<http://www.invs.sante.fr/publications/2004/listernet>). However, in contrast to these networks and projects, reference institutions from the veterinary and food sector are important participants in PulseNet Europe. PulseNet Europe is unique in this respect internationally. Combating foodborne infections may only be done efficiently with equal participation and collaboration between the public health, the veterinary and the food sectors.

#### Aims and Objectives

The overall aim of PulseNet Europe for the first 18 months in Med-Vet-Net is to establish a real-time linked surveillance database system to detect disease clusters and investigate outbreaks of *Salmonella*, verocytotoxigenic *E. coli* (VTEC) and *Listeria monocytogenes*. The typing method presently used is Pulsed-Field-Gel-Electrophoresis (PFGE). This method is currently the gold standard for high-discriminatory subtyping of most bacterial pathogens.

The specific objectives of PulseNet Europe in WP4 are:

- Establishment of a real-time linked surveillance database system to detect disease clusters and investigate outbreaks of *Salmonella*, VTEC and *Listeria*.
- Establishment of a database curator system and training of the curators
- Establishment of a rapid communication system (Web communication system)

- Establishment of a certification and proficiency testing program and certification of participants

In order to achieve these goals, a Steering Committee for PulseNet Europe was established at an inaugurating meeting held in Copenhagen on 7 September 2003. The Steering Committee has eight members – the Project Coordinator, the six curators of the PulseNet databases and the bioinformatics person in charge of building and maintaining the database system. With the establishment of the Steering Committee, the database curator system has been created.

#### PulseNet database

At the meeting in Copenhagen, high priority was given to discuss the structure of the PulseNet database. The database is built in the BioNumerics server/client format (Applied Maths, Sint-Martens-Latem, Be, [www.applied-maths.com](http://www.applied-maths.com)). It was decided to work with a single on-line database on a central server at the Health Protection Agency (HPA), Colindale, which the administrators connect to. The system will be set up so that profiles submitted to a particular database will be submitted to the on-line server and to the administrator that has been designated to analyse/name/confirm the profiles. Each administrator will be responsible for the analysis of profiles submitted from the participants on a particular day. Each administrator will analyse/name the profiles

submitted to him/her and upload the confirmed profiles to the on-line server.

#### Optimising Communication

In order to optimise the communication of PulseNet Europe with other PulseNet servers in PulseNet International, it was decided to harmonise the database format with the standards from PulseNet USA. A position for a bioinformatics person at the Bioinformatics unit at HPA, Colindale with the specific task to set up and customise the database to the needs identified is currently being announced.

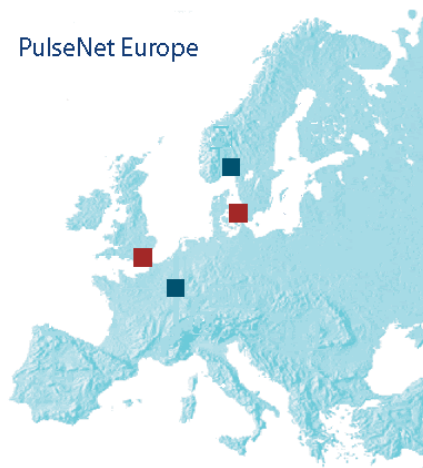
A rapid communication system is essential in an outbreak situation in order to optimise dissemination of information to all relevant parties. This system should be accessible to the participating laboratories and associated epidemiologists. The communication system should be linked to the BioNumerics server so that the participating microbiologists will have direct access to the profiles in question. This will optimise the comparison of the profiles between national databases and encourage the participants to submit their profiles to the PulseNet database.

#### PulseNet website

In addition to a communication system, PulseNet Europe should also have a website informing the public about ongoing activities. Participants not having BioNumerics or scientists outside the network may use the web-comparison tool of BioNumerics accessible from the website to compare their own profiles with the PulseNet Europe profiles. The Bioinformatics Unit will be responsible for setting up such a system possibly in collaboration with the Med-Vet-Net IT-specialists at the Swedish Veterinary Agency (SVA).

In order to streamline the communication and collaboration with the PulseNet networks in the other parts of the world, a memorandum of understanding (MoU) will be developed with PulseNet International and signed. The MoU will have to be approved by all the administrator institutions and the Med-Vet-Net administration. By entering the PulseNet Europe network any participant will also accept the MoU that PulseNet Europe has with PulseNet International without signing that. The Project Coordinator has begun this process and will have a draft document ready within the next six months.

#### PulseNet Europe

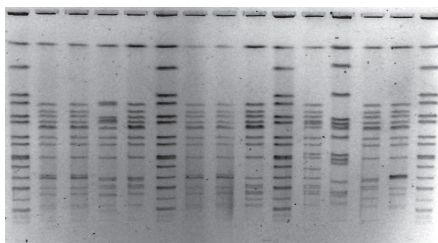


*PulseNet Europe is coordinated from Copenhagen with the database hub based in London. Curator Labs are located in Copenhagen, London, Oslo and Paris.*

The funding from Med-Vet-Net only covers coordinating the project, building the database system and some meetings for the database administrators. An important task for the Project Coordinator and the Steering Committee is to secure funds to cover future administrator and reference centre expenses, training and meeting expenses for all participants. An application to cover this was sent to the DG-Sanco call in 2004. However, for reasons that are not quite clear the application was not funded. Therefore, a new application will be submitted for the 2005 call taking the few reviewer comments from the previous application into account. So far, 55 participants from 27 countries have agreed to take part in that application.

### Finding an alternative to PFGE

Another future issue for PulseNet Europe is the implementation of alternative subtyping methods to PFGE. It is important to realize that PulseNet is a molecular surveillance network and not just a network of laboratories performing PFGE. PFGE is now an old method, the results generated are hardly portable, and the typing procedure is not cheap. Furthermore, PFGE is rather slow,



PFGE strain profiles

with about 3 days once the strain has been isolated until the profile has been obtained. Therefore, PulseNet Europe is also looking for alternative methods to be used in the network. These should ideally be universally applicable, more rapid, cheap, and as discriminatory as PFGE. The subtypes generated should be definitive, portable, and easily comparable not only within the PulseNet Europe network but also within the global network of International PulseNet laboratories. Several PulseNet Europe laboratories are currently developing and exploring one such method, Multi-Locus Variable number of tandem repeats Analysis (MLVA) for *Salmonella* and VTEC, and one of the coordinating laboratories is developing an DNA-array for subtyping of *Listeria monocytogenes*.

## ADMIN BUREAU UPDATE

### Network financial management

#### Distribution of the grant to the partners

The first 60% of the grant money was sent by the Administration Bureau to the partners of the Consortium during November. Each partner has now received the money and is fully operational to undertake work in each workpackage that they are involved. The Administration Bureau is now working on the distribution of the 3% management fees to the partner institutes. This should be completed by the end of December.

#### Improving skills

Two workshops on the topic "understanding the principles of FP6 financial management, reporting and auditing", were organised in Cambridge and Brussels by consulting companies, and the Administration Bureau were participants. The general goal of these workshops was to clarify the rules and expectations of the EC in terms of general management. The specific objective for the networks is to improve the mechanisms to be implemented in order to ensure an efficient administrative and financial management of the networks. These kinds of events also allow the administrative representatives of these FP6 projects to share information, experience and other issues that have been encountered.

### Procedures and processes

The Administration Bureau, within Workpackage 1, has responsibility for the delivery of a Manual of Procedures and Processes. In the first instance the Bureau is working with the Project Manager and Co-ordinators Representative to define the development and support of new projects, potentially owned by or associated with Med-Vet-Net, for the benefit of the partners, as actively encouraged within Annex 1. Procedures for such projects will be carefully defined within the context of the Consortium Agreement and submitted to the Co-ordinating Forum for review and approval.

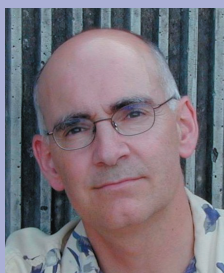
### Videoconference Meeting

A meeting with the IT Representatives of each Institute took place at DFVF Offices on 1 December to examine the possibilities of establishing a video-link connection among the Consortium. This meeting clarified the needs of video-conferencing within the Med-Vet-Net and examined the options for a relevant and convenient technical solution as well as a funding strategy for its implementation. A technical sub-committee was created, whose task is to define the most appropriate solution. A proposal for a SSA application will be drafted by the Administration Bureau and reviewed by relevant persons from the Network. The deadline for submission is on the 8 February 2005. This meeting also contributed to strengthen and extend collaboration between the Med-Vet-Net partners at a level other than the scientific and administrative ones.

## NEW LEADER FOR WORKPACKAGE 4

### Peter Gerner-Smidt moves to the US

At the end of this year, Peter Gerner-Smidt, current leader of Workpackage 4 and Epidemiology Thematic Group Leader, will be leaving Med-Vet-Net take up a position at the Communicable Disease Center (CDC) in Atlanta, GA in the United States. He will be taking a leading position in the laboratory section of the foodborne and diarrhoeal diseases branch with molecular surveillance and outbreak investigations of foodborne infections in the PulseNet US network. The PulseNet US network has been operative since 1996. Peter will be working with the development of that network and with the relations to the other PulseNet's within PulseNet International (where PulseNet Europe also is a participant). We would like to thank Peter for his tremendous contribution to Med-Vet-Net and wish him much success in his new endeavour.



Peter Gerner-Smidt



Susanna Lukinmaa

### Susanna Lukinmaa

Susanna Lukinmaa will take over the role of workpackage leader for Workpackage 4 - PulseNet Europe on 1 January, 2005, and she will relocate from Helsinki to the SSI in Copenhagen. Dr Lukinmaa is a microbiologist who completed her Master of Science and PhD (in microbiology) at the Faculty of Sciences, University of Helsinki. Her thesis, entitled "*Salmonella enterica*, *Listeria monocytogenes* and *Clostridium perfringens*: Diversity of human isolates studied by phenotypic and molecular methods", examined the molecular epidemiology of food-borne pathogens.

Susanna has most recently worked as a senior researcher on molecular surveillance of food-borne pathogens at the National Public Health Institute (KTL), Department of Microbiology, Laboratory of Enteric Pathogens in Helsinki, Finland.

She was the Finnish representative in the Salm-Gene project, a European network for strengthening international salmonella surveillance through strain typing and differentiation, founded by European Union. In addition, she was a representative in a bilateral computer-based network for comparison of PFGE profiles of *L. monocytogenes* isolates from humans, food and food production environments in collaboration with The National Veterinary and Food Research Institute (EELA) in Finland.

## THEMATIC MEETING

### March Thematic Group Meeting - Rome

The next Thematic Meeting as part of WP2 will be held in Rome at the Istituto Maria SS. Bambina from 7-9 March. The local organiser is Edoardo Pozio (ISS) who will provide more detailed information closer to the event.

(Below): Attendees at the Video-Conferencing meeting at DFVF, Denmark





## NETWORK NEWS

### DFVF awarded contract to produce Community Summary Report on Zoonoses

On 19 November 2004, the European Food Safety Authority (EFSA) and the Danish Institute for Food and Veterinary Research (DFVF) signed a contract on scientific and technical assistance relating to the reporting on data of zoonoses. The contract is for one year with a possibility to renew it for another year. DFVF will now be EFSA's Zoonoses Collaboration Centre (ZCC) and its main tasks will include the preparation of the draft annual Community Summary Report on Zoonoses and assistance of EFSA in other questions related to monitoring of zoonoses. Dr Birgitte Borck will be the ZCC's contact person for this activity. EFSA will take over the responsibility of the annual Community Summary Report on Zoonoses from the beginning of 2005.

### Commission welcomes contributions to the debate on FP7 research themes

The European Commission has launched a new website providing information on the ongoing efforts to identify thematic research priorities for its proposals for the Seventh Framework Programme (FP7). The Commission welcomes contributions to the debate on identifying future thematic domains from the research community and users of research, including: research organisations and associations; industrial and sector associations; individual universities, enterprises and research institutes; and all individuals and groups with an interest in research by no later than the end of 2004.

[http://europa.eu.int/comm/research/future/themes/index\\_en.html](http://europa.eu.int/comm/research/future/themes/index_en.html)



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Contributions and suggestions are welcome.

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Med-Vet-Net is a European Network of Excellence on Zoonoses Research

Visit <http://www.medvetnet.org>

## MED-VET-NET PEOPLE



Dr André Jestin

### Dr André Jestin Coordinator's Representative

Dr André Jestin holds a Doctor of Veterinary Medicine (Paris, 1979), and went on to complete a Master's degree in both Molecular Biology (PM Curie University Paris, 1981), and in Molecular Virology (Institut Pasteur Paris, 1982). He began his career as Assistant at the National Veterinary School of Maisons-Alfort in 1979 working in the field of Contagious Diseases and Zoonoses. In 1980, he worked for the Central Laboratory of Veterinary Research, Maisons-Alfort undertaking research on Swine Influenza, and in 1982, at the Laboratory of Swine Virology, CNEVA Ploufragan investigating Rotavirus, PED Coronavirus, Pseudorabies, Pestivirus and Parvovirus.

In 1991, André became Head of the Research Unit Viral Genetics and Biosafety (Afssa Ploufragan), which is the position he holds today together with that as Research Director at Afssa. He currently leads his Research team of 20 people on a half time basis. His current research interests include Pseudorabies, Circovirus type II and the Post-weaning Multisystemic Wasting Syndrome, Glycoproteins (PRV) and packaging in Virus-like particles, DNA vaccination efficacy and biosafety and the biosafety of human xenotransplants from pigs. André is currently Vice President of the European Society for Veterinary Virology, and a Member of the French GMO committee as well as the Animal Health Specialist Expert Committee Afssa. He also peer-reviews research proposals for DG Research.

### Role in Med-Vet-Net

Within Med-Vet-Net, André has several roles and functions, which he covers in the second part of his half time. As the Coordinator's Representative, he is responsible for communications between the Partners and the EC, the delivery of reports to the EC and the compliance of the partners with all financial and legal aspects of the project in accordance with the Consortium agreement, Annex 1 and the EC Contract. He also represents the Co-ordinator's interests at the Governing Board. The Co-ordinator's Representative is also the appointed Deputy Project Manager assisting the Project Manager, Diane Newell, in the day-to-day, effective and efficient management of the project. In addition, André is Leader of Work Package 1- the "Virtual Institute Structure" which includes the establishment and management of the Administrative Bureau. This unit is responsible for the Workpackage contracts, financial issues, legal issues and intellectual property rights and gender issues as well as the provision of administrative support for the Governing Board, Co-ordinating Forum and workpackages.

### Prof. Diane G. Newell Project Manager

Diane Newell trained as a biochemist and completed a PhD in human immunology before developing a career in host-microbe interactions with the Public Health Laboratory Service in the UK. Diane currently works at the Veterinary Laboratories Agency (VLA), near London, as a senior consultant within the Food and Environmental Safety Programme. She holds honorary posts as Visiting Professor at the University of Bristol and the University of Utrecht. As an international expert in Foodborne zoonoses, particularly campylobacters, Diane acts as a consultant to many government departments, agencies, and funding bodies including internationally the WHO, FAO, OIE and EC, in the UK, Defra, DTI, FSA and BBSRC, and USDA in America. She is also a member of the editorial board of Applied and Environmental Microbiology and is an active representative of several national and international scientific bodies including SfAM. Diane has actively worked to integrate human and veterinary public health aspects of zoonoses for many years and was co-ordinator of CAMPYNET, a highly successful European network to harmonise and standardise campylobacter typing. She has also recently been awarded a Specific Support Action (SSA) for EU-US-SAFE-FOOD, a network to integrate European and US food safety scientists.



Prof. Diane Newell with trusty support team, Janus (L) and Octavius (R)

### Role in Med-Vet-Net

Within Med-Vet-Net, Diane has several roles and functions. She co-ordinated the original Med-Vet-Net concept submission and led the final project submission. In November 2003, Diane was unanimously elected as the Med-Vet-Net Project Manager. The role of the Project Manager was summarized at the management meeting in June 2004 and includes:

- Day-to-day project management
- Chairmanship of the Co-ordinating Forum which includes the resolution of internal issues and disputes and attendance at the Governing Board
- Co-ordination of jointly executed research activities including responsibility for strategic planning and workpackage programme development and delivery
- Co-ordination of integration activities including planning and reporting of all integration activities
- Provision of support for Insitute Integration Teams

Diane is also the leader for Workpackage 2 (Strategic Scientific Integration) and is a team member of Workpackage 8 (CAMPYNET II).