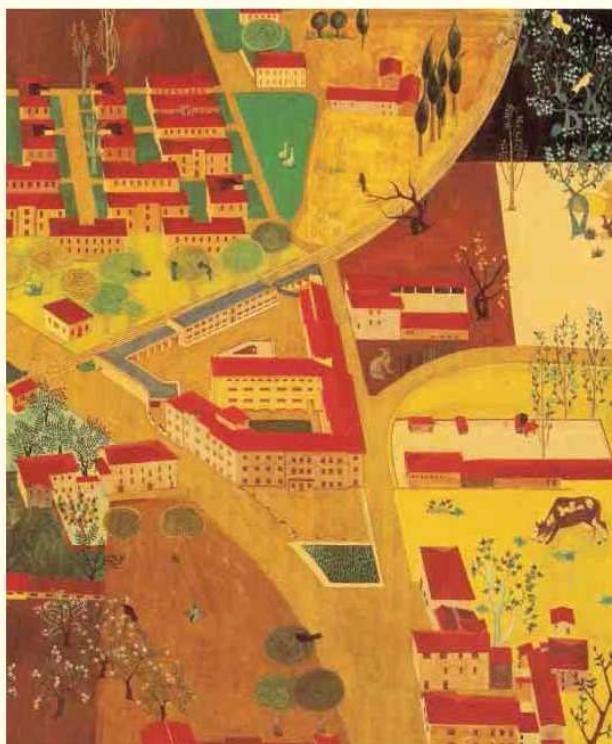




Final international conference of the COST Action ASF-STOP - Understanding and Combating African Swine Fever in Europe

29-30 January 2020,
Paul VI Center, Brescia, Italy



ISTITUTO ZOOPROFILATTICO SPERIMENTALE
DELLA LOMBARDIA E DELL'EMILIA ROMAGNA
“BRUNO UBERTINI”
ENTE SANITARIO DI DIRITTO PUBBLICO

We welcome you to this final conference of the COST Action ASF-STOP- Understanding and Combating African Swine Fever in Europe, hosted in Brescia, Italy, 29-30 January 2020. Since the Launch Conference of ASF-STOP that took place in Pulawy, Poland, in December 2016, African swine fever (ASF) has continued to challenge scientists, stakeholders and animal health authorities. Within this short period ASF has further spread across Eurasia and continues advancing into south-eastern Asia causing devastating effects to the pork production and industry. Staying at the cutting edge to combat ASF requires close collaboration of scientists from multiple disciplines and from a broad geographical range. ASF-STOP, with its 32 participating countries in Europe and its extended international network, provides the optimal platform for knowledge sharing on ASF.

The Final International Conference of ASF-STOP, kindly organised by our colleagues of the Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna (IZSLER), seeks to disseminate and exchange scientific knowledge on ASF and to show some of the main achievements of the Action. The two-days scientific programme covers topics related to ASF virology, vaccinology, molecular biology, epidemiology, surveillance and diagnostics, as well as contingency planning, wild boar ecology, biosecurity and policy making. The venue is Centro Pastorale Paolo VI, in the historic center of Brescia.

Welcome to Brescia and to our final international conference.

Silvia Bellini, chair Scientific Committee

Dolores Gavier-Widén, chair ASF-STOP

**Local organising committee**

Silvia Bellini

Marco Tamba

Luisa Garau

Gabriele Casadei

Scientific committee

Silvia Bellini (chair) - Italy

Dolores Gavier-Widén – Sweden

Francisco Ruiz-Fons – Spain

Laura Iacolina – Croatia

Ferran Jori – France

Maria Montoya – Spain

Erika Chenais – Sweden

Final international conference of the COST Action ASF-STOP- Understanding and Combating African Swine Fever in Europe

29-30 January 2020, Paul VI Center, Brescia, Italy

Programme

29th January 2020

8:00-9:00 Registration

9:00-9:30 Opening Session

9:35–10:20 Plenary talk, invited speaker Dr. Nguyen Van Long

Session I: Virus, Diagnosis and Vaccinology

Chairs: Maria Montoya and Marie-Frédérique Le Potier

10:25–10:55: **Key-note speaker Germán Andrés:** Structure and composition of African Swine Fever virus

10:55-11.10 Maria Montoya - Serum-Derived Extracellular Vesicles from African Swine Fever Virus-Infected Pigs Selectively Recruit Viral and Porcine Proteins

11.10-11.25 Linda Dixon - The African swine fever virus A179L Bcl-2 family member is required for efficient replication in porcine macrophages.

11:25-11:40 Fernando Ferreira - Studies on viral DNA replication-related genes towards the ASFV control

11:40-11:55 Vlad Petrovan - Investigating the role of African swine fever virus Gene EP402R in virus persistence in blood in vivo

11:55-12:10 Pedro José Sanchez-Cordón - Neuropathology and viral antigen distribution in the central nervous system of domestic pigs experimentally infected with African swine fever virus

12:10–13:10 Lunch break

Session II: ASF in wild boar and Control Strategies

Chairs: Ferran Jori and Carolina Probst

13:15-13:45 **Key-note speaker Vittorio Guberti** - Surveillance of ASF in wild boar: from early detection to long lasting endemic situations

13:45-14:00 Sofie Dhollander - Seasonality of African swine fever incidence in wild boar in the Baltic States and Poland

14:00-14:15 Vladimir Grosbois - Mapping the detectability of wild boar carcass with the SIG MCDA approach

14:15-14:30 Tomasz Podgórski - Spread by the dead: role of live and dead wild boar in spatio-temporal dynamics of African swine fever

14:30-14:45 Andrzej Jarynowski - Evaluation of mitigation strategies (border fencing and blocking animals corridors on motorway) for ASF in Poland

14:45-15:00 Xander O'Neill - Modelling the transmission and persistence of African swine fever in wild boar in contrasting European scenarios

15:00–15:25 Coffee break

Chairs: Edvins Oļševskis and Sofie Dhollander

15:30-15:45 Arnoldas Pautienius - Change in prevalence and spatial distribution of African swine fever in Lithuanian wild boar population

15:45-16:00 Kerli Mõtus - A participatory approach to support the control of African swine fever in wild boar

16:00-16:15 Ömer Orkun - Initial results of the study investigating the presence of ASF virus in wild boars and their ticks in Turkey

16:15-16:30 Rémi Pereira De Oliveira - Vector competence: a co-evolution story between African Swine Fever Virus and soft ticks Ornithodoros?

16:30-16:45 Claude Saegerman - Assessment of the impact of forestry and leisure activities on wild boar spatial disturbance and the associate risk of spreading African swine fever virus

16:45-17:00 Carolina Probst - Decomposition of wild boar carcasses

17:00-17:15: Annick Linden - ASF-WB in Belgium, one year after the emergence

19:00 Conference dinner

30th January

Session III: ASF in domestic pigs and Biosecurity

Chairs: Silvia Bellini and Marco Tamba

9:00-9:30 **Key-note speaker Anette Boklund** - Risk factor in Romanian backyard farms

9:30-9:45 Ana de la Torre - Flyers on ASF preventive measures for pig farms

9:45-10:00 Timothée Vergne - Modelling the role of stable flies in the transmission of African swine fever virus in outdoor pig farms

10:00-10:15 Jasna Prodanov Radulović - African swine fever: a biosecurity challenge for pig production in Serbia

10:15-10:30 Branko Angelovski - Biosecurity assessment of Macedonian commercial pig farms using an online scoring system

10:30-10:45 Arvo Viltrop - Risk factors for introduction of African swine fever to domestic pig herds with emphasis to external biosecurity measures - a case-control study in Estonia

Session IV: Infection Dynamics and Control

Chairs: Erika Chenais and Fernando Boinas

10:50-11:20 **Key-note speaker Karl Ståhl** - Lack of evidence for long term carriers of African swine fever virus - a systematic review

11:20-11:35 Ludek Broz - Towards Veterinary Anthropology: Manifesto of an Emerging Field

11:35-11:50 Alvydas Malakauskas - Why me? Patterns in African swine fever outbreak farms in Lithuania

11:50-12:05 Imbi Nurmoja - Five years of African swine fever in Estonia: How close we are to freedom?

12:10–13:10 Lunch break

Chairs: Imbi Nurmoja and Karl Ståhl

13:15-13:45 **Invited speaker Andrei Blokhin** - Spatio-temporal analysis of the spread of ASF in the Russian Federation in 2017-2019

13:45-14:00 Anton Gerilovych, African swine fever and its way through Asia and towards Europe (Ukraine 2016-2019: lessons learned)

14:00-14:15 Kathryn Gowan - Housing ASF pigs in high containment

14:15-14:30 Kristīne Lamberga - Can we improve ASF control by learning from outbreaks?

14:30-14:45 Claude Saegerman - Ranking of blood feeding arthropods in Metropolitan France based on their putative vector capacity to transmit African Swine Fever virus: a first expert knowledge elicitation

14:45-15:10 Coffee break

Session V: Knowledge Communication

Chairs: Laura Iacolina and Tomasz Podgórski

15:15-15:25 **Key-note speaker Dolores Gavier-Widén** - Four years of advances in African swine fever in Europe by the ASF-STOP COST Action

15.25-15.30 Marco De Nardi. Pitch presentation of SAFOSO (<https://www.safoso.ch/>)

15.30-15.45 Alberto Laddomada - African swine fever eradication programme in Sardinia: an update

15:45-16:00 Laura González Villeta - Research gap analysis on African swine fever

16:00-16:15 Jan Hendrik Forth - Eight years wasting money - do we need ASFV whole-genome sequencing?

16.15-16.30: Marco De Nardi - Are we replacing African Swine Fever (ASF) with Avian Influenza (AI)?

16:30-17:00 Poster presentations

-Bojan Adžić, Surveillance of African Swine Fever in wild boars and domestic pigs in Montenegro

-Giorgia De Lorenzi, African swine fever: pig farms cleaning and disinfection procedures

-Kastriot Korro, Could African Swine Fever be spread in wild boars of Albania

-Branislav Kureljušić, The first occurrence of African Swine Fever in Serbia – epidemiological, clinical, pathological and molecular investigation

-Jonna Kyrrö, African swine fever surveillance in Finland 2010-2018

-Emil Wikström Lassa, Improvements in pathology capacity and early detection of African swine fever in Sweden by Short-Term Scientific Missions

-Jovan Mirčeta, Preventive measures in wild boar population in the Republic of Serbia

-Andrius Petrašiūnas, Possible transmission of ASFV by insects: studies in Lithuania

-Tamas Petrovic, Surveillance of ASF in domestic pigs after the first introduction of disease in Serbia

-Claude Saegerman, African Swine Fever virus in illegal pork meat imported in Belgium by travellers from Cameroun, August 2017

- Patricia Sastre, Diagnostic tools for the surveillance and control of African swine fever in domestic pigs and wild boar
- Alessandra Scaburri, Analysis of the introduction of pigs in Lombardy region as a tool for assessing the potential risk of introducing pathogens and to plan control activities
- Marina Štukelj, Short Term Scientific Mission in Lithuania: African Swine Fever Management and Control
- Marco Tamba, A method to identify areas at risk of African Swine Fever diffusion where planning a preventive wild boar population control program
- Ivan Toplak, The preventive measures for incursion of African swine fever in Slovenia
- Ina Toppari, Improving biosecurity on Finnish pig farms by Biocheck.UGent® evaluations

17:00 Closing remarks

Contents

African Swine Fever in Vietnam	11
Molecular architecture of African swine fever virus.....	12
Serum-Derived Extracellular Vesicles from African Swine Fever Virus-Infected Pigs Selectively Recruit Viral and Porcine Proteins	13
The African swine fever virus A179L Bcl-2 family member is required for efficient replication in porcine macrophages.....	14
Studies on viral DNA replication-related genes towards the ASFV control	15
Investigating the role of African swine fever virus Gene EP402R in virus persistence in blood in vivo	16
Neuropathology and viral antigen distribution in the central nervous system of domestic pigs experimentally infected with African swine fever virus	17
Surveillance of ASF in wild boar: from early detection to long lasting endemic situations.....	18
Seasonality of African swine fever incidence in wild boar in the Baltic States and Poland	19
Mapping the detectability of wild boar carcass with the SIG MCDA approach	20
Spread by the dead: role of live and dead wild boar in spatio-temporal dynamics of African swine fever	21
Evaluation of mitigation strategies (border fencing and blocking animal's corridors on motorway) for ASF in Poland	22
Modelling the transmission and persistence of African swine fever in wild boar in contrasting European scenarios.....	23
Change in prevalence and spatial distribution of African swine fever in Lithuanian wild boar population	24
A participatory approach to support the control of African swine fever in wild boar ...	25
Preliminary results of the study investigating the presence of ASF virus in wild boars and their ticks in Turkey.....	26
Vector competence: a co-evolution story between African Swine Fever Virus and soft ticks <i>Ornithodoros</i> ?	27
Assessment of the impact of forestry and leisure activities on wild boar spatial disturbance and the associate risk of spreading African swine fever virus.....	28
Decomposition of wild boar carcasses.....	30
ASF-WB in Belgium, one year after the emergence	31
Risk factor in Romanian backyard farms	32
Flyers on ASF preventive measures for pig farms	33

Modelling the role of stable flies in the transmission of African swine fever virus in outdoor pig farms	34
African swine fever: a biosecurity challenge for pig production in Serbia	35
Biosecurity assessment of Macedonian commercial pig farms using an online scoring system.....	36
Risk factors for introduction of African swine fever to domestic pig herds with emphasis to external biosecurity measures - a case-control study in Estonia	37
Lack of evidence for long term carriers of African swine fever virus - a systematic review	38
Towards Veterinary Anthropology: Manifesto of an Emerging Field.....	39
Why me? Patterns in African swine fever outbreak farms in Lithuania.....	40
Five years of African swine fever in Estonia: How close we are to freedom?	41
Spatio-temporal analysis of the spread of ASF in the Russian Federation in 2017-2019	42
African swine fever and its way through Asia and towards Europe (Ukraine 2016-2019: lessons learned)	43
Housing ASF pigs in high containment	44
Can we improve ASF control by learning from outbreaks?	45
Ranking of blood feeding arthropods in Metropolitan France based on their putative vector capacity to transmit African Swine Fever virus: a first expert knowledge elicitation.....	46
Four years of advances in African swine fever in Europe by the ASF-STOP COST Action	48
African swine fever eradication programme in Sardinia: an update.....	49
Research gap analysis on African swine fever	50
Eight years wasting money - do we need ASFV whole-genome sequencing?	51
Are we replacing African Swine Fever (ASF) with Avian Influenza (AI)?	52
Improvements in pathology capacity and early detection of African swine fever in Sweden by Short-Term Scientific Missions	54
Surveillance of African Swine Fever in wild boars and domestic pigs in Montenegro	55
African Swine Fever virus in illegal pork meat imported in Belgium by travellers from Cameroun, August 2017	56
African swine fever surveillance in Finland 2010-2018.....	57
Surveillance of ASF in domestic pigs after the first introduction of disease in Serbia	58
Short Term Scientific Mission in Lithuania: African Swine Fever Management and Control	59

Analysis of the introduction of pigs in Lombardy region as a tool for assessing the potential risk of introducing pathogens and to plan control activities	60
A method to identify areas at risk of African Swine Fever diffusion where planning a preventive wild boar population control program	61
Preventive measures in wild boar population in the Republic of Serbia	62
Could African Swine Fever be spread in wild boars of Albania?	63
The first occurrence of African Swine Fever in Serbia – epidemiological, clinical, pathological and molecular investigation	64
The preventive measures for incursion of African swine fever in Slovenia	65
Improving biosecurity on Finnish pig farms by Biocheck.UGent® evaluations	66
African swine fever: pig farms cleaning and disinfection procedures	67
Diagnostic tools for the surveillance and control of African swine fever in domestic pigs and wild boar	68
Possible transmission of ASFV by insects: studies in Lithuania	69
Alphabetical listing of attendees	70

African swine fever: a biosecurity challenge for pig production in Serbia

Prodanov-Radulović, J.¹, Polaček, V.¹, Petrović, T.¹, Grubač, S.¹, Pušić, I.¹, Petrović, J.¹ & Bojkovski, J.²

¹Scientific Veterinary Institute "Novi Sad", Rumencki put 20, 21000 Novi Sad, Republic of Serbia

²Faculty of Veterinary Medicine, University of Belgrade, Belgrade, Republic of Serbia

African swine fever (ASF) continues to spread in Europe, and in 2019 was detected in domestic swine population in Serbia, Western Balkans. Although the Veterinary Directorate of Serbia two years ago ordered the implementation a set of control and the preventive measures were applied in the country and at border crossings, the first case was detected in the central region of Serbia. However, for the experts who studied the organizational structure of pig production and the level of existed biosecurity, this was expected. According to the level of biosecurity, five different pig production types can be distinguished: commercial farm, family farm types A and B, backyards and free-range. Backyards are common practice in villages and a quite large percentage of the population is raised this way (82.7%). Even today, despite of veterinary regulation, this production is often characterized by swill feeding and almost no biosecurity. From the other side, the old types of commercial pig holdings in the past were owned by the state and in the 1990s were privatized. However, the biosecurity measures that are recognized today as the essential for sustainable pig production are not possible to implement in the old systems comparing to newly built holdings. The biosecurity measures are not officially required by veterinary regulation and are only given in a form of recommendations. Based on the results of the questionnaire conducted in 2018, it can be concluded that the most significant biosecurity risks for the commercial farms are related to different transport vehicles that enter the farm perimeter, lack of the adequate sanitary facilities for workers and visitors and the problem with the workers who are in contact with backyards in the village.

Acknowledgments

This work was supported by the Ministry of Science and Technological Development of the Republic of Serbia, grants TR 31084.

Alphabetical listing of attendees

Adžić	Bojan	bojan.adzic@vetlab.co.me
Alonso	Covadonga	calonso@inia.es
Andres	German	gandres@cbm.csic.es
Angjelovski	Branko	brankoa@fvm.ukim.edu.mk
Blokhin	Andrey	and.bloxin2010@yandex.ru
Blome	Sandra	sandra.blome@fli.de
Blot Le Potier	Marie-Frédérique	marie-frederique.lepotier@anses.fr
Boinas	Fernando	fboinas@fmv.ulisboa.pt
Boklund	Anette	anebo@sund.ku.dk
Bøtner	Anette	abot@ssi.dk
Broz	Ludek	broz@eu.cas.cz
Buitkuviene	Jurate	jurate.buitkuviene@nmvri.lt
Bušauskas	Paulius	paulius.busauskas@vmvt.lt
Casadei	Gabriele	gabriele.casadei@izsler.it
Cay	Ann Brigitte	annbrigitte.cay@sciensano.be
Cedersmyg	Maria	maria.cedersmyg@jordbruksverket.se
Celer	Vladimir	celerv@vfu.cz
Chenais	Erika	erika.chenais@sva.se
Correge	Isabelle	isabelle.correge@ifip.asso.fr
De La Torre	Ana	torre@inia.es
de las Mercedes	Miriam	miriam.pedrera@pirbright.ac.uk
Pedrera Mazarro		
De Lorenzi	Giorgia	giorgia.delorenzi@izsler.it
De Nardi	Marco	marco.denardi@safoso.ch
Dei Giudici	Silvia	silvia.deigjudici@izs-sardegna.it
Dhollander	Sofie	sofie.dhollander@efsa.europa.eu
Dixon	Linda	linda.dixon@pirbright.ac.uk
Erdelyi	Karoly	erdelyik@nebih.gov.hu
Etter	Gérald	gerald.etter@vd.ch
Ferreira	Fernando	fernandof@fmv.ulisboa.pt
Forth	Jan Hendrik	janhendrik.forth@fli.de
Frant	Maciej	maciej.frant@piwet.pulawy.pl
Gadd	Tuija	tuija.gadd@ruokaviarsto.fi
Gavier-Widén	Dolores	dolores.gavier-widen@sva.se
Gelormini	Giuseppina	g.gelormini@gmail.com
Gerilovych	Anton	antger2011@gmail.com
Gogin	Andrei	agogyn@mail.ru
González Villeta	Laura C.	Laura.GONZALEZVILLETA@ext.efsa.europa.eu
Gortazar	Christian	christian.gortazar@uclm.es
Gowan	Kathryn	kat.gowan@pirbright.ac.uk
Grosbois	Vladimir	vladimir.grosbois@cirad.fr
Iacolina	Laura	lauraiacolina@gmail.com

Islam	Muneeb	muneeb.islam@pirbright.ac.uk
Jarynowski	Andrzej	andrzej.jarynowski@doctoral.uj.edu.pl
Jemeršić	Lorena	jemersic@veinst.hr
Ježek	Miloš	jezekm@fld.cz.cz
Jori Massanas	Ferran	ferran.jori@cirad.fr
Keros	Tomislav	keros@veinst.hr
King	Roni	king@npa.org.il
Kolbasov	Denis	kolbasovdenis@gmail.com
Korro	Kastriot	kkorro@gmail.com
Kureljušić	Branislav	branislavkureljušić@yahoo.com
Kyrrö	Jonna	jonna.kyyro@ruokavirasto.fi
Laddomada	Alberto	alberto.laddomada@izs-sardegna.it
Lamberga	Kristīne	kristine.lamberga@pvd.gov.lv
Lavazza	Antonio	antonio.lavazza@izsler.it
Linden	Annick	a.linden@uliege.be
Liu	Lihong	lihong.liu@sva.se
Malakauskas	Alvydas	alvydas.malakauskas@lsmuni.lt
Milicevic	Vesna	vesna.milicevic@nivs.rs
Mirceta	Jovan	mircetajovan@gmail.com
Mojzis	Miroslav	molbiology@svuzv.sk
Montoya	Maria	maria.montoya@cib.csic.es
Mõtus	Kerli	Kerli.Motus@emu.ee
Netherton	Christopher	christopher.netherton@pirbright.ac.uk
Neves	Carlos	carlos.dasneves@vetinst.no
Nurmoja	Imbi	imbi.nurmoja@vetlab.ee
Oggiano	Annalisa	annalisa.oggiano@izs-sardegna.it
Ohouko	Okri Fréjus	ohoukofrijus@yahoo.com
O'Neill	Hans	
Orkun	Xander	ao47@hw.ac.uk
Papatsiros	Ömer	omerorkun@yahoo.com.tr
Pautienius	Vasileios	vpapatsiros@vet.uth.gr
Peduto	Arnoldas	arnoldas.pautienius@lsmuni.lt
Pepic	Giovanni	giovanni.peduto@vd.ch
Pereira De Oliveira	Denis	vetprom@t-com.me
Petrašiūnas	Rémi	remi.pereira_de_oliveira@cirad.fr
Petrovic	Andrius	Andrius.Petrasiunas@gf.vu.lt
Podgórski	Tamas	tomy@niv.ns.ac.rs
Probst	Tomasz	t_podgorski@ibs.bialowieza.pl
Prodanov Radulović	Carolina	Carolina.probst@fli.de
Rijks	Jasna	jasna@niv.ns.ac.rs
Rozstalnyy	Jolianne	j.m.rijks@uu.nl
Rueda	Andriy	Andriy.Rozstalnyy@fao.org
Ruiz-Fons	Paloma	prueda@ingenasa.com
Saeberman	Francisco	josefrancisco.ruiz@uclm.es
	Claude	claude.saeberman@uliege.be

Sanchez-Cordon	Pedro Jose	pedro.sanchez-cordon@apha.gov.uk
Sastre	Patricia	psastre@ingenasa.com
Sauter-Louis	Carola	carola.sauter-louis@fli.de
Scaburri	Alessandra	alessandra.scaburri@izsler.it
Schulz	Katja	katja.schulz@fli.de
Selby	David	david.selby@pirbright.ac.uk
Ståhl	Karl	karl.stahl@sva.se
Stankevicius	Arunas	arunas.stankevicius@lsmuni.lt
Štukelj	Marina	marina.stukelj@vf.uni-lj.si
Tamba	Marco	marco.tamba@izsler.it
Toplak	Ivan	ivan.toplak@vf.uni-lj.si
Toppari	Ina	ina.toppari@ett.fi
Turan	Nuri	nturan@istanbul.edu.tr
Vaclavek	Petr	vaclavek@svujihlava.cz
Van Long	Nguyen	long.dahvn@gmail.com
Vergne	Timothée	t.vergne@envt.fr
Viltrop	Arvo	arlo.viltrop@emu.ee
Vio	Denis	dvio@izsvenezie.it
Westerberg	Susanna	susanna.westerberg@sva.se
Wheeler	Jo	jo.wheeler@apha.gov.uk
White	Andrew	a.r.white@hw.ac.uk
Wikström Lassa	Emil	emil.wikstrom@sva.se
Yilmaz	Huseyin	hyilmaz@istanbul.edu.tr
Zakharova	Olga	olenka.zakharova.1976@list.ru