

# OIE Collaborating Centres Reports Activities

## *Activities in 2018*

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<b>Title of collaborating centre:</b>	Food-Borne Parasites from the Asia-Pacific Region
<b>Address of Collaborating Centre:</b>	Ministry of Education Institute of Zoonosis Jilin University 5333 Xian Road 130062 Changchun CHINA (PEOPLES REP. OF)
<b>Tel.:</b>	+86-431 87.83.67.02
<b>Fax:</b>	
<b>E-mail address:</b>	liumy@jlu.edu.cn
<b>Website:</b>	
<b>Name of Director of Institute (Responsible Official):</b>	Liu Minyuan
<b>Name (including Title and Position) of Head of the Collaborating Centre (formally OIE Contact Point):</b>	Liu Minyua, Ph.D. Director of Institute of Zoonosis Jilin University
<b>Name of writer:</b>	Wang Xuelin

**ToR: To provide services to the OIE, in particular within the region, in the designated specialty, in support of the implementation of OIE policies and, where required, seek for collaboration with OIE Reference Laboratories**

**ToR: To identify and maintain existing expertise, in particular within its region**

**1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by the OIE**

<b>Disease control</b>	
<b>Title of activity</b>	<b>Scope</b>
Serological diagnosis for <i>Trichinella spiralis</i> , <i>Clonorchis sinensis</i> , <i>Toxoplasma</i> and <i>Cryptosporidium</i>	Farm pigs,dogs, pet cats in China
Prokaryotic expression and site detected antigen gene of <i>Trichinella spiralis</i>	Farm pigs and dogs in China
Antigen gene characterization of <i>Trichinella spiralis</i> and <i>Clonorchis sinensis</i>	Farm dogs and pigs in China
Strategy and policy stipulation for prevention of <i>Trichinella spiralis</i> , <i>Clonorchis sinensis</i> , <i>Toxoplasma</i> and <i>Cryptosporidium</i>	Farm pigs,dogs, pet cats in China
Up-converting phosphor technology-based lateral flow (UPT-LF) development and application in trichinellosis diagnosis and detection	Farm pigs in China
<b>Epidemiology, surveillance, risk assessment, modelling</b>	
<b>Title of activity</b>	<b>Scope</b>
Prevalence survey on trichinosis	Swine and dogs in southeast of Asia
Prevalence survey on <i>Cryptosporidium</i>	Sheep and dogs in southeast of Asia
<b>Training, capacity building</b>	
<b>Title of activity</b>	<b>Scope</b>
100 permanent staffs of training	Work in animal CDC of Asia
<b>Zoonoses</b>	
<b>Title of activity</b>	<b>Scope</b>
Development and harmonization of diagnostic methods in animal and human	<i>Trichinella spiralis</i> , <i>Clonorchis sinensis</i> , <i>Toxoplasma</i> and <i>Cryptosporidium</i> in host animal and human of Asia
Key parasitic zoonosis prevention and controlling	Farm pigs in Asia
Food safety technology for food-born parasites	Pig meat in Asia--Pacific Region
<b>Aquatic animal diseases</b>	

Title of activity	Scope
Investigation of Anisakis infection with sea fish in east Asia	Sea fish or product from coastline of eastAsia
<b>Animal welfare</b>	
Title of activity	Scope
Animalhealth product consultation	Prof Liu Mingyuan, Wang Xuelin and Liu Zengshan worked in OIE Collaborating Center for Food-borne Parasites from Asian-Pacific Region serve for farm animal and pets
<b>Diagnosis, biotechnology and laboratory</b>	
Title of activity	Scope
Comprehensive Proteomic Analysis of Lysine Acetylation in the Foodborne Pathogen Trichinella spiralis. Frontiers in Microbiology	For epidemiological survey in human and pigs
A novel detection method of Cryptosporidium parvum infection in cattle based on Cryptosporidium parvum virus 1	For epidemiological survey in human and dogs
<b>Veterinary medicinal products</b>	
Title of activity	Scope
immunomodulators	For farm pigs
<b>Vaccines</b>	
Title of activity	Scope
Recombinant T3223-8 expression trichinella spiralis of in mammalian cell	For farm pigs and human
Protection effect of DCs induced by trichinella spiralis infection	For farm pigs and human
Immunoprotection of Recombinant proteins from different phase of trichinella spiralis for pigs	For farm pigs
Construction of recombinant pcDNA 3.1-KL-T668-FLAG	For farm pigs
<b>Food safety</b>	
Title of activity	Scope
The way forward - multispectral action priorities for accelerating prevention and control of foodborne parasitic zoonoses	in Luang Prabang of Laos

***ToR : To propose or develop methods and procedures that facilitate harmonisation of international standards and guidelines applicable to the designated speciality***

**2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the surveillance and control of animal diseases, food safety or animal welfare**

Proposal title	Scope/Content	Applicable area
Sharing experience on One Health approach in all member of OIE	Members of OIE	<input checked="" type="checkbox"/> Surveillance and control of animal diseases <input checked="" type="checkbox"/> Food safety <input checked="" type="checkbox"/> Animal welfare

***ToR: To establish and maintain a network with other OIE Collaborating Centres designated for the same specialty, and should the need arise, with Collaborating Centres in other disciplines***

***ToR: To carry out and/or coordinate scientific and technical studies in collaboration with other centres, laboratories or organisations***

**3. Did your Collaborating Centre maintain a network with other OIE Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?**

Yes

Name of OIE CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
OIE CC for Food-borne Parasites in European	France	<input type="checkbox"/> Africa <input type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input checked="" type="checkbox"/> Europe <input type="checkbox"/> Middle East	Cooperation in controlling foodborne zoonotic parasite
OIE CC for Food-borne Parasites in North America	Canada	<input type="checkbox"/> Africa <input checked="" type="checkbox"/> Americas <input type="checkbox"/> Asia and Pacific <input type="checkbox"/> Europe <input type="checkbox"/> Middle East	Cooperation in parasite epidemiology

**4. Did your Collaborating Centre maintain a network with other OIE Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?**

No

***ToR: To place expert consultants at the disposal of the OIE.***

**5. Did your Collaborating Centre place expert consultants at the disposal of the OIE?**

Yes

Name of expert	Kind of consultancy	Subject
Liu Mingyuan	parasitosis morphology diagnosis, serology diagnosis, molecular typing diagnosis. Surveillance of epidemiology.	Nematodes □ trematodes □ cestodes and protozoan
Wang Xuelin	parasitosis morphology diagnosis, serology diagnosis, molecular typing diagnosis.	Trichinella sp □ Anisakidae □ Clonorchis □ Cysticercus □ Toxoplasma □ Cryptosporidium and Giardia
Zhu Guan	parasitosis morphology diagnosis, serology diagnosis, molecular typing diagnosis	Nematodes □ trematodes □ cestodes and protozoan
Pascal	parasitosis morphology diagnosis, serology diagnosis, molecular typing diagnosis	Nematodes □ trematodes □ cestodes and protozoan
Zhang Xichen	parasitosis morphology diagnosis, serology diagnosis, molecular typing diagnosis	Nematodes □ trematodes □ cestodes and protozoan

**ToR: To provide, within the designated specialty, scientific and technical training to personnel from OIE Member Countries**

**6. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by the OIE, to personnel from OIE Member Countries?**

Yes

- a) Technical visits: 1
- b) Seminars: 0
- c) Hands-on training courses: 1
- d) Internships (>1 month): 1

Type of technical training provided (a, b, c or d)	Content	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
Technical visits	Animal Health Laboratory-ANSES, 12 weeks course at Jilin University.	France	1
Hands-on training courses	skills to perform diagnostic tests for parasites transmitted by food: Helminthes (Trichinella sp.; Cysticercosis, Clonorchis sinensis), Protozoa (Toxoplasma, Cryptosporidium).	Macau	1
Internships	skills to perform diagnostic tests for parasites transmitted by food: Helminthes (Trichinella sp.; Cysticercosis, Clonorchis sinensis), Protozoa (Toxoplasma, Cryptosporidium).	Nepal	1

**ToR: To organise and participate in scientific meetings and other activities on behalf of the OIE**

**7. Did your Collaborating Centre organise or participate in the organisation of scientific meetings on behalf of the OIE?**

Yes

National/International	Title of event	Co-organiser	Date (mm/yy)	Location	No. Participants
International	the 14th International Congress of Parasitology (ICOPA 2018)	OIE	August/2018	in Daegu, Korea.	13
International	Meeting to accelerate prevention and control of neglected foodborne parasitic zoonoses in selected Asian countries	FAO,WHO and OIE	October/2018	Grand Luang Prabang, Lao People's Democratic Republic	1

**ToR: To collect, process, analyse, publish and disseminate data and information relevant to the designated specialty**

**8. Publication and dissemination of any information within the remit of the mandate given by the OIE that may be useful to Member Countries of the OIE**

a) Articles published in peer-reviewed journals: 2

- 1.Tai L, Li J, Yin J, Zhang N, Yang J, Li H, Yang Z, Gong P, Zhang X. A novel detection method of *Cryptosporidium parvum* infection in cattle based on *Cryptosporidium parvum* virus 1. *Acta Biochim Biophys Sin* (Shanghai). 2018 Dec 13. doi: 10.1093/abbs/gmy143. [Epub ahead of print] PubMed PMID: 30544221.
- 2.Yong Yang, Mingwei Tong, Xue Bai<sup>1</sup>, Xiaolei Liu<sup>1</sup>, Xuepeng Cai, Xuenong Luo,Peihao Zhang, Wei Cai, Isabelle Vallée, Yonghua Zhou and Mingyuan Liu. Comprehensive Proteomic Analysis of Lysine Acetylation in the Foodborne Pathogen *Trichinella spiralis*.*Frontiers in Microbiology*. 2018.January 11

b) International conferences: 7

- 1 Jianhua Li. Identification and characterization of Letm1 gene in *Toxoplasma gondii*. ICOPA 2018, Daegu, Korea.
2. Liu Mingyuan. New challenges in Asia to fight against food-borne zoonotic parasites. ICOPA 2018, Daegu, Korea.
- 3.Yong Yang . Characterization of antigenic properties of a serine protease of *Trichinella spiralis* involved in the invasive stage of the parasite. ICOPA 2018, Daegu, Korea.
- 3.Ning Xu.Effects of *Trichinella pseudospiralis* serine protease inhibitors on activation and differentiation of macrophage . ICOPA 2018, Daegu, Korea.
4. Bin Tang. Prevalence of *Clonorchis sinensis* infection in residents and fish in Fuyu City, Jilin Province, China . ICOPA 2018, Daegu, Korea.
5. Jigang Yin . A *Cryptosporidium parvum* integrin-like domain containing protein (Cgd5\_830) mediates adhesion of intestinal epithelial cells via interactions with sulfated heparin. ICOPA 2018, Daegu, Korea.

6. Xichen Zhang. The antitumor effect of ScFv antibody against 7 transmembrane receptor of *Trichinella spiralis* on A549 cells . ICOPA 2018, Daegu, Korea.

7. Xiaoxiang Hu. Characterization of selected innate immune cells in mice infected with *Trichinella spiralis* during the early infection phase . ICOPA 2018, Daegu, Korea.

c) National conferences: 0

d) Other

(Provide website address or link to appropriate information): 0