

Weimar 2013

XII International Jena Symposium on Tick-borne Diseases

Scientific Programme Committee

Jochen Süß, Olaf Kahl,
Peter Kimmig,
Wolfram Dorn, Rainer Oehme, Ute Mackenstedt

Congress Office

Gabriele Restle

Scientific Programme

Thursday, March 21, 2013

10:00–13:00 **Registration, mounting of posters**

12:00–13:00 **Snack lunch available (Lobby)**

13:00–13:20 **Opening**

INVITED CONTRIBUTIONS I

Moderators: D. Fish, V.I. Zlobin

13:20–13:45 **V 48** V.I. Zlobin (Irkutsk, Russia)
Bright page of “dramatic medicine” (devoted to the 75th anniversary of tick-borne
encephalitis virus discovery by Russian scientists)

13:45–13:50 **Discussion**

13:50–14:15 **V 14** D. Fish, P.J. Krause, M. Diuk-Wasser (New Haven, CT, USA)
The emergence of human diseases borne by *Ixodes scapularis* ticks

14:15–14:20 **Discussion**

1TBE/TBE VIRUS I

14:20–14:40 **V 22** F.X. Heinz (Vienna, Austria)
TBE in Central Europe: Immune responses, impact of vaccination and epidemiological changes

14:40–14:50 **V 29** V.M. Kuragina, O.V. Motuzova, S.I. Galkina, A.S. Shevtsova, Y.Y. Ivin, M.R. Kapkaeva, N.N. Sklaynkina, L.I. Kozlovskaya, A.P. Gmyl, O.N. Shcheglovitova, G.G. Karganova (Moscow, Russia)
Tick-borne mammalian flaviviruses: influence on BBB permeability in experimental tick-borne encephalitis and reproduction in endothelial cells

14:50–15:00 **V 47** J.M. Zajkowska, A. Moniuszko, K. Guziejko, W. Krupa, P. Czupryna, M. Kondrusik, S. Grygorczuk, S.A. Pancewicz (Białystok, Poland)
Huntington´s chorea in the course of tick-borne encephalitis (TBE) – a case report

15:00–15:10 **Discussion**

TICKS AND OTHERS I

Moderators: H. Klompen, L. Beati

15:10–15:25 **V 4** L. Beati, H. Klompen, L. Durden (Statesboro, GA, Columbus, OH, USA)
The genus *Amblyomma*: recent progresses in our understanding of its evolutionary history

15:25–15:35 **V 31** N.N. Livanova, S.G.Livanov, A.Y. Tikunov, D.E. Taranenko, N.V. Tikunova, N.V. Fomenko (Novosibirsk, Russia)
Ixodes pavlovskyi: habitat shift and geographical spread in southern areas of West Siberia (Russia)

15:35–15:45 **V 38** M. Pfäffle, N. Littwin, P. Sebastian, R. Oehme, T. Petney (Karlsruhe, Stuttgart, Germany)
Host preferences and preliminary population dynamics of *Dermacentor reticulatus* in the Hardtwald, Karlsruhe (Germany)

15:45–15:55 **Discussion**

15:55–16:25 **Coffee break**

TICKS AND OTHERS II

Moderators: L. Bell-Sakyi, H. Dautel

16:25–16:40 **V 5** L. Bell-Sakyi (Pirbright, Woking, Surrey, UK)
The Tick Cell Biobank contributes to tick-borne disease research

- 16:40–16:50 **V 12** G.G. Duscher, R.C. Galindo, A. Tichy, K.M. Kocan, J. de la Fuente (Vienna, Austria; Stillwater, OK, USA; Ciudad Real, Spain)
Permethrin detoxification in brown dog ticks, *Rhipicephalus sanguineus*, is affected by glutathione S-transferase (GST)
- 16:50–17:00 **V 28** T. Kroeber, M. Bourquin, P.M. Guerin (Neuchâtel, Switzerland)
Evaluation of tick repellents using in vitro and in vivo test protocols
- 17:00–17:10** **Discussion**
- SINNECKER-KUNZ AWARD PRESENTATIONS**
- Moderators: J. Gray, L. Gern**
- 17:10–17:20 **V 11** E.V. Dueva, D.I. Osolodkin, L.I. Kozlovskaya, Y.V. Rogova, V.V. Dotsenko, V.M. Pentkovski, V.A. Palyulin, G.G. Karganova, N.S. Zefirov (Moscow, Dolgoprudny, Russia; Lugansk, Ukraine)
Tick-borne encephalitis virus fusion inhibitors
- 17:20–17:30 **V 43** L.L. Terekhina, Y.V. Rogova, L.I. Romanova, M.F. Vorovitch, G.G. Karganova (Moscow, Russia)
Analysis of protective activity of inactivated tick-borne encephalitis vaccines against tick-borne flaviviruses
- 17:30–17:40 **V 26** A.S. Klimentov, N.V. Khutoretskaya, A.M. Butenko, O.V. Isaeva, V.F. Larichev, S.V. Bugmyrin, I.S. Kholodilov, L.I. Kozlovskaya, L.I. Romanova, G.G. Karganova, A.P. Gmyl (Moscow, Petrozavodsk, Russia)
Pan-phlebovirus RT-PCR: identification of novel phlebovirus species
- 17:40–17:50 **V 18** J. Geller, O. Katargina, L. Nazarova, S. Russakova, I. Golovljova (Tallinn, Estonia)
Tick-borne pathogens in the sympatric area of *I. ricinus* and *I. persulcatus* ticks in eastern Estonia
- 17:50–18:00 **V 20** C. Hammerschmidt, A. Koenigs, T. Hallström, V. Fingerle, C. Sterka, R. Wallich, P.F. Zipfel, P. Kraiczy (Frankfurt/M., Jena, Oberschleißheim, Heidelberg, Germany)
Deciphering the molecular mechanism of complement resistance of *Borrelia bavariensis* sp. nov.
- 18:00–18:10 **V 25** B.L. Jutras, A.M. Chenail, D. Carroll, M.C. Miller, H. Zhu, B. Stevenson (Lexington, Louisville, KY, USA)
Bpur, a novel *B. burgdorferi* nucleic acid-binding protein, has global impacts on the proteome and Lyme spirochete infectivity
- 18:10–18:20 **V 1** M. Andersson, K. Scherman, L. Råberg (Lund, Sweden)
Candidatus Neoehrlichia mikurensis in *Ixodes ricinus* and natural vertebrate hosts, southern Sweden
- 18:20–c. 18:50** **Discussion**
- approx. 19:30** **Welcome Reception: Hotel Leonardo, Bistro**

Friday, March 22, 2013

08:00– Registration

INVITED CONTRIBUTIONS II

Moderators: G. Bechara, G. Stanek

09:00–09:25 V 19 **TTBDis lecture (sponsor: journal Ticks and Tick-borne Diseases):**
J. Gray (Dublin, Ireland)
Ixodes ricinus research: past, present and future

09:25–09:30 Discussion

09:30–09:55 V 36 P. Parola, C. Socolovschi (Marseille, France)
Update on tick-borne rickettsiae

09:55–10:00 Discussion

RICKETTSIA, ANAPLASMA, FRANCISELLA, BABESIA, ... I

10:05–10:15 V 2 C. Bandi, M. Mariconti, S. Epis, P. Gaibani, D. Sasser, M. Fabbi, P. Marone,
V. Sambri, F. Comandatore, C. Bazzocchi (Milano, Pavia, Bologna, Italy)
Midichloria mitochondrii: a novel tick-borne infectious agent?

10:15–10:25 V 27 A. Koenigs, C. Siegel, S. Früh, T. Hallström, C. Skerka, P.F. Zipfel, P. Kraiczy
(Frankfurt/M., Jena, Germany)
Borrelia burgdorferi CspA regulates the alternative pathway of complement

10:25–10:30 Discussion

10:30–10:40 V 39 V.A. Rar, T.I. Epikhina, N.N. Livanova, V.V. Panov, N.N. Pukhovskaya,
N.P. Vysochina, L.I. Ivanov, A.K. Tancev, M.M. Mal'kova, V.V. Yakimenko
(Novosibirsk, Khabarovsk, Omsk, Russia)
Detection of several *Anaplasma phagocytophilum* and *Babesia microti*
genetic groups in small mammals in Russia

10:40–10:50 V 37 L. Pangrácová, M. Stanko, L. Mošanský, M. Bona, J. Kraljik, B. Víchová,
B. Peňko, M. Derdáková (Košice, Bratislava, Slovakia)
Genetic variability of *Anaplasma phagocytophilum* and prevalence of
Neoehrlichia mikurensis in rodents as reservoir hosts

10:50–11:00 V 41 C. Silaghi, D. Woll, M. Mahling, K. Pfister, M. Pfeffer (Munich, Leipzig, Germany)
Candidatus Neoehrlichia mikurensis in ticks and small mammals in Germany

11:00–11:10 Discussion

11:10–11:40 Coffee break

RICKETTSIA, ANAPLASMA, FRANCISELLA, BABESIA, ... II

Moderators: P. Nuttall, E. Siński

- 11:40–11:50 **V 35** P. Otto, B. Bettin, K. Cerncic, B. Hofmann, H. Hotzel, A. Karger, W. Müller, M. Peters, H. Schamoni, J. Süß, H. Tomaso (Jena, Greifswald-Insel Riems, Arnsberg, Lippersdorf, Geseke, Germany)
Francisella tularensis subsp. *holarctica* and 20 further bacterial species were detected in *Ixodes ricinus*
- 11:50–12:00 **V 46** J.M. Zajkowska, M. Kondrusik, J. Dunaj, A. Moniuszko, P. Czupryna, S. Grygorczuk, S.A. Pancewicz (Białystok, Poland)
Assessment of *Francisella tularensis* prevalence in *Ixodes ricinus* and *Dermacentor reticulatus* ticks in north-eastern Poland (Podlaskie region)
- 12:00–12:10 **V 45** R. Welc-Falęciak, E. Babkiewicz, A. Babińska, M. Kondrusik, J. Zajkowska, S.A. Pancewicz, G. Karbowiak, E. Siński (Białystok, Warsaw, Poland)
Risk of human babesiosis due to *Babesia microti* in forest ecosystems from north-eastern Poland

12:10–12:20 Discussion

TBE/TBE VIRUS II

Moderators: T.G.T. Jaenson, G. Dobler

- 12:20–12:35 **V 10** G. Dobler, S. Eßbauer, M. Pfeffer, P. de Zanolto, F. Hufert, S. Frey, M. Weidmann (Munich, Leipzig, Göttingen, Germany; São Paulo, Brazil)
Phylogeny and geographical spread of TBE virus in central Europe
- 12:35–12:45 **V 44** S. Tkachev, I. Kozlova, M. Verkhovzina, T. Demina, Y. Dzhioev, L. Karan', E. Doroshchenko, O. Lisak, O. Suntsova, A. Paramonov, O. Fedulina, A. Revizor, V. Zlobin (Irkutsk, Moscow, Russia)
The genetic and biological properties of tick-borne encephalitis virus unique group from eastern Siberia
- 12:45–12:55 Discussion**
- 12:55–13:05 **V 34** R. Oehme, P. Sebastian (Stuttgart, Germany)
Occurrence of a tick-borne encephalitis virus (TBE-V) focus in Stuttgart/Botnang (Germany)
- 13:05–13:15 **V 6** O.A. Belova, S.A. Brisker, L.S. Karan', N.M. Kolyasnikova, N.G. Topychkanova, I.N. Kuvshinova, D.I. Timofeev, M.Y. Rukavishnikov, M.P. Grishaev, G.G. Karganova (Moscow, Novosibirsk, Russia)
Problem of TBE virus prevalence evaluation in natural populations of *Dermacentor* ticks
- 13:15–13:25 Discussion**
- 13:25–14:40 Lunch (hotel restaurant)**

TICKS AND OTHERS III

Moderator: A. Estrada-Peña

- 14:40–14:55 **V 8** H. Dautel, D. Kämmer, J. Heger, O. Kahl (Berlin, Giessen, Germany)
Germany 2012: An unusual year for *Ixodes ricinus* activity and human tick-borne disease incidence (tick-borne encephalitis, Lyme borreliosis)
- 14:55–15:05 **V 30** N.V. Littwin, M. Pfäffle, P. Sebastian, R. Oehme, T.N. Petney, H. Taraschewski (Karlsruhe, Stuttgart, Germany)
The role of small mammal hosts in the ecology of ticks and tick-borne diseases in Baden-Wuerttemberg (Germany)

15:05–15:15 **Discussion**

15:15–16:45 **POSTER SESSION I (POSTERS 1–47) (LOBBY)**

LYME BORRELIOSIS I

Moderators: R. Wallich, G. Margos

- 16:45–17:00 **V 13** A. Estrada-Peña, J. de la Fuente (Zaragoza, Ciudad Real, Spain; Stillwater, OK, USA)
Association of prevalence rates of *Borrelia burgdorferi* s.l. in ticks to climatic gradients in Europe: a meta-analysis
- 17:00–17:15 **V 23** C. Herrmann, M.J. Voordouw, L. Gern (Neuchâtel, Switzerland)
Ixodes ricinus ticks infected with the causative agent of Lyme disease, *Borrelia burgdorferi* sensu lato, have higher energy reserves
- 17:15–17:25 **V 9** M. Derdáková, V. Tarageľová, L. Pekárik, J. Koči, E. Ondrisková, D. Selyemová, M. Chvostáč, T. Vaculová, B. Peňko (Bratislava, Košice, Slovakia)
Prevalence and distribution of *Borrelia burgdorferi* sensu lato genospecies reflects the host composition of the diverse habitats in Slovakia

17:25–17:35 **Discussion**

18:30 **Departure to Symposium Dinner (by bus)**

Wear something warm!

Saturday, March 23, 2013

INVITED CONTRIBUTIONS III

Moderators: B. Stevenson, N. Rudenko

- 09:00–09:25 **V 24** T.G.T. Jaenson, M. Hjertqvist, J. Pettersson, T. Bergström, E. Petersson (Uppsala, Stockholm, Gothenburg, Sweden)
Can the increasing incidence of human tick-borne encephalitis (TBE) in Sweden be explained by climate change and exceptional deer abundance?
- 09.25–09:30** **Discussion**
- 09:30–09:55 **V 3** L. Beati (Statesboro, GA, USA)
Ixodes scapularis Say, 1821: multilocus population genetics
- 09:55–10:00** **Discussion**

LYME BORRELIOSIS II

- 10:00–10:15 **V 33** S. Narasimhan, J. Coumou, K. DePonte, J.W.R. Hovius, E. Fikrig (New Haven, CT, USA; Amsterdam, The Netherlands)
The tick midgut protein Clone19 plays a vital role in the migration of *Borrelia burgdorferi* from the midgut to the salivary glands during a blood meal
- 10:15–10:25 **V 40** N. Rudenko, M. Golovchenko, J.H. Oliver Jr., L. Grubhoffer (České Budějovice, Czech Republic; Statesboro, GA, USA)
Borrelia burgdorferi sensu stricto *ospC* alleles associated with human Lyme disease were detected in the non-human biting tick *Ixodes affinis* and rodent hosts in a non-endemic region of the southeastern U.S.A.
- 10:25–10:30** **Discussion**
- 10:30–10:45 **V 42** B. Stevenson, A.M. Chenail, B.L. Jutras (Lexington, CT, USA)
Metabolic status of the Lyme borreliosis spirochete governs expression of its Erp and OspC outer surface proteins
- 10:45–10:55 **V 7** S. Bigelmayr, C. Hammerschmidt, A. Koenigs, P. Kraiczy (Frankfurt/M., Germany)
Adhesion of Lyme disease spirochetes to human keratinocytes
- 10:55–11:05** **Discussion**
- 11:05–11:15** **Short break**
- 11:15–12:45** **POSTER SESSION II (POSTERS 48–94) (LOBBY)**
with light refreshments
- 12:45–13:50** **Lunch (hotel restaurant)**

LYME BORRELIOSIS III

Moderators: J. Stańczak, P. Kraiczy

- 13:50–14:00 **V 21** K. Haninková, P. Mukherjee, N.H. Ogden, G. Margos, V. Fingerle, R. Straubinger, G.P. Wormser, K. Reed, J. Meese, M. Vandermause, I. Schwartz (Valhalla, NY, Madison, Marshfield, WI, USA; Ottawa, Canada; Munich, Oberschleißheim, Germany)
Multilocus sequence typing of *Borrelia burgdorferi* suggests existence of lineages with differential pathogenic properties in humans
- 14:00–14:10 **V 16** N.V. Fomenko, E.V. Brenner, O.V. Stronin, A.M. Kurilshikov, V.Yu. Borgoyakov, Y.V. Sabitova, N.N. Livanova, N.V. Tikunova (Novosibirsk, Tomsk, Russia)
Genetic peculiarities of *Borrelia* circulating in natural foci of Western Siberia
- 14:10–14:20 **V 15** G. Földvári, K. Rigó, M. Jablonszky, G. Majoros, V. Molnár, M. Tóth (Budapest, Hungary)
Urban Lyme ecology: hedgehogs, ticks, and human risk of *Borrelia burgdorferi* s.l. infection in a city park
- 14:20–14:30** **Discussion**
- approx. 14:40** **Sinnecker-Kunz Award Ceremony**
- Final Remarks, Closing Ceremony**
- approx. 15:30–** **Farewell Reception: Hotel Leonardo (Bistro)**

FRIDAY POSTER SESSION I (PRESENTING AUTHORS AT THEIR POSTERS)**15:15–16:45**

- P 1** A. Al-Juboori, F.F. Al-Baloushi (Abu Dhabi, [UAE])
Studies on ticks and tick-borne diseases in dromedary camels (*Camelus dromedarius*) in the United Arab Emirates
- P 2** B. Atkinson, J. Latham, J. Chamberlain, C. Logue, L. O'Donoghue, J. Osborne, G. Carson, T. Brooks, M. Carroll, M. Jacobs. S. Hopkins, R. Hewson (Salisbury, London, United Kingdom)
Sequencing and phylogenetic characterisation of a fatal Crimean-Congo haemorrhagic fever case imported into the United Kingdom, October 2012
- P 3** B. Atkinson, J. Osborne, B. Nadjm, T. Brooks, R. Hewson (Salisbury, United Kingdom)
Detection of imported case of tick-borne encephalitis in the UK (ex Sweden)
- P 4** A.R.M. Barbieri, J.A. May-Júnior, E.A. Moraes-Júnior, P. Crawshaw-Júnior, R.G. Morato, H.S. Soares, J.F. Soares, M.B. Labruna (São Paulo, Santa Catarina, Brasilia, Brazil)
Molecular detection of *Hepatozoon felis* in neotropical wild felids from three different Brazilian biomes
- P 5** M. Aktaş, Z. Vatanserver, N. Çanakoğlu, E. Berber, A. Özdarendeli (Elazig, Kars, Kayseri, Turkey)
Crimean-Congo hemorrhagic fever infection prevalence in field-collected ticks in endemic areas of Turkey
- P 6** T. Bergström, P.-E. Lindgren, A. Andreassen, C.B. Christiansen, V. Kjelland (Gothenborg, Sweden; Oslo, Kristiansand, Norway; Copenhagen, Denmark)
ScandTick – a Nordic collaboration against tick-borne diseases
- P 7** B. Biernat, J. Stańczak, D. Lewandowska (Gdynia, Poland)
Kampinoski National Park – a risk area for spotted fever group rickettsioses?
- P 8** S.V. Bugmyrin, L.A. Bespyatova, Y.S. Korotkov, L.A. Burenkova, O.A. Belova, L.I. Romanova, L.I. Kozlovskaya, G.G. Karganova, E.P. Ieshko (Petrozavodsk, Moscow, Russia)
Distribution of *Ixodes ricinus* and *Ixodes persulcatus* ticks in Karelia (Russia)
- P 9** A. Paziewska-Harris, S.E. Lybæk, P.D. Harris (Oslo, Norway)
A comparison of tick-borne pathogens in a peri-urban and a rural habitat in south-eastern Norway
- P 10** M.I. Camargo-Mathias, R.N. Remedio, S. de Carli, A.P.M. Emygdio, L.O. Batista, V.A.M. Carmo, K.R. Silva, A.P.O. Salvador, J.A. Braga, R.H.S. Zanetti, P.H. Nunes (São Paulo, Brazil)
Immunocytochemical description of the morphology of the synganglion and the testes of *Rhipicephalus sanguineus* ticks fed on hosts
- P 11** M.I. Camargo-Mathias, K.C.S. Furquim, D.T. de Almeida, J.C. Ponzio, N.I. Pereira, T.C.D. Barbosa, L.M.L. Angelini, L.E.S. Costa, L.H.B. Silva (São Paulo, Brazil)
Application of confocal microscopy for description of the digestive system of *Rhipicephalus sanguineus* male ticks: analysis of salivary glands and intestine

- P12** A.M. Chenail, B.L. Jutras, C.A. Adams, L.H. Burns, A. Bowman, A. Verma, B. Stevenson (Lexington, Louisville, KY, USA; St. Kitts, West Indies)
Borrelia burgdorferi cp32 BpaB modulates expression of the prophage NucP nuclease and SsbP single-stranded DNA-binding protein
- P 13** J.-H. Choi, M.-S. Choi, N.-H. Cho (Seoul, South Korea)
Orientia tsutsugamushi subverts dendritic cell functions by escaping from autophagy and impairing their migration
- P 14** R.T. Cristina, S. Morariu (Timisoara, Romania)
Activity on ixodid ticks of *Euphorbia cyparissias* extracts
- P 15** A.C. Cruz, M. Vancová, K. Lis, E. Zweygarth, M.F.B. Ribeiro, J.A.G. da Silveira, L. Grubhoffer, J. de la Fuente, M. Tonk, L.M.F. Passos (České Budějovice, Czech Republic; Munich, Germany; Belo Horizonte, Brazil; Ciudad Real, Spain; Stillwater, OK, USA; Minas Gerais, Brazil)
Morphological and immunological features of *Ehrlichia mineirensis*, a new organism isolated from *Rhipicephalus (Boophilus) microplus* haemolymph
- P 16** I.L. de Carvalho, A.S. Santos, M. Santos-Silva, L. Chainho, M.S. Nuncio, R. de Sousa, REVIVA workgroup (Águas de Moura, Portugal)
Ticks parasitizing humans: Portuguese surveillance program for tick-borne diseases (REVIVE)
- P 17** S. del Fabbro, T. Trifonova, P. D'Agaro, I. Caracciolo, F. Nazzi (Udine, Trieste, Italy)
Borrelia burgdorferi s.l. infection and questing activity of *Ixodes ricinus* nymphs: preliminary data
- P 18** A.M. Dmitrovskiy, M.B. Shermetova, R.A. Egemberdiyeva, Z.Zh. Shapieva, A.R. Kuzmina, G.A. Utepbergenova (Almaty, Shymkent, Turkestan, Kazakhstan)
CCHF natural foci appearance and development dynamics in Turkestan region
- P 19** G. Dobler, S. Frey, S. Essbauer (Munich, Germany)
Seasonality of tick-borne encephalitis virus: Are we looking in the right host?
- P 20** Y. Dzhioev, Y. Bukin, A. Paramonov, I. Kozlova, T. Demina, M. Verkhozina, S. Tkachev, V. Zlobin (Irkutsk, Novosibirsk, Russia)
Phylogeographic analysis of populations of tick-borne encephalitis virus in the territory of Eurasia
- P 21** Y. Dzhioev, S. Tkachev, I. Kozlova, M. Verkhozina, E. Doroshchenko, O. Lisak, O. Suntsova, O. Fedulina, A. Revisor, A. Paramonov, V. Zlobin (Irkutsk, Novosibirsk, Russia)
Detection of rickettsia species in natural foci of Baikal region (Russia)
- P 22** R.A. Egemberdiyeva, A.M. Dmitrovskiy, Z.Zh. Shapieva, E.N. Kozhevnikova, A.Zh. Tulemisova (Almaty, Aktobe, Kazakhstan)
Epidemiological and clinical manifestations of tick-borne borreliosis in Kazakhstan
- P 23** M. Golovchenko, J.H. Oliver Jr., L. Grubhoffer, N. Rudenko (České Budějovice, Czech Republic; Statesboro, GA, USA)
Globally rare ospC allele L of Lyme disease spirochete *Borrelia burgdorferi* sensu stricto is associated with non-human biting tick *Ixodes affinis* and rodent hosts in the southeastern United States

- P 24** K.M. Hansford, M. Pietzsch, A. Vaux, J.M. Medlock (Porton Down, United Kingdom)
Tick research and surveillance in the UK
- P 25** P.D. Harris, S.E. Lybæk, A. Paziewska-Harris (Oslo, Norway)
Beyond the reverse line blot: alternative molecular methodologies for tick blood meal identification
- P 26** C. Herrmann, L. Gern (Neuchâtel, Switzerland)
Survival of *Ixodes ricinus* nymphs under cold conditions is influenced by sampling season and temperature variations, and to a lesser extent by infection with *Borrelia burgdorferi* sensu lato
- P 27** A. Hofhuis, T. Herremans, D.W. Notermans, H. Sprong, M. Fonville, J.W.B. van der Giessen, W. van Pelt (Bilthoven, The Netherlands)
The risk after a tick bite: a prospective study among cases with a tick bite or erythema migrans in the Netherlands
- P 28** A. Hosseini, M. Tavakoli (Lorestan, Guilan, Iran)
The Iranian *Hyalomma* species (Acari: Ixodidae) along with some notes on their taxonomic status, biology and distribution data
- P 29** T. Hufschmid, J. Grunder, M. Lutz, T. Hofstetter, (Waedenswil, Switzerland)
Biocontrol of *Ixodes ricinus*: Comparison of 10 entomopathogenic fungi
- P 30** I.S. Kholodilov, A.S. Shevtsova, L.Iu. Romanova, O.V. Motuzova, E.A. Arumova, L.D. Barkalova, A.V. Ermakov, D.A. Kvasov, I.V. Kovalchuk, E.I. Kosolapova, V.I. Kostyrko, O.N. Kuznetsova, M.A. Morozova, K.A. Purmak, E.N. Romanenko, N.I. Solomaschenko, D.V. Trankvilevsky, G.G. Karganova (Moscow, Voronezh, Kalyga, Kursk, Ryazan, Stavropol, Russia)
Tick-borne encephalitis virus in the western and south-western parts of the European part of Russia?
- P 31** D. Kiewra, G. Zaleśny (Wroclaw, Poland)
Occurrence of *Babesia microti* in *Ixodes ricinus* ticks collected from forested areas in Lower Silesia, Poland
- P 32** C. Klier, B. Liebl, M. Wildner, A. Sing, V. Fingerle (Oberschleißheim, Germany)
Incidence of Lyme borreliosis in Europe – What do longitudinal data tell us?
- P 33** C. Klier, J. Brenauer, L.-M. Teußer, B. Liebl, A. Sing, M. Wildner, V. Fingerle (Oberschleißheim, Germany)
Surveillance of regional *Ixodes ricinus* activity and the prevalence of *Borrelia burgdorferi* sensu lato species in Bavaria (Germany)
- P 34** I. Kozlova, O. Lisak, E. Doroschenko, O. Suntsova, O. Fedulina, M. Verkhovina, T. Demina, Y. Dzhioev, V. Rar, S. Tkachev, A. Paramonov, A. Revizor, V. Zlobin (Irkutsk, Novosibirsk, Russia)
Unique combined foci of tick-borne infections in the Irkutsk region
- P 35** L.I. Kozlovskaya, A.P. Gmyl, G.G. Karganova (Moscow, Russia)
Tick-borne virus reproduction in mosquito cells
- P 36** M. Leschnik, G. Kirtz, G. Duscher (Vienna, Austria)
Inter-species similarities and differences in anaplasmosis

- P 37** P. Lindblom, A. Andersson, D. Nyman, P. Forsberg, P.-E. Lindgren (Linköping, Jönköping, Sweden; Åland, Finland)
Factors affecting immunological protection against TBEV after vaccination with FSME-Immun
- P 38** G. Margos, H. Blum, S. Krebs, A. Sing, B. Liebl, M. Wildner, R. Straubinger, V. Fingerle (Munich, Oberschleißheim, Germany)
SN(i)P, SN(i)P hooray!
- P 39** L.M.K. Mason, E.A. Herkes, T. van der Poll, I. Schwartz, G.P. Wormser, M.M. Petzke, J.W.R. Hovius (Amsterdam, The Netherlands; Valhalla, NY, USA)
The role of innate immune responses in invasiveness of different clinical *Borrelia burgdorferi* isolates
- P 40** A.L. Matveev, L.E. Matveev, V.N. Lyapustin, N.V. Tikunova (Novosibirsk, Moscow, Russia)
Purification naive NS1 protein of tick-borne encephalitis virus
- P 41** S. Mavin, R. Evans, A.S. Bowman (Inverness, Aderdeen, United Kingdom)
The development of an IgG Western blot assay to identify antigenic markers for the different stages of *Borrelia burgdorferi* infection in Scottish patients
- P 42** A. Mirjalili, H.K. Hesam (Karaj, Iran)
Finding the spectrum of action of Bm86-based tick vaccines on prevalent Iranian tick species by means of finding a Bm86-similar structure exploiting anti-Bm86 monoclonal antibody
- P 43** A. Moniuszko, P. Czupryna, S.A. Pancewicz, M. Kondrusik, S. Grygorczuk, K. Guziejko, J.M. Zajkowska (Białystok, Poland)
Influence of demographic, socio-economic, and land use changes on increased incidence of tick-borne encephalitis in north-eastern Poland
- P 44** A. Moniuszko, K. Guziejko, A. Żebrowska, J. Zajkowska, O. Zajkowska, P. Czupryna, S. Grygorczuk, M. Kondrusik, P. Radziwon, S.A. Pancewicz (Białystok, Warsaw, Poland)
The ABO blood type system and tick-borne diseases – a preliminary study
- P 45** S. Morariu, G. Dărăbua, R.T. Cristina (Timisoara, Romania)
Haematological changes in Ross-308 broilers naturally infested with the poultry tick *Argas persicus*
- P 46** S.V. Muders, T.N. Petney, H. Taraschewski (Karlsruhe, Germany)
The role of European big game (*Capreolus capreolus* and *Sus scrofa*) as hosts for ticks and in the epidemiological life cycle of tick-borne diseases
- P 47** E.F. Nodari, M.I. Camargo-Mathias, G.C. Roma, K.C.S. Furquim, G.H. Bechara (Rio Claro-SP, Jaboticabal-SP, Brazil)
Permethrin action causes morphological changes in the salivary glands of *Rhipicephalus sanguineus* ticks

SATURDAY POSTER SESSION II (PRESENTING AUTHORS AT THEIR POSTERS)

11:15–12:45

- P 48** M. Nováková, B. Vichová, B. Pet'ko (Košice, Slovakia)
Monitoring of tick-transmitted pathogens in *Ixodes ricinus* ticks, hunters, and several mammalian hosts from Liptov Valley, Slovakia
- P 49** D. Nyman, C. Nyberg, S.A. Carlsson, C. Jansson (Åland, Finland)
The performance of multiplex bead antibody index determination, flagellar antibody index and CSF-CXCL13 in the diagnostics of Lyme neuroborreliosis in a hyperendemic setting
- P 50** J. Páleníková, H. Langhansová, J. Chmelar, M. Kotsyfakis, J. Kopecky (České Budějovice, Czech Republic)
The effect of *Ixodes ricinus* salivary serpin IRS-2 on the function of innate immunity cells
- P 51** T.A. Panova, O.V. Nosareva, A.E. Nesterov, S.V. Seregin, V.S. Petrov (Koltsova, Russia)
Investigation of the immunogenic properties of candidate DNA vaccines against CCHF
- P 52** A. Paramonov, Y. Dzhioev, I. Kozlova, Y. Bukin, T. Demina, S. Tkachev, V. Zlobin (Irkutsk, Novosibirsk, Russia)
Detection of tick-borne encephalitis virus genome fragments integrated in human and animal genomes
- P 53** L.M.F. Passos, A.C. Cruz, E. Zweygarth, J.A.G. da Silveira, L. Grubhoffer, K. Lis, M. Vancova, J. de la Fuente, J.J. Valdés, C. Silaghi, M. Tonk, M.F.B. Ribeiro (Munich, Germany; Belo Horizonte, Minas Gerais, Brazil; České Budějovice, Czech Republic; Ciudad Real, Spain; Stillwater, OK, USA)
Cellular and molecular characteristics of *Ehrlichia mineirensis*, a new tick-derived organism isolated from *Rhipicephalus (Boophilus) microplus*
- P 54** A. Paulauskas, E. Galdikaitė, J. Radzijeuskaja, A. Banaitytė, I. Golovljova (Kaunas, Lithuania)
Genetic diversity of *Ixodes ricinus* ticks in Baltic countries based on microsatellite loci and mitochondrial DNA sequences
- P 55** P.K. Perera, R.B. Gasser, C. Bell, A. Jabbar (Parkville, Bendigo, Victoria, Australia)
Theileria orientalis MPSP types in cattle herds associated with outbreaks of clinical disease in Victoria, Australia
- P 56** U. Plessow, R. Lohse, C. Karnath, D. Woll, C. Müller, M. Beer, M. Pfeffer (Leipzig, Dresden, Holzkirchen, Greifswald-Insel Riems, Germany)
Prevalence of antibodies against tick-borne encephalitis virus in wildlife in Saxony, Germany
- P 57** T. Poponnikova, G. Galieva, L. Galaganova, N. Zhukova, T. Pinegina, E. Ogorodnikova (Kemerovo, Tomsk, Russia)
Progressing development of neurological disorders after acute TBE
- P 58** J. Radzijeuskaja, A. Paulauskas, I. Pūraitė, E. Galdikaitė (Kaunas, Lithuania)
Identification of *Babesia* species in Lithuania

- P 59** R. Ranka, I. Petrovskis, I. Sominskaja, K. Brangulis, P. Pumpens, V. Baumanis (Riga, Latvia)
Successful creation of chimeric virus-like particles maintaining fibronectin-binding property from *B. burgdorferi* BBK32 protein
- P 60** A. Reichert, J. Terlohr-Wagner, P. Gerold (Unterschleißheim, Germany)
Empirical study to reveal the preferred parts of the human body for tick-bites
- P 61** A. Rodriguez-Mallon, G.H. Bechara, R.Z. Machado, E.B. Ortiz, J.L.S. Rivas, A.P.G. Ramirez, J.A. Jaimes-Olaya, M.P. Estrada (Habana, Cuba; Jeboticabal-SP, Brazil; Bogotá, Colombia; Managua, Nicaragua)
Inhibition of *Ehrlichia canis* and *Babesia canis* transmission among co-feeding ticks on dogs vaccinated with Bm86 antigen
- P 62** Y.V. Rogova, L.I. Kozlovskaya, E.V. Dueva, D.I. Osolodkin, V.A. Palyulin, G.G. Karganova (Moscow, Russia)
Experimental tick-borne encephalitis with ongoing doxycycline treatment
- P 63** G.S. Sanches, G.H. Bechara, A.J. Mangold, M.I. Camargo-Mathias (Rio Claro-SP, Jabotical-SP, Brazil; Santa Fé, Argentina)
Molecular and morphological comparison between different geographical populations of the dog tick *Rhipicephalus sanguineus* and *R. turanicus* from Spain (Acari: Ixodidae)
- P 64** G. Sanchis-Monsonis, C. Martinez-Carrasco, P. Tizzani, M.A. Sánchez-Isarria, V. Lizana, I. Garcia, L. Chitimia (Murcia, Valencia, Spain; Torino, Italy; Bucharest, Romania)
Risk factors associated with the epidemiology of ixodid ticks in the red fox from the Valencia region (south-eastern Spain)
- P 65** M. Sarani, M.M. Sedaghat, Z. Telmadarraiy, A.S. Moghaddam, K. Azam, A. Zieghami (Tehran, Bandar Abbas, Iran)
Geographic distribution of ixodid ticks (Acari: Ixodidae) in northern Iran
- P 66** O. Schumann, C. Burri, L. Gern (Neuchâtel, Switzerland)
Identification of two natural reservoir hosts for *Borrelia miyamotoi* in Switzerland
- P 67** D. Selyemová, V. Taragel'ová, E. Špitalská, Z. Svitálková, L. Mydlová, M. Derdákóvá (Bratislava, Košice, Slovakia)
Detection of tick-borne pathogens in dog-feeding ticks in the Slovak Republic (Bratislava)
- P 68** Z. Shapiyeva, L. Ziyadina, A.M. Dmitrovskiy, T. Krasnova (Almaty, Petropavlovsk, Kazakhstan)
Tick-borne encephalitis in the north of Kzakhstan
- P 69** C. Silaghi, E. Overzier, K. Pfister (Munich, Germany)
Year-to-year fluctuation in *Anaplasma phagocytophilum* prevalence and variability in the occurrence of 16S rRNA-gene variants in questing *Ixodes ricinus* in Bavaria (Germany)
- P 70** H.S. Soares, J.A. May-Júnior, E.A. Moraes-Júnior, R.C. Paula, M. Haberfeld, B.R. Andrade, A.R.M. Barbieri, J.F. Soares, M.B. Labruna (São Paulo-SP, Santa Catarina SC, Brazil)
Molecular detection of *Cytauxzoon felis* in neotropical wild felids from three different Brazilian biomes

- P 71** H.S. Soares, A.R.M. Barbieri, A.H.H. Minervino, A. Marcili, T.R. Moreira, M.B. Labruna, S.M. Gennari (São Paulo-SP, Brazil)
Molecular detection of *Hepatozoon* spp. in spectacled caiman (*Caiman crocodilus*) from the Amazon forest in the state of Mato Grosso, Brazil
- P 72** S.T. Sonnleitner, J.O. Lundström, R. Baumgartner, J. Simeoni, H. Schennach, R. Zelger, A. Prader, E. Schmutzhard, N. Nowotny, G. Walder (Außervillgraten, Innsbruck, Vienna, Austria; Uppsala, Sweden; Bozen, Pfatten, Italy; Muscat, Oman)
Investigations on California serogroup orthobunyaviruses in the Tyrols: First description of autochthonous strains of Tahyna virus in the Alps
- P 73** L. Chitimia, S. Speck, S. Nicolae, S. Essbauer, G. Dobler (Bucharest, Romania; Munich, Germany)
First detection of rickettsiae in ticks from Romania
- P 74** J. Stańczak, J. Michalik (Gdynia, Poznań, Poland)
Different *Babesia* spp. infecting deer in Wielkopolska province (western Poland)
- P 75** V. Taragel'ová, L. Mydlová, D. Selyemová, E. Špitalská, R. Václav, B. Peťko, M. Derdákóvá (Bratisla, Košice, Slovakia)
Altitudinal changes in the occurrence of tick-borne pathogens in Martinské hole mountains (Central Slovakia) – the summary of several years of research
- P 76** C. Templin, B. Marchwald, S. Olbrich, J. Dreesman, M. Monazahian (Hannover, Germany)
Detection of a new endemic tick species in Lower Saxony, Germany, in the course of a state-wide monitoring of ticks and tick-borne diseases
- P 77** L.L. Terekhina, M.F. Vorovitch, G.B. Maikova, Y.V. Rogova, A.V. Kiktenko, G.G. Karganova (Moscow, Russia)
Clinical trials of a novel vaccine "Tick-E-Vac": evaluation of immunogenicity
- P 78** N.V. Tikunova, A.L. Matveev, I.K. Baikov, L.E. Matveev, O.V. Stronin (Novosibirsk, Tomsk, Russia)
Antibodies against glycoprotein E able to protect mice from tick-borne encephalitis
- P 79** S. Tkachev, V. Borgoyakov, N. Livanova, V. Panov (Novosibirsk, Russia)
Molecular-genetic studies of arboviruses and their vectors (ixodid ticks) in the territory of Novosibirsk scientific center and its suburbs in Western Siberia
- P 80** M.A. Turcitu, M. Andersson, M. Stefanache, P. Tamba, F. Barbuceanu, G. Predoi, M. Codreanu, P. Tudor, C. Fernoaga, G. Dobler, L. Chitimia (Bucharest, Ilfov County, Romania; Lund, Sweden; Munich, Germany)
Genetic screening for canine tick-borne parasitic diseases in pet dogs from Bucharest, Romania
- P 81** B. Vichová, B. Haklová, L. Pangrácová, M. Stanko, M. Bona, L. Mošanský, B. Peťko (Košice, Slovakia)
Occurrence of ticks (Ixodida) and tick-borne pathogens in urban areas of Košice city, eastern Slovakia
- P 82** S. Vollmer, E.J. Feil, C.-Y. Chu, S.L. Raper, W.-C. Cao, K. Kurtenbach, V. Fingerle, G. Margos (Bath, United Kingdom; Beijing, China; Munich, Oberschleissheim, Germany)
Spatial spread and demographic expansion of Lyme borreliosis spirochaetes in Eurasia

- P 83** P. Wilhelmsson, L. Fryland, P. Lindblom, J. Sjöwall, D. Nyman, J. Ernerudh, C. Ekerfelt, P. Forsberg, P.-E. Lindgren (Linköping, Jönköping, Sweden; Åland, Finland)
The risk of a *Borrelia*-infection after a tick-bite
- P 84** B. Wodecka, M. Dzudzewicz (Szczecin, Poland)
First detection of *Borrelia afzelii* DNA in the blood of a goat (*Capra hircus*) in Poland
- P 85** B. Wodecka, M. Dzudzewicz (Szczecin, Poland)
Tick crushing method and DNA isolation protocol: effect on detectability of host DNA in *Ixodes ricinus*
- P 86** N. Zhukova, T. Pinegina, T. Poponnikova, L. Galaganova (Tomsk, Kemerovo, Russia)
Unfavorable outcomes of acute TBE in Tomsk oblast (Western Siberia)
- P 87** U. Ziegler, J. Angenvoort, M. Eiden, M. Keller, U. Nagel-Kohl, M.H. Groschup (Greifswald-Insel Riems, Hannover, Germany)
Cross-reacting antibodies to tick-borne encephalitis virus are problematic in the serological diagnostic testing of West Nile virus in horses
- P 88** K. Henning, A. Movila, A. Hilbert, N. Malevanciuc, T. Sulesco, I. Uspenskaia, N. Sitnikova, I. Toderas (Wusterhausen, Germany; Chisinau, Republic of Moldova)
Prevalence of zoonotic pathogens in ticks of some selected places in the Republic of Moldova
- P 89** M. Reiter, A.M. Schötta, A. Müller, F. Strle, E. Ruzic-Sabljić, G. Stanek (Vienna, Austria; Ljubljana, Slovenia)
Detection of *Borrelia miyamotoi* in *Ixodes ricinus* ticks collected in Austria
- P 90** A.M. Schötta, M. Reiter, A. Müller, H. Stockinger, G. Stanek (Vienna, Austria)
A nested real-time PCR approach for detection of *Borrelia burgdorferi* sensu lato in patient specimens of various origins
- P 91** O. Ciebiera, L. Jerzak (Zielona Góra, Poland)
Ticks (Ixodidae) on migratory birds during spring migration 2011 at the Polish Baltic coast: preliminary data
- P 92** T.R. Hofmeester, P.A. Jansen, S.E. van Wieren, H.H.T. Prins (Wageningen, The Netherlands)
Tick-host interactions and the community ecology of *Borrelia burgdorferi* s.l.
- P 93** L.A.G. van Duijvendijk, H. Sprong, W. Takken (Wageningen, The Netherlands)
Effect of rodent density on Lyme disease risk
- P 94** D.A. Raele, D. Chiocco, D. Galante, G. Mancini, M.A. Cafiero (Foggia, Italy)
Rickettsia helvetica in *Ixodes ricinus* ticks from southern Italy (Apulia region)